

2021 Sustainability Report

K-water



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About This Report

With the first report published in 2005, K-water published this 17th sustainability report to inform internal and external stakeholders of the sustainability of K-water and to listen to the expectations and requests of more stakeholders. This report integrated financial performances and non-financial performances including ESG management into one book for the transparent disclosure of sustainability management activities and performances and to identify the management status and corporate value of K-water more clearly for becoming the "World's Best Comprehensive Platform Company in Water."

Period & Scope of Report

The report period is from January 1, 2020 to December 31, 2020; when identified as important information for the stakeholders, the results of the activity until the first semester of 2021 were also included. For the quantitative performances, data for the recent 3 years from 2018 to 2020 were indicated to enable the stakeholders to identify the trend. Data with annual change were applied with the accounting settlement date (December 31) as the reference period, and this was indicated when separate disclosure of information is required as to the period of data collection. This report focuses on the economic, environmental, and social performances of the head office and sites, and part of the disclosed data includes the performances of the overseas projects (23 projects in 10 countries as of Sep. 2021), subsidiaries, and supply chain.

Report Principles

To disclose the sustainability management performance more transparently, this report complied with the core options of the international sustainability management report guideline of GRI (Global Reporting Initiative) standards and UN Global Compact Principles, and the main agenda of ISO 26000, SASB, and TCFD were reflected to compose this report. Financial performances were reported according to K-IFRS. In addition, audit was received from the 3rd-party auditing agency to secure the reliability and fairness of the report contents, and the result was included in the verification statement.

Additional Information

The K-water Sustainability Report can be browsed and downloaded from the official website (<https://www.kwater.or.kr>); for more details or inquiries, please contact us using the information below. We welcome various opinions from stakeholders.

K-water Management Innovation Office

Official Website <https://www.kwater.or.kr>

Official Blog <https://blog.naver.com/ilovekwater>

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CEO Message

Greetings to all interested persons who support K-water.

K-water, Korea's only public water company, has marked its 54th anniversary since its foundation in 1967. Through the comprehensive use and development of national water resources, K-water has been driving the nation's industrial development and contributing to the improvement of the living standards and public welfare of people.

Today, K-water is being called for fundamental changes to protect people's lives and property by responding to water disasters that are aggravated by the climate crisis and to provide innovative and inspiring public services. In addition, ESG management, which determines a company's value from non-financial perspectives such as environmental protection, social value, and governance, is gaining momentum around the world, becoming an essential part of sustainable management for future generations. In an effort to proactively respond to the rapidly changing business

environment, K-water introduced ESG management in 2021 after declaring climate crisis management in 2020. As an organization closely related to the environment, K-water values its own sustainable management performance and leadership and will do its utmost to become a constantly evolving public company.

Although prolonged COVID-19 continued to increase internal and external business uncertainties in 2021, K-water is working tirelessly to improve people's lives and the water industry in pursuit of coexistence between nature and mankind, mutual prosperity, and communication to become the world's top water platform company in this era of great transformation. K-water has been able to grow into a global water management company thanks to the interest and support of its interested persons. To repay the love we received and fulfill our responsibility as a public company, we promise the following commitments.

“K-water is Korea's leading public company that has strived for the nation's industrial development and the improvement of people's lives for the past 54 years. We will now take one step forward into a global company that considers our society and the environment through continuous innovation.”



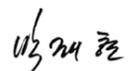
First, we will internalize ESG management specializing in the water sector. Under the vision of “the world's top water platform company,” K-water is striving for sustainable development for the next 50 years by establishing four core values of “Inclusive, Safe, Trustworthy, Innovative.” We will also actively implement ESG management by establishing ESG management principles to pursue sustainable coexistence between humans and nature, prioritize the common good of society through mutual prosperity, and ensure transparent decision making based on open communication.

Second, we will innovate public water safety and welfare. We will set “people-centered water management,” “dynamic innovation and communication,” and “leading global technology” as our management policies, establish and achieve implementation goals, and grow into a total solution water provider that prioritizes safety and health. We will drive innovation across all businesses in various sectors to solve social problems and bring changes in life so that all Koreans can lead a better life.

Third, we will become a transparent company trusted by interested persons. As part of this effort, the labor and management of K-water have jointly declared ESG management. Through ESG internalization activities, we will expand social value by actively practicing eco-friendly, socially responsible, and ethical management and become Korea's leading ESG public enterprise specializing in water that everyone recognizes and feels proud of.

K-water will continue to advance into a truly global company that grows together with our society and nurtures the right future generations by responsibly achieving innovation in public water safety and welfare as well as ESG management. We ask for your unwavering interest and support for K-water's endeavors for a brighter future.

December 2021

CEO of K-water 

2020 K-water ESG Highlights

Environmental, Social, Governance (ESG) are three key factors measuring the sustainability and ethical impact of an investment in a business.



Environmental

Strengthening public safety from weather disasters with a dam safety management platform

K-water is planning to establish a dam safety management platform to ensure public water safety and welfare from extreme weather through innovation of the safety management system by adopting drones, artificial intelligence, and big data analytics, etc. Digitalization of SOC facilities, such as air-underwater drones and 5G-based video sharing, is expected to reduce the risk of major disasters and save a lot of money and time.

80% reduction Reduced inspection costs
180 million → 40 million

70% reduction Reduced inspection time
10 days → 3 days



Creation of the first national pilot smart city, a convergence of eco-friendly technology

Busan Smart Village, the first national pilot smart city, will utilize a smart water purification plant based on K-water's proprietary smart water management technology, the real-time rainfall analytic/prediction system, and hydrothermal energy throughout the entire water circulation process in the city. With Smart Village, we will demonstrate a new urban model that integrates eco-friendly technologies, including innovative industry 4.0 technologies, renewable energy, and the creation of a waterfront environment to present the life of the sustainable city we have dreamed of for the future.



Natural purification of pollutants and expansion of carbon sinks with waterside ecological belts

Due to climate change, etc. floodplains where water and land meet have become more important as they serve as flood control in case of emergencies such as torrential rain, etc. However, unauthorized occupation and garbage dumping, etc. have restrained flood control, caused water pollution, and deteriorated the health of aquatic ecosystems. K-water has transformed floodplains into waterside ecological belts to enhance the waterside's buffer function while using them as carbon sinks and ecological resources, thereby improving the water quality of dam basins, restoring the health of the aquatic ecosystem, and generating local income.



Floating photovoltaic system drives balanced regional development as eco-friendly energy

K-water has introduced Floating photovoltaic system as a profit-sharing model for mutual growth with local residents through active communication. By applying landscape design to photovoltaic panels, we have turned the region into a tourist attraction and provided decent jobs to local businesses and residents, contributing to balanced regional development.



Operation of the environmental energy center as a solution to local environmental issues

Today, people are paying increasing attention to the atmospheric environment deteriorated by fine dust and yellow dust, etc. In response, K-water established the environmental energy center in Sihwa MTV, which collects spent activated carbon, removes pollutants, and then regenerates it into activated carbon with excellent adsorption capacity to produce renewable energy and improve the air environment, presenting a new blueprint for the environmental business in Korea.

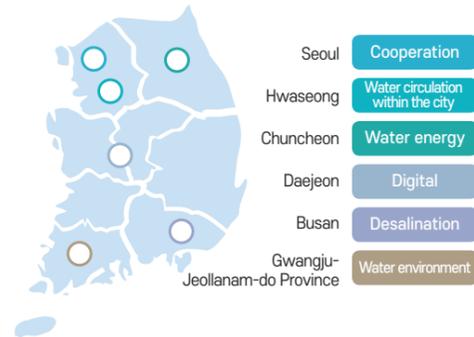


Social



The first unification of local water rates in Southwestern Gyeongsangnam-do Province

K-water has proposed a unified model based on the results of the integrated operation of regional and local waterworks in Southwestern Gyeongsangnam-do Province and operated cooperative governance (government/K-water/local government) to unify the water rates of four local governments (Tongyeong, Sacheon, Geoje, Goseong), reducing the water cost burden of 220,000 households.



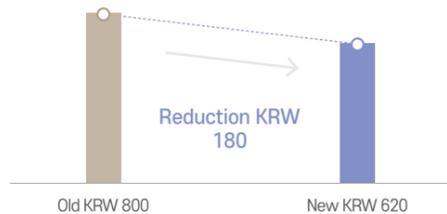
Safe industrial site for everyone

In March 2021, K-water obtained ISO 45001, a global occupational health and safety standard that the CEO and employees follow to prevent workplace risks and systematically manage the safety of workers. K-water will continue to do its best to protect the safety of the public and workers by increasing the safety awareness of all employees and strengthening the workplace safety system.



Implementation of a 10-year plan to unify water rates

K-water has established a 10-year plan to reduce the burden of water costs for small provincial cities and water-poor groups. Specifically, we collaborated with the central and local governments on the three stages of "operation consignment-efficient water service operation-unification of rates" to alleviate the household burden of residents in small cities, resulting in the actual reduction of water costs of local residents.



Citizen participation in Smart Village Living Lab

The Smart Village to be implemented in a national pilot smart city in Busan is a Living Lab demonstration complex designed for testing and feedback on Industry 4.0 technologies in the real living space of citizens. Residents will receive preliminary Living Lab education for about one year, reside in the village for the next five years from the end of 2021, and will provide feedback on more than 40 innovative technologies.



Promoting an initiative to solve global water problems through AWC

Since 2016, K-water has been leading the resolution and cooperation of water problems in the international community as the founder and chair of the Asia Water Council (AWC). In 2020, as an official development assistance (ODA) operator in the water sector, we are performing the role of a director for overseas expansion of the water industry, and implementing plans specialized in local water issues.



Governance



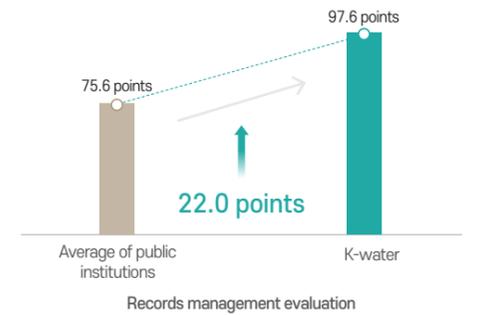
Strengthening ESG deliberation through the ESG Management Committee

After the declaration of ESG management in March 2021, K-water established the ESG Management Committee within the Board of Directors to review key management strategies, implementation plans, progress, and performance. The ESG Management Committee, composed of nine members including non-executive directors and a director in the planning department, convenes once a quarter but additionally whenever necessary to strengthen the company's ESG capabilities.



Expansion of data disclosure to the public

K-water has developed the expertise of employees through education consulting, and established a records management process, including new registration of non-electronic records by conducting an extensive survey. In addition, K-water was selected as an outstanding organization in the records management evaluation of public institutions for strengthening the public's right to access records by expanding the service to disclose the original text through its digital library.



Proactive adoption of the labor director system

K-water agreed to proactively adopt the labor director system in December 2020 based on the experience of the employee-director meeting observation system. In specific, we are planning to adopt the labor direct system by amending regulations through the operation of a joint labor-management task force and to build consensus on the labor director system.



Reinforcement of the Social Value Committee and the Mutual Cooperation Committee

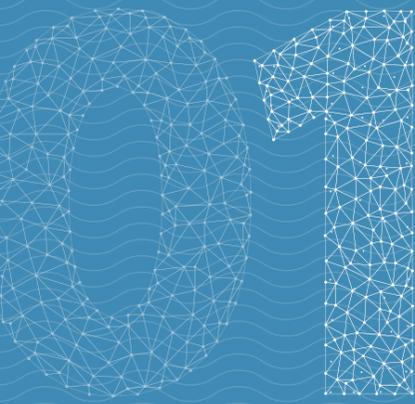
K-water has strengthened the roles of the Social Value Committee and Mutual Cooperation Committee to fulfill the social responsibility of a public institution in today's evolving business environment, such as the climate crisis and ESG management, etc. We take an in-depth look at not only the existing core values such as overcoming COVID-19, inclusion, fairness, environment, and safety, etc. but also social value promotion strategies that reflect the perspective of ESG management.



Enhancing corruption and compliance monitoring

K-water is the first unlisted public company to improve its internal accounting system to the level of a listed company, laying the groundwork for providing accurate accounting information to the public. In addition, we identified 139 corruption risks and conduct self-inspection, and achieved outstanding performance in an integrity evaluation by obtaining ISO 37001, an anti-bribery management system standard.





Opening the Future
with Water, Sharing
Happiness with Water
K-water



| | | | | | |
|------------------------|------------------------------------|--|--|------------------------------|---------------------------|
| 12 | 18 | 20 | 24 | 27 | 32 |
| Overview of K-water | Vision & Strategy of K-water | Innovation in ESG Management for Leaping Forward | Governance and Responsibility Management | Stakeholder Communication | Materiality Assessment |

Overview of K-water

K-water is the only public corporation in Korea specializing in water and was established in November 1967 for the comprehensive development and efficient management of national water resources. In addition, K-water aims to protect the safety of the people from disasters such as drought and flood and to improve the lives of the people and enhance public welfare by providing water appropriately to the people to make sure that no area cannot be supplied with clean water stably. As the public enterprise for the people, K-water will continue the innovation in the rapid climate change and low-carbon era to realize the motto of "Opening the Future with Water, Sharing Happiness with Water." By pioneering the future with an indomitable spirit, K-water will take the leap forward as the world's top water company meeting the global water management standards.

General Status

| | |
|--------------------------|--|
| Company Name |  Korea Water Resources Corporation (K-water) |
| Establishment Date | November 16, 1967 |
| Purpose of Establishment | Comprehensive development and management of water resources for the smooth supply of water for living, and to improve water quality to enhance the lives of the people and public welfare (Article 1 of the Korea Water Resources Corporation Act) |
| Institution Type | Quasi-market type public corporation |
| No. of Employees | 6,498 |
| Head Office Location | (34350) 200, Sintanjin-ro, Daedeok-gu, Daejeon, Korea |
| Organization | [Head Office] 1 Vice-President, 5 Divisions, 7 Headquarters, Institutes, Offices, 38 Departments, Teams, Centers [Local Business Site] 7 Head Offices, 20 Departments, Centers, 75 Branches, Offices (Sep. 2021) |
| Total Assets | KRW 22.9041 trillion (Dec. 2020) |
| Sales | KRW 3.7518 trillion (Dec. 2020) |
| Liabilities | KRW 13.8350 trillion (Dec. 2020) |
| Credit Rating | Korea: AAA, International: Moody's AA2 (Stable), S&P AA (Stable) |
| Shareholder Composition | ROK Government 93.49%, Korea Development Bank 6.43%, Local Government 0.08% (Sep. 2021) |

History

Establishment of the Foundation for National Economic Development

- 1967. 11 Foundation of Korea Water Resources Development Corporation
- 1973. 10 Construction of Soyanggang Multi-purpose Dam
- 1992. 11 Construction of water supply facilities in the metropolitan areas of Ilisan

Improvement of National Welfare and Livelihood

- 2006. 03 Proclamation of "K-water" CI

Establishment of Sustainable Water Circulation System

- 2015. 04 Establishment of Asia Water Council (AWC)
- 2018. 06 Transferred to the jurisdiction of the Ministry of Environment in accordance with the amendments to the Government Organization Act
- 2020. 11 Declaration of Climate Crisis Management
- 2021. 3 Proclamation of ESG Management Management







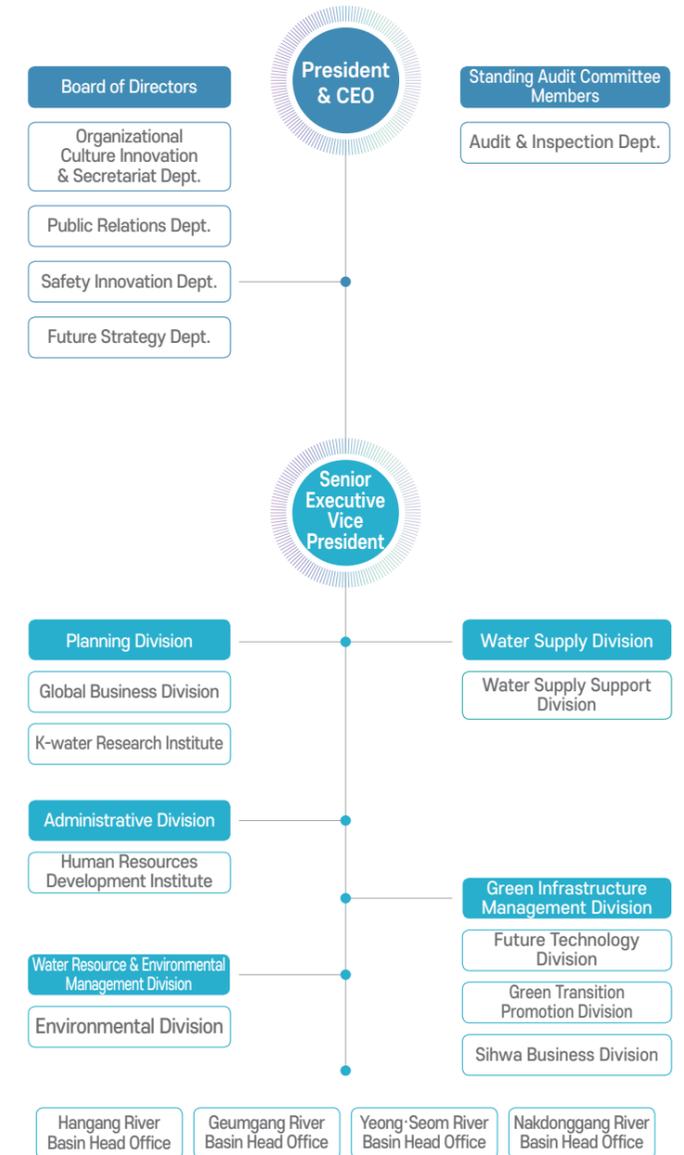



Investments (as of Sep. 2021)

| Domestic | | |
|---|-------|--|
| KWECO Co., Ltd. | 100% | |
| K-water OMC Co., Ltd. | 100% | |
| Hapcheon Floatovoltaic Co., Ltd. | 51.0% | |
| Korea Construction Management Corporation | 18.9% | |
| Korea Overseas Infrastructure & Urban Development Corporation | 5.3% | |
| P-waters Co., Ltd. | 2.0% | |
| Water Genesis Co., Ltd. | 20.0% | |
| Pump Care Co., Ltd. | 20.0% | |
| Sejong Tech Co., Ltd. | 20.0% | |
| Surgetec Co., Ltd. | 81% | |

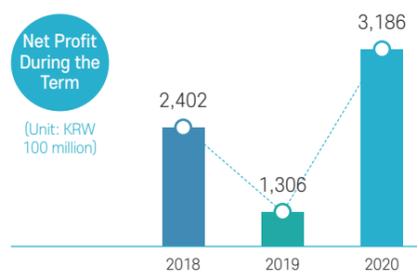
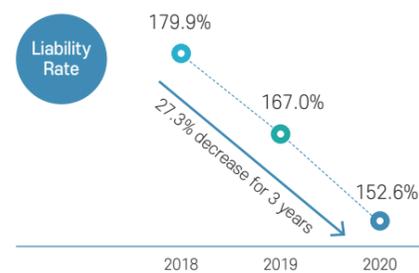
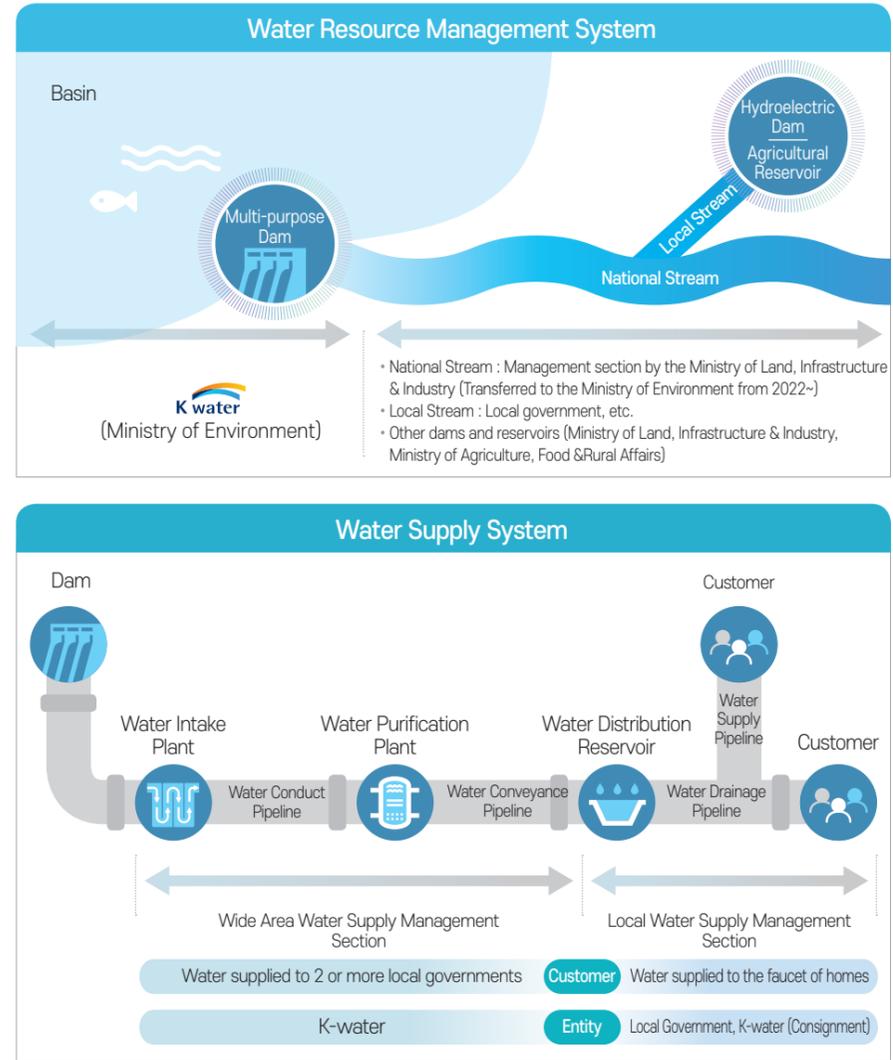
| Overseas | | |
|-------------------------------------|-------|-----------------|
| STAR HYDRO POWER LIMITED | 99.9% | Pakistan |
| KDS HYDRO PTE.LTD | 80% | Pakistan |
| K-water (Thailand) CO.,Ltd | 99.9% | Thailand |
| Patrind O&M (Private) Limited | 99.9% | Pakistan |
| PT.hasang Operation and Maintenance | 94.9% | Indonesia |
| JSC Nenskra Hydro | 92.2% | Georgia |
| Tina Hydropower Lim ited. | 80.0% | Solomon Islands |
| Karian Water Services | 70.0% | Indonesia |
| ANGAT HYDROPOWER CO. | 40.0% | Philippines |
| KWPP Holdings | 38.5% | Philippines |
| Luzon Clean Water Development Corp. | 2.8% | Philippines |

K-water Organization Chart



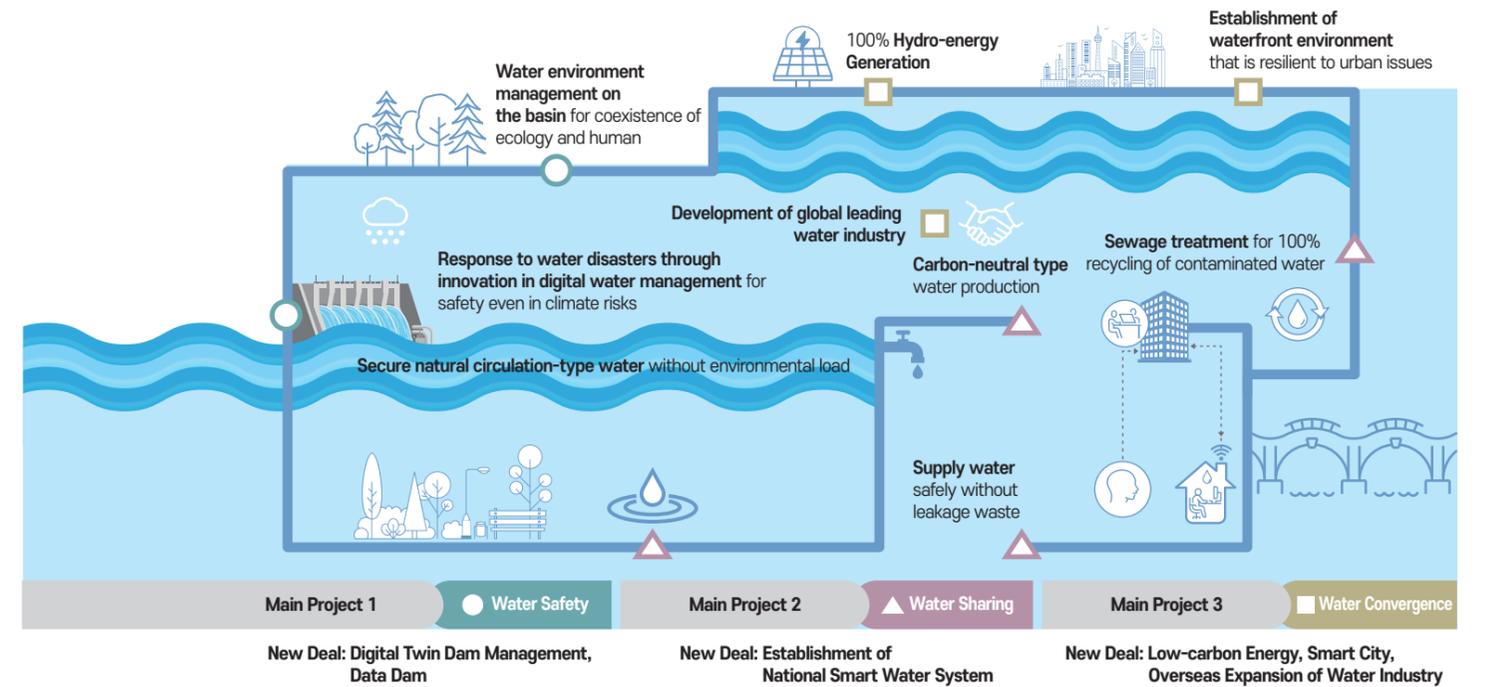
Water Management System of K-water

In 2020, K-water amended and newly established the Korea Water Resources Corporation Act (Article 9 Business) to re-establish its role according to the purpose of establishment; along with promoting the full-scale integration of water management responsible for the overall fields of water circulation, the foundation was provided in 2021 to expand the sustainable business to the renewable energy field. By establishing an optimal water cycle system encompassing water quantity, quality, and aquatic ecology, strengthening its capability to take the lead in solving global water-related issues caused by climate change and water shortage, and focusing on the renewable energy field in the low-carbon era, K-water is committed to securing public trust and realizing continuous growth as a "World-Leading General Water Platform Enterprise."



Main Projects of K-water

The main projects of K-water are largely classified into 3 main projects according to the convergence system with the relevant projects such as water circulation process and energy, urban and industrial projects, etc. Mega trends such as the change in the paradigm of water management basin unit based on the integration of water management, low-carbon and New Deal policy by the government, 4th Industrial Revolution, change in the social skills of emphasizing inclusion, etc. are linked to the main projects of K-water, to be applied not only to the overall businesses but also for promoting the tasks for each area of environmental (E), social (S), and governance (G) for the goal of innovative growth and improving the quality of life for the people.



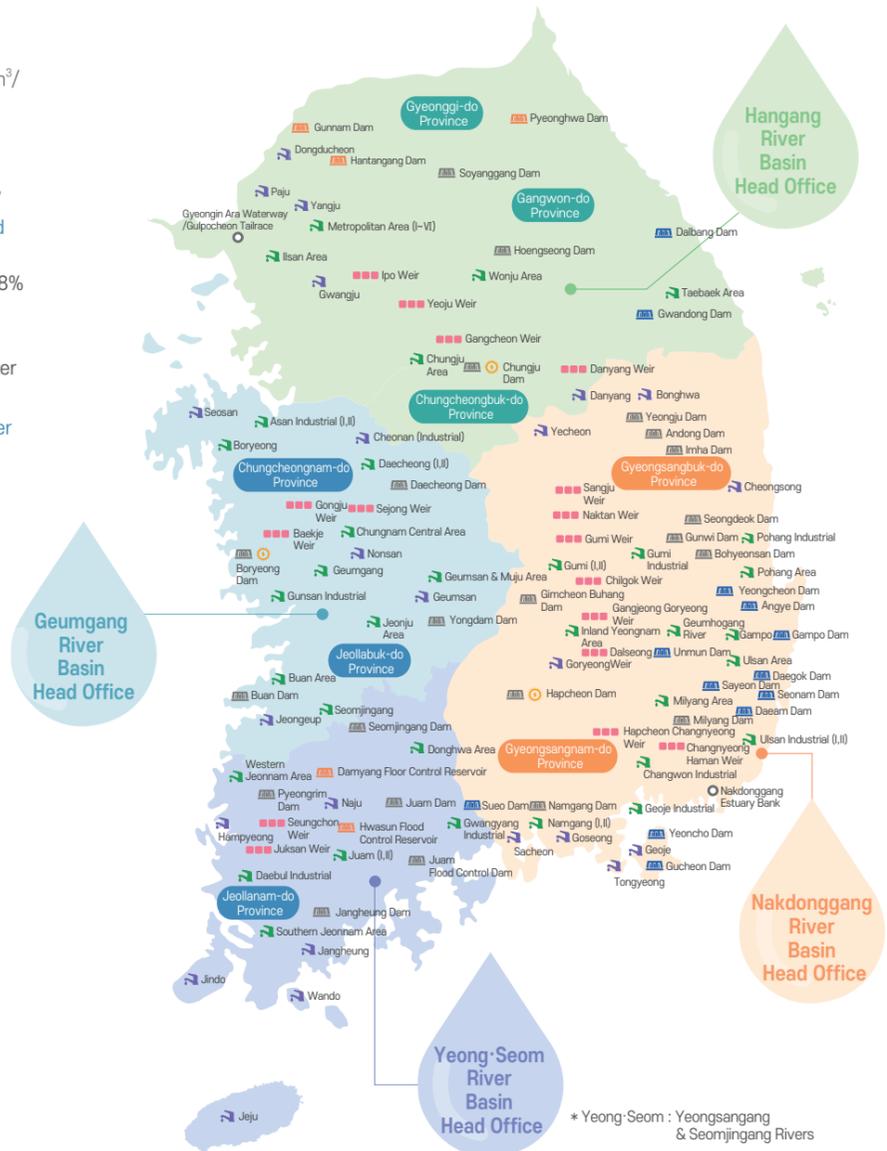
Status of K-water in the Water Industry

| | | | | |
|---|---|--|--|--|
| <p>No. 1 in Korea Multi-purpose Dam Management</p> <p>Flood control amount of 830 times the Seokchon Lake (5.3 billion m³)</p> <p>94.3% of national flood control</p> | <p>No. 1 in Korea Water Supply</p> <p>Water pipeline that is 3/4 of the circumference of the earth (31,000 km)</p> <p>30% of national water produced</p> | <p>No. 1 in Korea Hydro-energy Generation</p> <p>Renewable energy generation amount (2,913GWh)</p> <p>Annual use amount of 970,000 households</p> | <p>First in Korea Smart City</p> <p>First National Pilot City, Busan Smart City</p> <p>Initiated on the first village</p> | <p>First in the World Global Water Industry</p> <p>Project promoted on the overall process of water circulation</p> <p>23 projects promoted in 10 countries</p> |
|---|---|--|--|--|

Status of Integrated Water Management Facilities

- Construction and operation of 20 multi-purpose dams
- Operation of 14 water supply dams
 - Water supply capability of 12.5 billion m³/year (60% of national usage)
 - Flood control capability of 5.3 billion m³ (95% of national usage)
- Operation of 17 weirs and Ara Waterway
- Construction of 48 metropolitan area and industrial water supply facilities
 - Facility capacity of 17.56 million tons (48% of national capacity)
 - Construction and operation of 28 regional waterworks, 14 municipal sewages, and 3 industrial water supply facilities
- Operation of 3 floating photovoltaic power facilities (5.5MW)
 - Hapcheon 500kW, Boryeong 2MW, Chungju 3MW

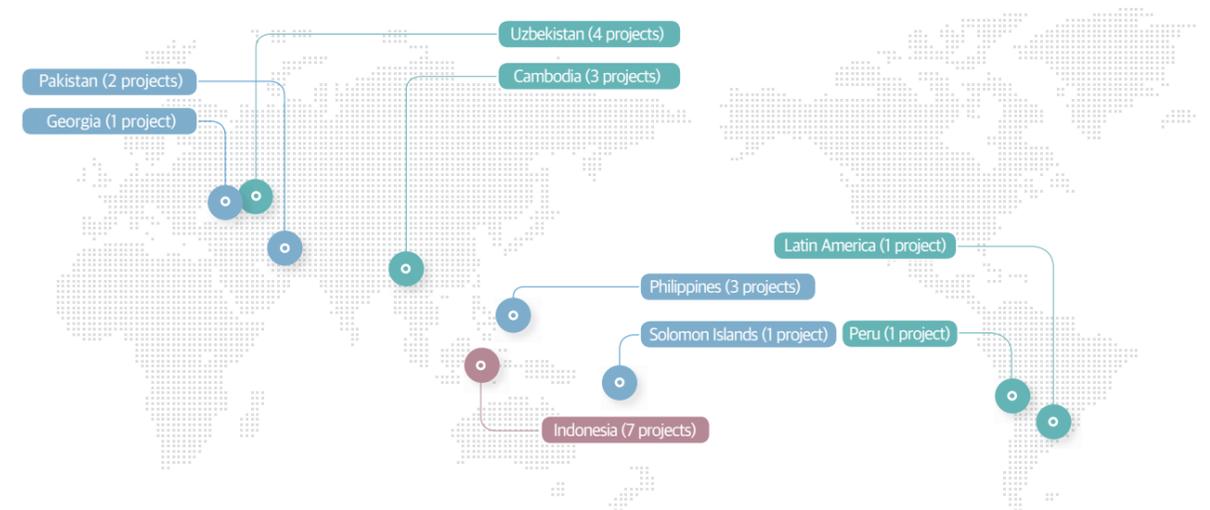
Since the integration of water management in 2018, a new water management policy was required according to the environmental, social, and economic changes such as decarbonized society according to the climate change and emergency of ESG management, etc. Accordingly, K-water established a quick decision-making structure centering on the river basin to consider the characteristics and pending issues for each basin by introducing the river basin division system based on 54 years' water management experience, and to reinforce the local-type and field-oriented water management through integrated water management in river basin unit. In addition, wide-area and local water supply system for each river basin was integrated for operation in an effort to realize optimized water management.



| | |
|--|---|
| | Multi-purpose dam |
| | Flood control dam |
| | Water supply dam |
| | Multi-purpose weir |
| | Wide-area waterworks/industrial water supply system (in operation) |
| | Wide-area waterworks/industrial water supply system (in construction) |
| | Local waterworks |
| | Floating Photovoltaic Power Facility |
| | Others |

Status of Global Projects

Following its expansion to overseas business in 1993, K-water first initiated the Shanxi Province Bunha River Basin Research Project in 1994, and K-water performed various overseas projects for 28 years. By reinforcing the capabilities of performing projects and diversifying the business fields, 122 projects are being performed in a total of 35 countries. The global competence and expertise of K-water were acknowledged with the signing of the contract with the Ministry of Environment in 2020 on the general management of the overall process in the water field for official development assistance (ODA) projects, and projects are currently underway in Indonesia and Uzbekistan, etc. In addition, the business structure was diversified by advancing into the investment business on hydroelectric power projects in Patind (Pakistan), Angat (Philippines), Nenskra (Georgia), and Tina River (Solomon Islands), etc. As of September 2021, 92 projects from 34 countries were completed, with 23 projects in progress in 10 countries.



| Project Type | Country Name | Project Title | Period | Project Cost (KRW 100 million) | Remarks |
|----------------------------------|-----------------|---|-----------|--------------------------------|------------------------------------|
| Total | | | | 29,817 | |
| ODA Project (16 projects) | Cambodia | PMC service for the Downtree Dam Development Project | 2016~2022 | 2,000 | EDCF |
| | Cambodia | PMC service for the Saladaon Dam Development Project | 2015~2021 | 368.4 | EDCF |
| | | Project for expanding waterworks for water security in Battambang | 2020~2022 | 44 | Ministry of Environment |
| | | Smart City MP on ICT-based water and resource circulation | 2020~2021 | 38 | EIPP |
| | Uzbekistan | PMC service for Western Uzbekistan waterworks development | 2020~2024 | 17 | ADB |
| | | Pilot project on the improvement of old water supply pipes in Tashkent | 2020~2022 | 3.75 | Agency for Ministry of Environment |
| | | TA on reinforcing capability in waterworks operation in Uzbekistan | 2021~2023 | 3 | ADB |
| | Peru | Construction of Limak River integrated water resource information center | 2018~2021 | 34 | Ministry of Environment |
| | Philippines | Construction of integrated water resource management system in Pampanga | 2019~2023 | 30 | KOICA |
| | Pakistan | PMC for the water quality monitoring system capability enhancement project | 2020~2024 | 16.5 | KOICA |
| | Latin America | Review on Korean NEXUS case study and LAC application method | 2020~2022 | 17.5 | IDB |
| | | PMC service for water resource development in Waimpong & Boya | 2019~2021 | 25 | ADB |
| | | Smart Water Management F/S service on Semarang | 2020~2021 | 5.6 | EDCF |
| | Indonesia | Pilot project on the sophistication of ICT-based hydrologic measurement in Flores | 2020~2022 | 38 | Agency for Ministry of Environment |
| | | SWM pilot project in Denpasar | 2021~2025 | 8.8 | Agency for Ministry of Environment |
| | | Feasibility study on the improvement of sewage treatment system in Kota-Bogor | 2021~2021 | 30 | KEITI |
| Investment Projects (6 projects) | Pakistan | Patind hydropower project (150MW) | 2012~2047 | 29,400 | In operation |
| | | Angat hydropower project (218MW) | 2014~2039 | 5,000 | In operation |
| | Philippines | Bulacan waterworks project (3.88 million m ³ /day) | 2016~2046 | 5,500 | Performing technical consulting |
| | Georgia | Nenskra hydropower project (280MW) | 2015~2060 | 12,500 | Preparing for initiation |
| | Solomon Islands | Tina hydropower project (15MW) | 2018~2054 | 2,000 | Preparing for initiation |
| | Indonesia | Karian waterworks project (3.97 million m ³) | 2021~2054 | 2,400 | Preparing for initiation |
| O&M Service (16 projects) | Indonesia | PMC and O&M project for Hasang hydropower plant | 2021~2054 | 2,400 | Preparing for initiation |

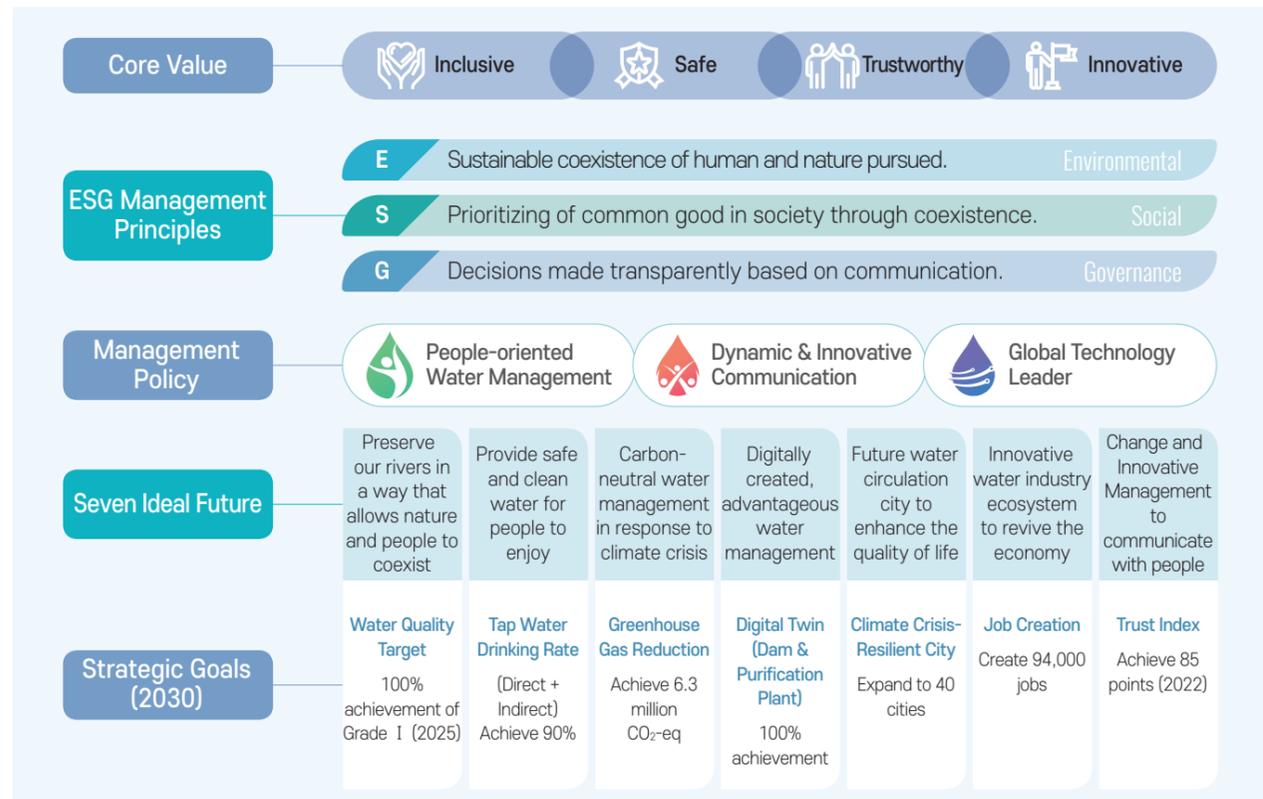
Vision & Strategy of K-water

As an integrated water service provider with 54 years' history, K-water performed the integration of water management in 2018 to establish a sustainable water circulation system by securing the overall business fields of water circulation such as water quantity, quality, aquatic ecology, etc. In July 2020, the vision of "World-Leading General Water Platform Enterprise" was newly proclaimed to meet the global water management standards and to take a leap as the world's top water management enterprise in the period of big change; core values and management policy for realizing the new value system were newly established for innovation in water management to respond to the rapidly changing business environment. In addition, K-water will advance into the inclusive national water welfare society by pioneering the future aggressively with the provision of the 7 major visions of the future for innovation in water management in accordance with the new era, and by establishing the promotion system for realizing customized ESG management for improving the quality of life for the people.

Mission & Vision



Realization of New Value System



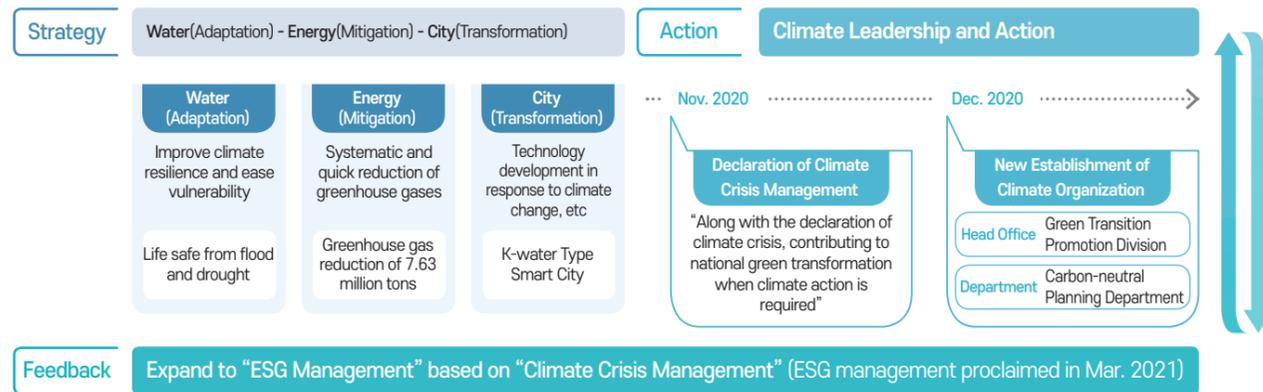
To accomplish the new vision, K-water derived 5 mega-trends from the 4 core values, and 20 strategic tasks were drawn up to establish the strategic goal until 2026 to create a future growth engine through convergence by reinforcing connectivity with the strategic business units. Based on the recent national consensus on the importance of water management, K-water proclaimed the vision as the "World-Leading General Water Platform Enterprise" to improve the role of K-water and to lead the global water market based on the core values of "inclusiveness, safety, trust, and challenge." Through this, K-water is continuing its efforts to take a leap as a global water company.

| Strategic Direction | Strategic Goal | Present | 2026 | | |
|---|--|---|---|---|---------------------------|
| Business Strategy | Achieve water quality goal of Grade I (20 multi-purpose dams and 14 water supply dams) | 87% | 100% | | |
| | Realization of integrated water management that is safe against climate change | Diversification of water intake sources | 42.03 million m ³ /year (cumulative) | 90.31 million m ³ /year (cumulative) | |
| | | Target achievement rate of water disaster prevention | 91.4% | 100% | |
| | Safe Water Project (Water Environment) | Linked projects between water resources | 2 projects (cumulative) | 8 projects (cumulative) | |
| | | Digital Twin Construction Rate | | | |
| | | ① Smart Safety Management System on 37 dams ② Water Management Platform on 5 River Basins | 0% | 100% | |
| | Secure supply of water that everyone can trust and drink | No. of people benefiting from water welfare | 10,500EA (cumulative) | 28,600EA (cumulative) | |
| | | Achievement rate of preventing the discontinuance of water supply | 100% | 100% | |
| | | Tap Water Drinking Rate (Including indirect drinking) | Tap Water Drinking Rate | 44.5% | 70% |
| | | | Integrated monitoring of waterworks nationwide | 44 local governments (cumulative) | All 161 local governments |
| Realization of global leading water value NEXUS | Achievement rate of Smart Infrastructure construction (Wide-area and local SWM) | 96% (Local 60) | 100% (Wide-area 48, Local 74) | | |
| | Participation in Overseas Projects such as MDB cooperation project, etc. | 2 projects (cumulative) | 14 projects (cumulative) | | |
| | Floating photovoltaics, Hydrothermal Energy & Green Hydrogen Supply | Floating photovoltaics, Hydrothermal Energy & Green Hydrogen Supply | 47MW(cumulative) 0 ton/year | 3.3GW(cumulative) 266 tons/year | |
| | | Construction of climate-resilient eco-city | 1 project (cumulative) | 10 projects (cumulative) | |
| | | Development of preliminary unicorn* for the water industry (* Corporate value of KRW 100 billion or more) | 1 project (cumulative) | 5 projects (cumulative) | |
| Application of digital water platform | 2 projects (cumulative) | 40 projects (cumulative) | | | |
| Functional Strategy | Dynamic, innovative communication creating value | Trust Index | 82 points | 85 points | |
| | | Operation of agile organization (Including in-house venture) | 9 projects (cumulative) | 30 projects (cumulative) | |
| | | Occurrence of serious disasters | 1EA | 0EA | |
| | | ESG Level | Evaluation in Progress | Outstanding | |
| | | Construction of Cloud Connection Infrastructure (Simultaneous connection standard) | 200 people | All employees (Approx. 8,000EA) | |

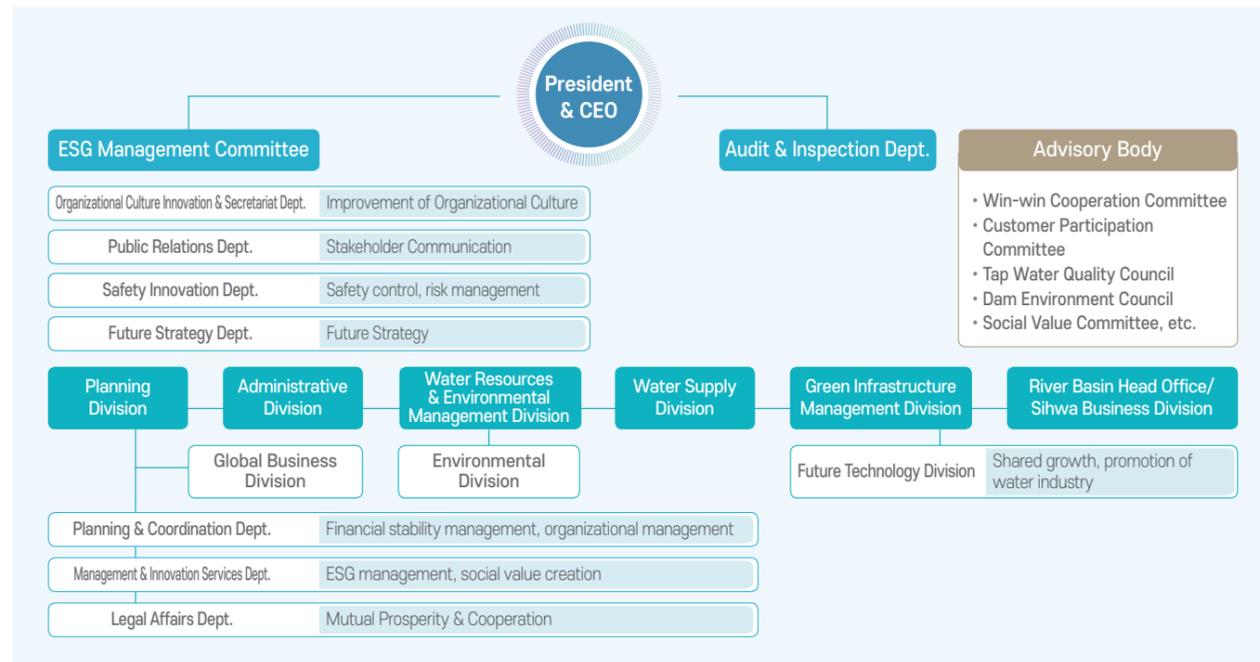
Innovation in ESG Management for Leaping Forward

K-water acknowledges the mission assigned by the times and the people. As the water specialist agency, it pursues ESG management by establishing the new direction on the role; 4 core values including inclusiveness, safety, trust, and challenge were newly reflected to the strategic system to enable balance between public concern and profitability, and 29 KPIs were set for ESG management to provide water safety, water sharing, and water convergence services for the people to create value. Through these efforts, ESG management by K-water was acknowledged for its excellence, having received the G1 Grade in the Green Bond ESG Certification measured by Korea Ratings Corporation.

Progress of Promoting ESG Management



ESG Management Promotion Organization in K-water



For the systematic implementation of ESG management, K-water is promoting the work centrally from the environmental, social, and governance perspectives by the head office and each river basin division led by the management innovation division. K-water listens to the various opinions of stakeholders with the internal exclusive group on ESG management, with the ESG management committee, advisory committee and council, etc. operated continuously to promote the successful performance of ESG management.

KPI of K-water ESG Management

😊 Good 😞 Insufficient

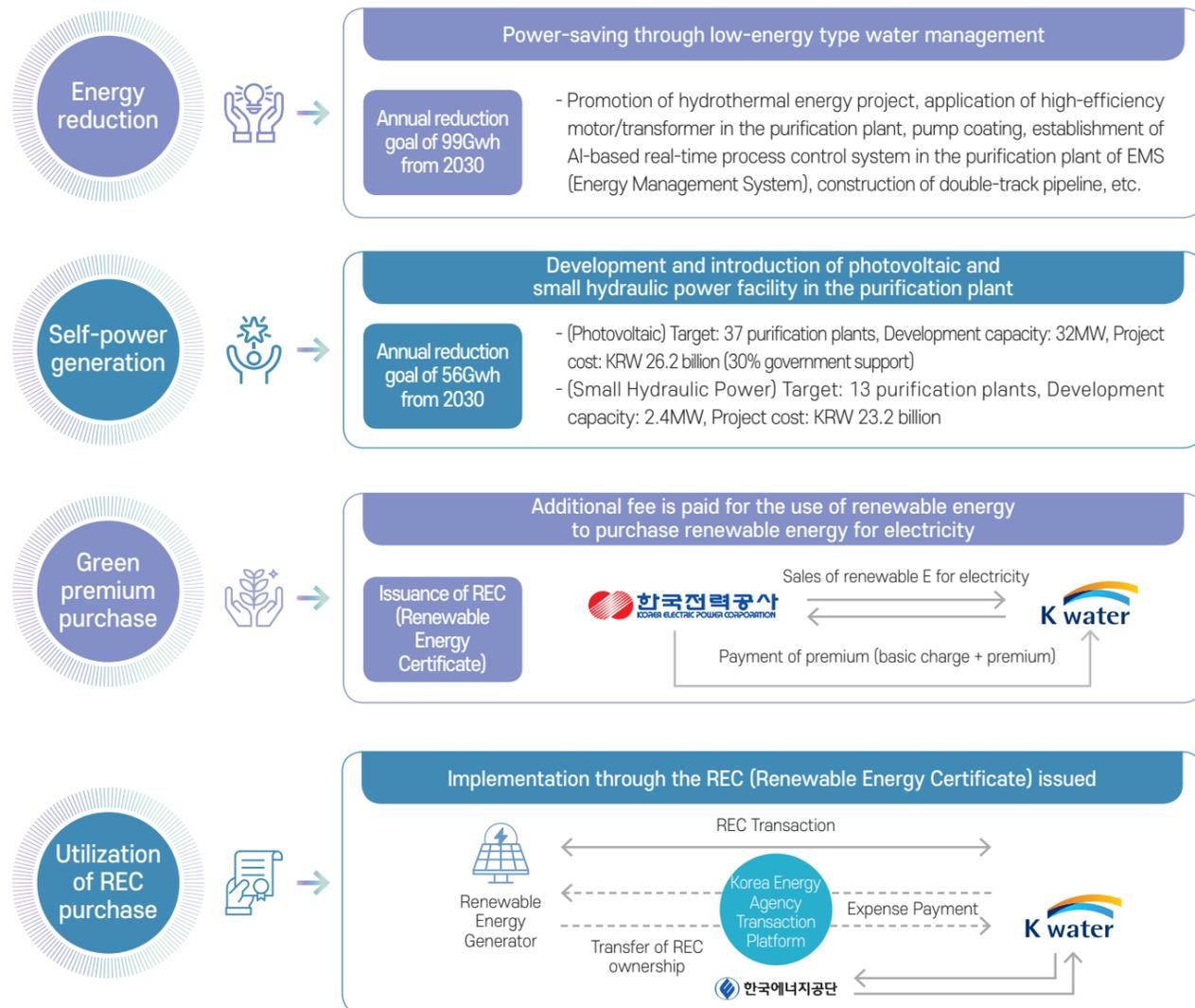
| Classification | Key Performance Indicator (KPI) | Unit | 2018 | 2019 | 2020 | | Fulfillment Level ⁴⁾ |
|-----------------|---|--------------------------------|----------------|-------------|-------------|-------------|---------------------------------|
| | | | Performance | Performance | Goal | Performance | |
| E | Supplied dam water | 100 million m ³ | 58.8 | 58.5 | 98.4 | 51.0 | 😊 |
| | Supplied tap water | 100 million m ³ | 40.75 | 41.16 | | 41.1 | 😊 |
| | Dam tide reduction rate ¹⁾ | % | 43.7 | 48.3 | 63.7 | 63.0 | 😊 |
| | Global water quality standard compliance rate | % | 99.98 | 99.99 | 100.00 | 99.99 | 😊 |
| | Sewage reuse | 1 million m ³ /year | 42 | 43 | 42 | 42 | 😊 |
| | Greenhouse gas reduction converted into renewable energy generation | 1,000 tCO ₂ -eq | 1,569 | 983 | 969 | 1,338 | 😊 |
| | Environmental performance index ²⁾ | Points | 158 | 151 | 150 | 147 | 😊 |
| | Green product purchase rate | % | 84.3 | 80.9 | 85.0 | 81.2 | 😊 |
| S | Dam safety grade achievement rate | % | 86.7 | 90.0 | 90.0 | 90.0 | 😊 |
| | Tap water quality safety rate ³⁾ | % | 91 | 91 | 93 | 92 | 😊 |
| | Local waterworks flow rate | % | 67.0 | 75.4 | 84.2 | 85.7 | 😊 |
| | SMEs that benefited from K-water's mutual overseas market advancement program | EA | 52 | 62 | 60 | 53 | 😞 |
| | Newly selected enterprises | Total | 240 | 402 | 482 | 611 | 😊 |
| | Sales of products developed with SME technologies | KRW 100 million | 1,293 | 2,119 | 2,545 | 2,968 | 😊 |
| | Job creation | Persons | 9,624 | 11,868 | 12,591 | 13,196 | 😊 |
| | Social contribution index | Points | 87.0 | 89.7 | 90.0 | 82.7 | 😊 |
| | Customer satisfaction | Grade | Grade A | Outstanding | Outstanding | Outstanding | 😊 |
| | Industrial accident rate | % | 0.23 | 0.17 | 0.14 | 0.08 | 😊 |
| G | Information and security management level | Points | 74.33 | 79.71 | 80.0 | 75.4 | 😊 |
| | Risk management efforts | Points | 97.0 | 97.0 | 97.0 | 98.0 | 😊 |
| | Distributed waterfront project sales | KRW 100 million | 5,729 | 2,656 | 16,808 | 7,571 | 😞 |
| | Sales | KRW trillion | 3.4 | 3.0 | 3.4 | 3.8 | 😊 |
| | Liability rate | % | 179.9 | 167.0 | 154.8 | 152.6 | 😊 |
| | Trust index | Points | 74 | 69 | 82 | 75 | 😞 |
| Integrity level | Grade | Unsatisfactory | Unsatisfactory | Grade 2 | Grade 4 | 😞 | |

1) Dam tide reduction rate (%): Target rate of "Very Good (Ia)" based on the top-level target criteria of 2 items (TOC, T-P) for national water quality management goals by K-water management dam
 2) Environmental performance index (points): The indexed value of the degree of environmental performance improvement compared to the base year
 3) Tap water quality safety rate (%): A newly included index calculated by dividing the number of non-detections of five algal toxins by the number of measurements (in 38 large-area water purification plants)
 *Five algal toxins (Microcystin-LR, Microcystin-RR, Microcystin-YR, Anatoxin, Nodularin)
 4) Fulfillment Level: Good when achieving 90% or more

RE 100

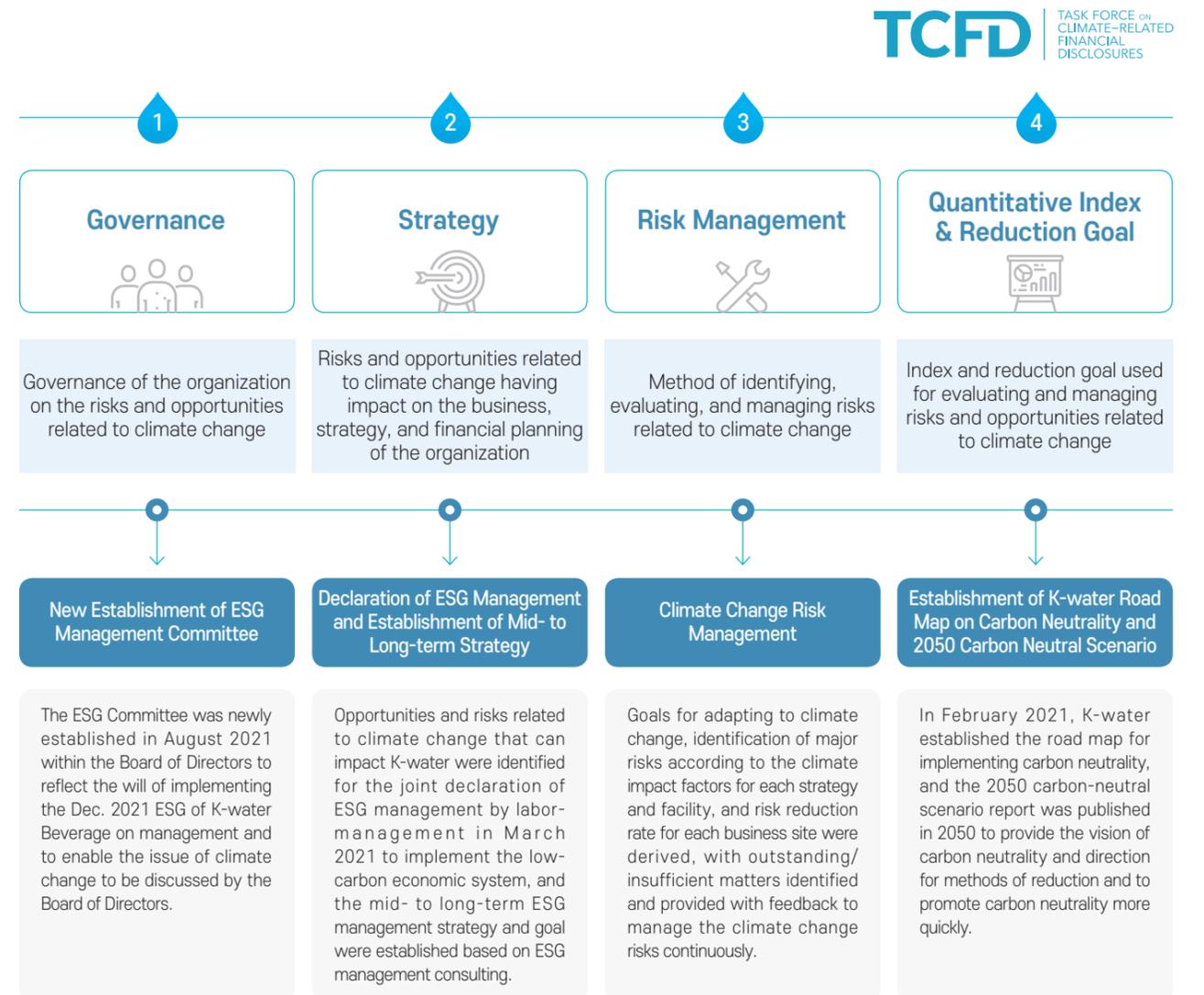
RE100 is a voluntary campaign led by the international organization "CDP (Carbon Disclosure Project) Committee" with the goal of using 100% eco-friendly renewable energy for the required power by the companies until 2050. Companies subject to participation are limited to those that do not exceed 50% of the total power generation sales and which consume 100Gwh or more of power annually. To lead the response to the climate crisis and low-carbon era, K-water joined as a member of RE100 in April 2021 as the first public enterprise and the first water service provider to do so. As Korea's No. 1 renewable energy company accounting for 7% of the national renewable energy equipment capacity, K-water is continuing the efforts to practice ESG management in leading the eco-friendly energy supply, and 100% of the power usage is planned to be replaced by renewable energy until 2050 through the introduction of low-energy equipment and hydrothermal energy, development of photovoltaic and small hydraulic power, purchase of green premium, etc.

Program for Practicing K-water RE100



With the climate change becoming a global issue, the international financial institution of FSB (Financial Stability Board) established TCFD (Task Force on Climate-related Financial Disclosure) upon the request of G20 to reflect the climate-related risks to be reflected to the economic decision making by the financial investors and stakeholders. TCFD provided the global standard for the disclosure of climate-related financial information, and K-water is reinforcing the sustainability from 2021 by providing the foundation for green finance that is equivalent to the global standards. In addition, K-water is participating as a member of TCFD to lead the ESG management system and to support the recommendations of TCFD. Specifically, TCFD recommends that financial institutions analyze the financial impact according to the climate change scenario and make transparent disclosure on the key management areas of 1) Governance, 2) Strategy, 3) Risk Management, and 4) Index & Goal Setting. According to the recommendations from TCFD, K-water is planning to continue the efforts on reinforcing the climate-related response system such as strengthening the response to the disclosure of financial information, internalization of risk management system, etc.

Activities for Responding to the TCFD Guideline by K-water



Governance and Responsibility Management

The Board of Directors of K-water is the highest decision-making body that considers public interest, economic feasibility, social aspects, environment, etc. with regard to significant matters in the overall management including the management goal to perform deliberation and resolution. The board of directors performs the function of checks and support for the management. Especially, strategic decision making by the Board of Directors is required continuously in the rapidly changing business environment; to represent various stakeholders and to prevent the directors from being focused on a specific background, the Board of Directors is composed of non-executive directors with experiences in various professional fields such as environment, law, economy, society, science, etc.

Composition of the Board of Directors

As of November 2021, the K-water Board of Directors is composed of 14 members including 6 executive directors and 8 non-executive directors. Non-executive directors are appointed by the Minister of Economy & Finance through deliberation and resolution by the public institution operation committee among experts from various fields recommended by the executive recommendation committee. Among the non-executive directors, the senior non-executive director appointed by the Minister of Economy & Finance through the deliberation and resolution of the public institution operation committee becomes the chairman of the Board of Directors. In addition, K-water does not discriminate by gender, religion, race, nationality, etc. when electing a non-executive director, and non-executive directors with experience and achievements in various fields are appointed through a transparent process to secure diversity and professionalism. The term of non-executive director is 2 years, and each executive can serve consecutive terms in 1-year unit. The CEO is appointed by the President at the recommendation of the Minister of Environment, and the term is 3 years.

Operation of the Worker Participation System in the Board of Directors' Meeting

According to the governance improvement policy on public institutions by the government, K-water is operating the worker participation system in the Board of Directors' Meeting as a unique decision-making model of K-water on the participation of stakeholders. The worker participation system in the Board of Directors' Meeting was introduced in December 2018 by K-water for the first time among public enterprises, and participants are able to submit their opinions to expand the foundation for workers to participate in management and to reinforce the internal management check function. For the 2020 operating performance, participants provided opinions on 54 agenda items by the overall divisions, and opinions were reflected to the agenda related to reorganization, safety management, and main projects to reinforce the worker participation system in the Board of Directors' Meeting.

Composition Status of the Board of Directors (Nov. 2021 as the standard)

| Classification | Name | Gender | Role | Main Experience | Term |
|-------------------|-----------------|--------|---|--|-------------------------------|
| Executive (6) | Park Jae-Hyeon | Male | CEO | Professor, Civil and Urban Engineering, Inje University | Feb. 28, 2020 ~ Feb. 27, 2023 |
| | Kang Rae-Gu | Male | Standing Auditor | Member of the Democratic Party's Special Committee on Peace and Cooperation in Northeast Asia in the 19th Presidential Elections | Dec. 16, 2019 ~ Dec. 15, 2022 |
| | Jung Kyung-Yoon | Male | Senior Executive Vice President, Director of the Planning Division, Director of the Water Resource Environment Division | Director of Han River Water Shed Environmental Management Office affiliated with the Ministry of Environment | Apr. 16, 2021 ~ Apr. 25, 2023 |
| | Kim Gap-Shik | Male | Director of Management | Branch manager of Cheonan Regional Head Office, K-water | Nov. 11, 2020 ~ Nov. 10, 2022 |
| | Oh Bong-Rok | Male | Director of Water Supply | Head of IWRM HQ, K-water | Oct. 16, 2020 ~ Oct. 15, 2022 |
| | Lee Joon-Geun | Male | Director of Green Infrastructure | Head of Water Cycle HQ, K-water | Oct. 16, 2020 ~ Oct. 15, 2022 |
| Non-executive (8) | Choi Dong-Jin | Male | Non-executive Director | CEO, Korea Research Institute for Environment & Development, President of the Institute for Climate Change Action | Mar. 6, 2019 ~ Mar. 5, 2022 |
| | Baek Kyu-Seok | Male | Non-executive Director | Standing Adviser, Sejong Law Firm, Adjunct Professor, Graduate School of Engineering, Yonsei University | Oct. 6, 2020 ~ Oct. 5, 2022 |
| | Lee Dae-Shik | Male | Non-executive Director | Professor, College of Economics and International Trade, Pusan National University | Oct. 6, 2020 ~ Oct. 5, 2022 |
| | Jung Ki-Young | Male | Non-executive Director | Adjunct Assistant Professor, Division of Public Service, Woosuk University | Oct. 6, 2020 ~ Oct. 5, 2022 |
| | Jung Hong-Sang | Male | Non-executive Director | Visiting Professor at the KDI School of Public Policy and Management, Director, APEC Climate Center | Oct. 6, 2020 ~ Oct. 5, 2022 |
| | Kang Mi-Ah | Female | Non-executive Director | Professor at the Environmental Engineering Department, Andong National University | Feb. 4, 2021 ~ Feb. 3, 2023 |
| | Lee Joon-Kyung | Male | Non-executive Director | CEO of WLW, Operating Committee Chairperson of Korean River Network | Feb. 4, 2021 ~ Feb. 3, 2023 |
| | Choi So-Nam | Female | Non-executive Director | CEO of Chungrok Social Welfare Foundation, Adviser at the Busan Environmental Movement | Feb. 4, 2021 ~ Feb. 3, 2023 |

Operation of Special Subcommittees

For the efficient operation of the Board of Directors, K-water is operating special subcommittees centrally with the non-executive directors such as the Executive Recommendation Committee, Non-executive Director Preliminary Hearing (Pre-review), Audit Committee, ESG Management Committee (Newly Established), etc.

Operational Status of Special Subcommittees

| | Non-executive Director Preliminary Hearing | Audit Committee | Executive Recommendation Committee | ESG Management Committee |
|----------------------------|---|--|---|--|
| Composition | • All non-executive directors (8) | • Non-executive director (2), standing auditor (1) | • Non-executive director (maximum of 8 directors), external committee members (one third or more but less than half of the total committee members) | • Non-executive director (8), executive director (1) |
| Roles | • Preliminary deliberation of agenda, management consulting and suggestions | • Work and accounting audit | • Decision on recruitment of executive candidates, deliberation and recommendation | • Preliminary deliberation and consultation on opinions related to ESG policies |
| Performance Records (2020) | • 10 times • Preliminary deliberation of 44 cases • Reflection of 68 cases to management suggestion | • 5 times • 4 resolutions and 7 reports | • 6 times | • 2 times • Discussion of 6 items such as selection of the chairman of the ESG Management Committee, etc. * 2021 Performance |

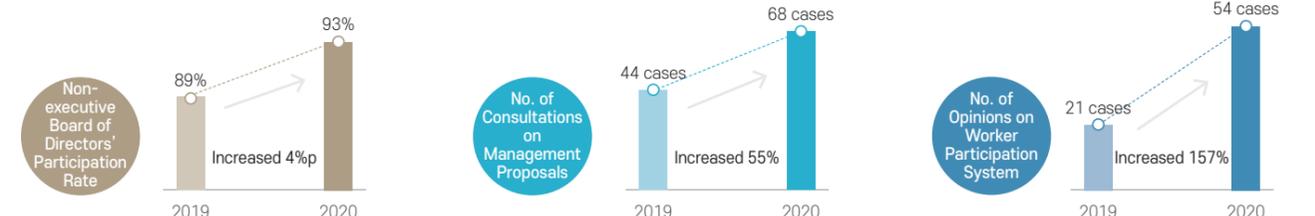
Operation of the Board of Directors (BOD) and Transparent Disclosure

The main issues of K-water are reviewed and handled by operating the Board of Directors (BOD), and major decision making such as managerial objective, budget, operating plan, mid- to long-term financial management plan, etc. is resolved by the majority vote of the registered directors. The BOD meeting is convened by the Chairperson every fourth Tuesday of the month, in principle, but may be held on different dates if required. Among the items introduced through the BOD meeting, directors with special interest in the relevant item cannot participate in the resolution, and they are not included in the number of registered directors. The contents and result of the BOD meeting are disclosed regularly through "Management Disclosure" in the official website and through the public institution management information disclosure system "ALIO" in the form of minutes of BOD meeting.

Operational Status of the Board of Directors (BOD)

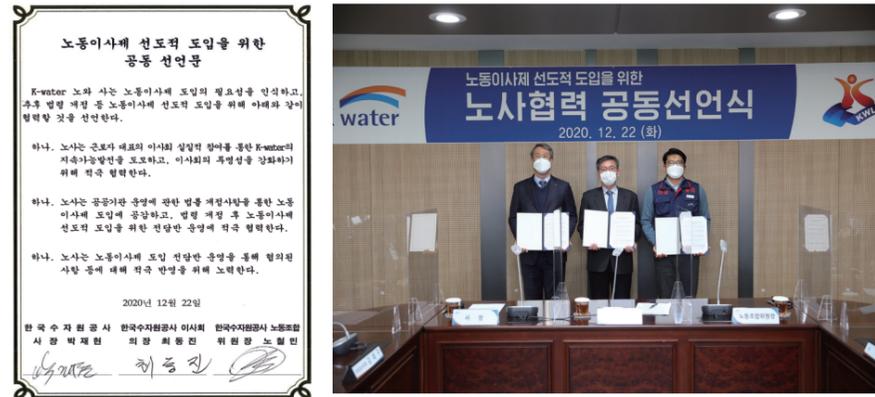
| Classification | Unit | 2017 | 2018 | 2019 | 2020 | |
|---|-----------------------------|-------|------|-------|------|-------|
| No. of Meetings Held | Time | 15 | 16 | 13 | 17 | |
| No. of Agenda Items | Total No. of Agenda Items | Cases | 47 | 53 | 38 | 44 |
| | Resolution/Report Agenda | Cases | 30/9 | 32/12 | 21/8 | 32/12 |
| | Special Report Agenda Items | Cases | 8 | 9 | 9 | 5 |
| Preliminary Deliberation | % | 97.1 | 100 | 100 | 100 | |
| Management Proposals by Non-executive Directors | Cases | 68 | 76 | 49 | 68 | |
| Participation of Non-executive Directors | % | 87.5 | 90.4 | 88.5 | 93 | |

Main Performance in Governance



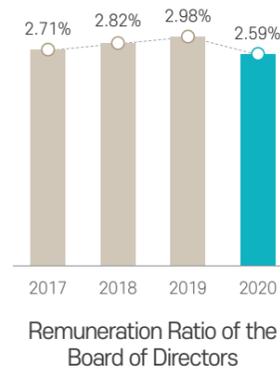
Promotion on the Introduction of Labor Director System for the First Time Among Public Enterprises

To promote the introduction of the labor director system through the labor-management joint declaration as a national political agenda, K-water proposed the amendment of the relevant law in June 2020; in December, the Chairperson of the Board of Directors and the Chairperson of the Labor Union adopted the joint statement for the preemptive adoption of the labor director system. In 2021, the task force was organized to provide the mode for introducing the system, searching for methods of improving the worker participation system in the Board of Directors' Meeting to continue efforts in enabling the sustainable development of K-water and reinforcing the transparency of the Board of Directors through practical operation.



Board of Directors' Performance Evaluation and Remuneration

K-water performs independent evaluation annually on the directors subject to expiry of term and on all current non-executive directors. The evaluation considers the contribution level to the BOD, internal and external influence, and expertise of work, and this is utilized in the decision of reappointment. The remuneration standards for the directors are managed transparently and fairly and determined according to the management performance of K-water and details according to the Articles of Association and by the executive evaluation such as the performance level, etc. The remuneration type and total number of members of the Board of Directors are disclosed transparently through management disclosure in the official website and through ALIO.



Remuneration Status of the Board of Directors (Mar. 2021 as the standard)

| Classification | Unit | 2017 | 2018 | 2019 | 2020 |
|---------------------------|---------------|-------|-------|-------|-------|
| Standing Auditor | KRW 1 million | 153.4 | 165.3 | 173.9 | 167.6 |
| Executive Director | KRW 1 million | 147.3 | 159.1 | 172.7 | 157.8 |
| Non-executive Director | KRW 1 million | 29.1 | 29.2 | 29.7 | 29.7 |
| Highest Remuneration (A) | KRW 1 million | 197.9 | 214.4 | 234.7 | 211.9 |
| Average Employee Wage (B) | KRW 1 million | 73 | 76 | 78.8 | 81.6 |
| Compensation Ratio (A/B) | % | 2.71 | 2.82 | 2.98 | 2.59 |

Stakeholder Communication

K-water classifies stakeholders based on the standard of understanding of and level of cooperation on the business for effective communication with diverse stakeholders, and sharing channel and program are operated by considering the characteristics of the stakeholders to improve understanding and consensus on the vision and strategy by the internal and external stakeholders. Especially in April 2020, the Open Communication Platform "Talk Talk Collection" was opened wherein all employees can post their opinions freely, and the department must reply directly to the post agreed to by many people. Through this, employees are able to communicate their difficulties related to the work as well as proposals on wages and welfare to enable good communication and to prevent discriminations. In July 2021, too, the anonymous communication channel "Integrity Bamboo Forest" was opened to enable the employees to share their personal grievances related to the organizational culture, system, and welfare as well as regarding discriminations. K-water is operating various communication channels to enable the employees to talk about their opinions and grievances. Moreover, there are other systems provided such as the safe external attorney service, anonymous reporting system, etc. to enable the employees to share their opinions on human rights protection and to find solutions to those issues.

System of K-water Stakeholder Communication



* VIP : VIP stands for Volunteer in Passion, which refers to the facilitator for change in the organizational culture in the working-level department (87 facilitators as of 2021)
 ** Talk Talk Collection : Two-way anonymous communication platform wherein the members propose opinions and the department provides a reply to the posts agreed to by many people (over 100 agreements) (Over 100 petitions until 2021)

Performance of Stakeholder Communication

| Improvement of the right to know by the people through preliminary information disclosure | Improvement of information utilization level by the people through public data sharing |
|--|---|
| <ul style="list-style-type: none"> Preliminary information disclosure in the top level among Tier 1 public enterprises (2019: 313EA, 2020: 320EA) Comprehensive Evaluation on Information Disclosure by the Ministry of Interior & Safety : Customer Satisfaction Level increased 50% (2019: 2.7 points, 2020: 4.05 points) Comprehensive Evaluation on Information Disclosure by the Ministry of Interior & Safety : Selected as an outstanding public enterprise (2 consecutive years, September) | <ul style="list-style-type: none"> No. of cases of public data utilization : Increased 14 times (2019: 144,000EA, 2020: 2,140,000EA) Data quality error rate of 0.01% achieved Achieved No. 1 status in government public institution (520EA) public data management evaluation, received the Minister of Interior & Safety Award (November) |

Effective Communication for Each Stakeholder's Characteristics

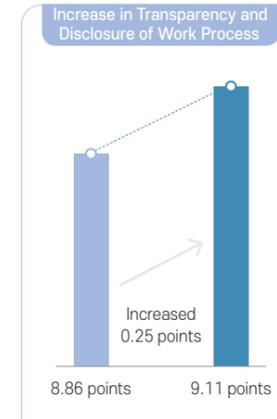
The conflicts that may arise from performing the business are resolved in advance through stakeholder participation, and K-water is providing effective communication by classifying into 4 types of "sponsor type, cooperation type, relation type, and persuasion type" based on the characteristics of each stakeholder to minimize any inconvenience by the stakeholders. Through this, K-water is continuing efforts to enable stakeholders to participate directly and indirectly in the overall process of management.

Communication Performance for Each K-water Stakeholder Characteristic

| Stakeholder | Main Issue of Interest | Communication Channel | Communication Performance |
|------------------|---|--|--|
| Sponsor Type | Employee | • Integration of water management • Improvement of organizational culture | • Message from the CEO, management meeting and employee BOD, etc. |
| | Labor Union | • Introduction of labor director system | • Labor-management council, joint TFT |
| Cooperation Type | Government (Central and Local), National Assembly, expert | • Implementation of national tasks | • Policy meetings and interviews, etc. |
| | Relevant agencies and vendors | • Improvement of national service • Development of water industry | • Meetings such as work meeting and MOU, etc., platform center, etc. |
| Relation Type | Customer, People | • Improvement of water supply service | • Website and SNS, Danbi Talk Talk, supporters, social value committee, public forum |
| | Local Government, Local Residents | • Local water supply issues | • Win-win cooperation committee, interview, discussion with local residents, etc. |
| Persuasion Type | Civic Group | • Opening of weirs on 4 major rivers • Ecosystem restoration | • Win-win cooperation committee, forum, advisory group, etc. |
| | Media | • Contribution, special report, briefing | • Contribution, special report, briefing • Provision of accurate information |

Reflection of Opinions from Stakeholders

K-water is improving the communication level to enable the stakeholders to participate in the direct decision-making process and by reflecting the proposals of the stakeholders to the business activities to utilize them as the foundation for sustainable growth. The online communication channel "Danbi Talk Talk" was opened in 2018 to enable anyone to provide proposals and to participate in the discussion, and online and offline activities were enhanced to enable supplementation with mutual discussion and feedback by K-water and the people through presentation, experience and discussion, etc. In 2020, the online panel was newly established to introduce 24 agenda items for national discussion, and face-to-face online communication channel was utilized by combining the advantages of online and offline communication channels to hold the idea contest on jobs in public institutions in the Daejeon and Chungnam regions. As a result, new jobs were created such as through the private reservoir support project, etc. In addition, 5 innovative projects on participation by the people to create and improve the service together were operated to enable the people to create the project solution methods. This way, performances were made with the people such as development of cultural and ecological program, construction of smart dam safety management system, etc.



Reinforcement of Transparency Through Stakeholder Communication

National Participation Budget System

- Cooperation on water policies and new establishment of open innovation R&D
- Expert and governance policy proposals: 43 cases

Online Communication Platform "Danbi Talk Talk"

- New establishment of online panel and discussion agenda items increased (17→26 items)
- Operation of national participation innovation project (5 projects)

Citizen Participation Audit System

- Audit performed directly by the people to improve the system (4cases)
- Improvement of work process on national properties from the perspective of the people, etc.

Investigation Council on the Cause of Flood Damage, etc.

- Participation by the residents in the overall process of investigating the cause of flood damage
- Participation by the civic group on the fact-finding survey of larva in the tap water

Improvement of Transparency and Disclosure in the Work Process

Stakeholder-oriented provision of information

- Preliminary information disclosure in the top level of Tier I public enterprises (320EA)
- Data opening through the Environmental Big Data Platform (601 types)

- Information provided 7 times faster than legal processing (20 → 2.87 days)
- Emergency support on defining the cause of the accident involving larva in the tap water, etc.

More Information Provided | **More Quickly**

Better Understanding | **Easier Inquiry**

- Operation of contract and subcontracting that is easier to understand
- Development of guide to customized compensation for elders, FAQ on civil complaints

- Division of individual system such as civil complaints and recruitment information, etc.
- Integration of access channel by developing the Online Customer Center

Stakeholder Interview



Son Byung-Il

Team Leader of Community Chest of Korea (CCK)

Since 2014, K-water has been performing the "Happiness Water Project" to support the water usage environment for low-income households and social welfare facilities nationwide, and social contribution activities are performed actively. In performing construction for improving the water supply environment, and as self-supporting companies are supported in priority, and even in terms of shared growth, we were able to verify the very high effectiveness as a result of the survey.

K-water is continuing the development by communicating continuously with the people for the goal of sustainability development and implementation of social responsibilities, and the social contribution project "Improvement of Water Usage Environment" was developed and performed consistently. Through this, I think K-water is one of the public enterprises implementing their social responsibilities faithfully.

For a public enterprise, I believe social contribution activities must be considered as the top priority to realize the expected social values. K-water continued to plan and perform projects according to the business characteristics to establish the unique social contribution project brand and image, but I feel that K-water needs to develop new projects to solve the social issues and problems related to water disasters according to climate change, energy and waste reduction, etc. I look forward to K-water taking the initiative in holding active discussions and leading concrete changes in response to these issues.



Yoon Dae-Hoon

CEO of Win-Win Cooperation Company, Movements

Hello! We are Movements, the 5th cooperative startup of K-water. We performed the Busan EDC test bed support project as well as the performance sharing system project. Compared to other public institutions, K-water has high demand for IT; accordingly, the existing management system for 2D drawing and text data was changed in the policy for digital transformation and converted into the digital twin model on the dam, purification plant and water pipelines, etc. Through this, the K-water management system was developed into an AI-based management system. I think K-water has the most sophisticated startup support projects among public institutions, and considerable effort and support are given to enable the development of new technologies. For project order, it is limited to local companies or additional points are given to protect from the competition with large companies, so when small companies have sufficient technology, I think there is sufficient opportunity to grow together with K-water.

As a public institution performing over KRW 5 trillion worth of projects every year, K-water is one of the largest customers for startups and small-medium enterprises. In the past, companies performed business with mostly products; recently, however, there are many IT companies or startups; when these small companies are secured with the sales channel, I think it will help greatly in developing the domestic technology and technologies related to water resources. I believe K-water must emphasize more transparency of the purchase, construction, and maintenance data to realize ESG management, and I hope that the design of the new technology is provided quickly to enable sophisticating the protection and maintenance of water resources through the latest technologies. We wish to find the method for introducing the unique IT technology of K-water on saving water resources to protect water resources around the world and mitigate the impact on water quality due to the obsolescence of the water pipes.



Park Ki-Chan

Senior Vice-Chairperson of K-water Labor Union

Since the government agency for water management was changed from the Ministry of Land, Infrastructure & Transport to the Ministry of Environment according to the government policy, I can see that there had been many changes. It is lamentable that the work performed by K-water is not well-known externally. Even though K-water is performing very important work for the people and the country, the efforts of the employees on flood damage and in parts requiring scientific data are exposed with only the bad results, so I wish that the grievances and efforts of the employees are known more widely to the public. Given the current environmental and climate changes, I think it is important to provide better services to the people and establish a transparent management system to build K-water's image of supplying clean water to the people.

I think K-water is No. 1 in Korea for using water that is essential to the people without destroying the environment, as well as participating actively in the development of renewable energy. Along with managing the dams and operating the waterworks, I believe K-water must expand the technical field as the environmental issues are being emphasized such as response to floods and on renewable energy. ESG management by K-water is also a method of increasing the satisfaction level of the employees. As there is a good relationship established between the external labor unions and members of K-water, I am confident that there will be good internal and external results.

Hello! I am Baek Jin-woo from the Office for Government Policy Coordination affiliated with the Ministry of Environment. I think the most important issue of K-water is integrated water management. K-water is very aggressive and forward-looking, not to mention the best institution in Korea specializing in water supply. I am sure that no one will raise any objection to this. However, as most of the projects are focused on water resource constructions, I think K-water must put more value into carbon neutrality, which is recently becoming an important issue, to increase performance with regard to environment preservation. Moreover, K-water will be able to develop more by not only focusing on the water resources but also strengthening communication with the local residents in terms of environment to contribute more to activating the economy.

By performing communication consistently with the local residents as the stakeholders of K-water, we expect local residents to be regarded not as those benefiting from the water supply, but as stakeholders having equivalent 1:1 relationship with K-water. When communicating with the local residents and listening to their opinions become the No. 1 priority, I think it will be a great help to the ESG management.

Along with the domestic issues, I believe K-water must also consider international issues such as the issues of other countries and carbon neutrality including the methods of protecting the environmental value. K-water shall not restrict the work to water management only but require discovering new work from the previous traditional work. Even though K-water is currently doing a wonderful job, I think it must consider the improvements that can be made for the future.



Baek Jin-Woo

Manager of the Office for Government Policy Coordination, Ministry of Environment

I think K-water as a public enterprise must first focus on its major task, which is fulfilling the social responsibilities and supplying safe and clean water to the people. Fortunately, K-water has outstanding professional manpower, and the relevant tasks are distributed evenly among the employees. Due to its nature as a public enterprise, however, there may be weaknesses in the structural aspect such as limitations in the expansion of business and in terms of creativity. I think K-water must supplement the insufficient matters to continue the efforts to specialize in ESG management. I am concerned that there may be difficulties in securing the transparency of governance, but when transparency is reinforced with regard to the decision-making process in governance, I am sure that people will be able to increase understanding of efforts and work by K-water.

In addition, K-water must focus on fulfilling the social responsibilities. K-water is already actively performing social contribution activities, but more efforts are required from the perspective of the people. From the environmental perspective, I hope K-water contributes more to carbon-zero and neutrality and wish that K-water plans new businesses regarding these issues.



Lee Chang-Hee

Professor at the Environmental Energy Engineering Department, Myongji University

Materiality Assessment

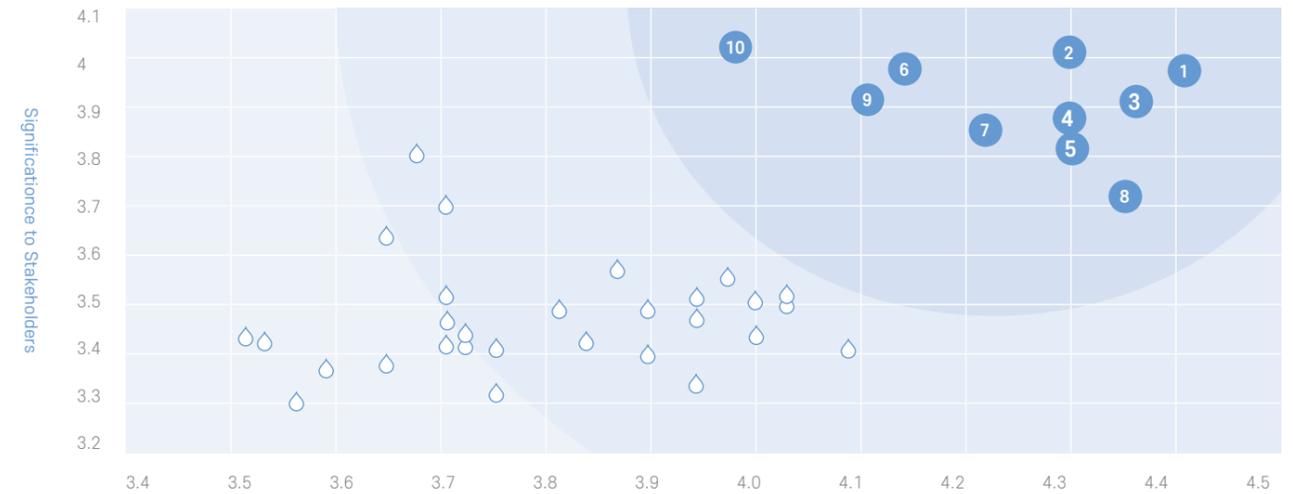
K-water is reflecting the issues of environmental, social, and governance aspects widely to the overall operation of the company to pursue sustainable growth. To select more important issues for K-water and the stakeholders to perform intensive management and report, core issues of sustainability were selected according to the materiality assessment method recommended by GRI and ISO 26000.



| Issue | Stakeholder | ESG Management Index | | Impact | |
|---|-----------------------|----------------------|---|----------|----------|
| | | Classification | Aspects | Internal | External |
| Job creation and talent securing | Employee | Social | Employee/Indirect Economy | ● | |
| Increase transparency and ethical management requirements on the company | Employee | General | Transparent Management/ Anti-corruption | ● | |
| Increase in the requirement for safety in water management | Government, NGO | Environment | Water Resource | | ● |
| Prevention of environmental pollution (air, water, and soil pollution) | NGO, Local Government | Environment | Environmental Pollution | | ● |
| Climate Change | NGO, Local Government | Environment | Climate Change | | ● |
| Depletion of Natural Resources (water resources, minerals and fossil fuel) | NGO, Local Government | Environment | Resource Depletion | | ● |
| Increase in the requirement for fair trade | Vendor | Social | Fair Trade | | ● |
| Increase in consumers emphasizing health and friendliness to the environment and society | Customer (People) | General | Consumer Rights | | ● |
| Development of core technology on water management | Government, Employees | Economy | Technology Development | | ● |
| Increase in diverse and reinforced customer requests | Customer (People) | Social | Consumer Rights | | ● |
| Reinforcement of environmental regulations | NGO, Local Government | Environment | Environmental Pollution | ● | |
| Intensification of competition (technology development, patents and overseas expansion, etc.) | Government, Employees | Economy | Economic Performance | ● | |
| Water usage | NGO, Local Government | Environment | Water Resource | ● | |
| Increase the requirements of employee welfare and rights (work and life balance) | Employee | Social | Employee | ● | |
| Increase interest in governance (Responsibility Management) | Employee | General | Governance | ● | |
| Increase in the requirement for fair competition | Customer (People) | Social | Fair Trade | | ● |
| Reduction of energy use (renewable energy generation such as hydroelectric power, etc.) | Government, NGO | Environment | Energy | | ● |
| Expansion of vendor CSR (environment, safety, labor and human rights, etc.) | Vendor | Social | Win-win Cooperation | | ● |
| Increase the significance of shared growth with vendors | Vendor | Social | Win-win Cooperation | | ● |
| Increase security requirements on customer information | Customer (People) | Social | Information Protection | | ● |
| Customer satisfaction with products and services | Customer (People) | Social | Consumer Rights | | ● |
| Compliance with environmental regulations | NGO, Local Government | Environment | Environmental Pollution | ● | |
| Anti-corruption | Employee | General | Anti-corruption | ● | |
| Customer health and safety | Customer (People) | Social | Occupational Safety | | ● |
| Discharge of wastewater and wastes | NGO, Local Government | Environment | Environmental Pollution | ● | |
| Convenience of access to corporate information (Internet, SMS) | Customer (People) | General | Transparent Management | | ● |
| Social contribution to local society | Customer (People) | Social | Community | | ● |
| Legal compliance with society | Employee | Social | Anti-corruption | ● | |
| Increase in youth unemployment and non-regular workers | Customer (People) | Social | Employee/Indirect Economy | | ● |
| Population change (aging, low birth rate, etc.) | Customer (People) | Social | Community | | ● |
| Indirect economic effect through the development and supply of water resources | Government, People | Economy | Indirect Economy | ● | |
| Economic Performance (creation and distribution of economic value) | Employee | Economy | Economic Performance | ● | |

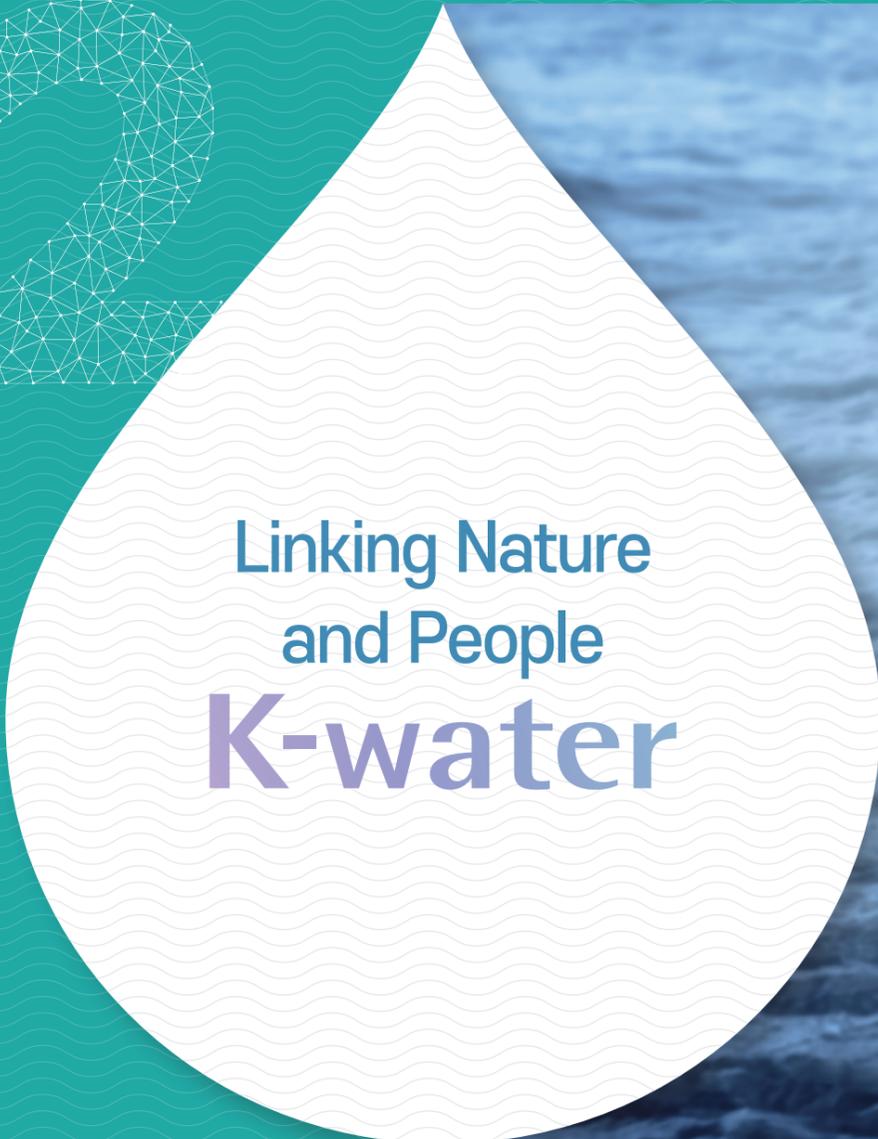
Materiality Assessment Process

K-water applies the main parts of the sustainability context, significance, and integrity principles provided in the international report standard of GRI to derive the important issues in sustainable management. The positive and negative issues of K-water were analyzed through media analysis, and outstanding points and methods of reinforcing competitiveness and improving the participation of stakeholders were verified through benchmarking, survey, and expert interview. The group exchanging impact directly and indirectly was defined as a stakeholder, and this was used to perform internal and external environmental analysis and materiality assessment.



| No. | Issue |
|-----|---------------------------|
| 1 | Water Resource Protection |
| 2 | Ethical Management |
| 3 | Customer Value Creation |
| 4 | Risk Management |
| 5 | Governance |

| No. | Issue |
|-----|---------------------------------------|
| 6 | Stakeholder Communication |
| 7 | Talent Management |
| 8 | Eco-friendly Management |
| 9 | Information Protection |
| 10 | Community Participation & Development |



Linking Nature
and People
K-water



36
Water Safety
Services

52
Water Sharing
Services

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Water
Convergence
Services

70
Future of
K-water
Linking Nature
and People

ESG Commitment 1 - Water Safety Services

K-water is developing a territory that is strong against disasters by promoting businesses on reinforcing the responsiveness to water disasters and safety of water resource facilities in preparation for climate change. In addition, K-water is continuing efforts to improve water management efficiency and disaster response capabilities through systematic and integrated connection to the diversified water quantity & quality, aquatic ecology, and disaster response functions and to enable change in water environment that the people can sympathize with through sustainable water management.

Significance of the Issue and Approach Method



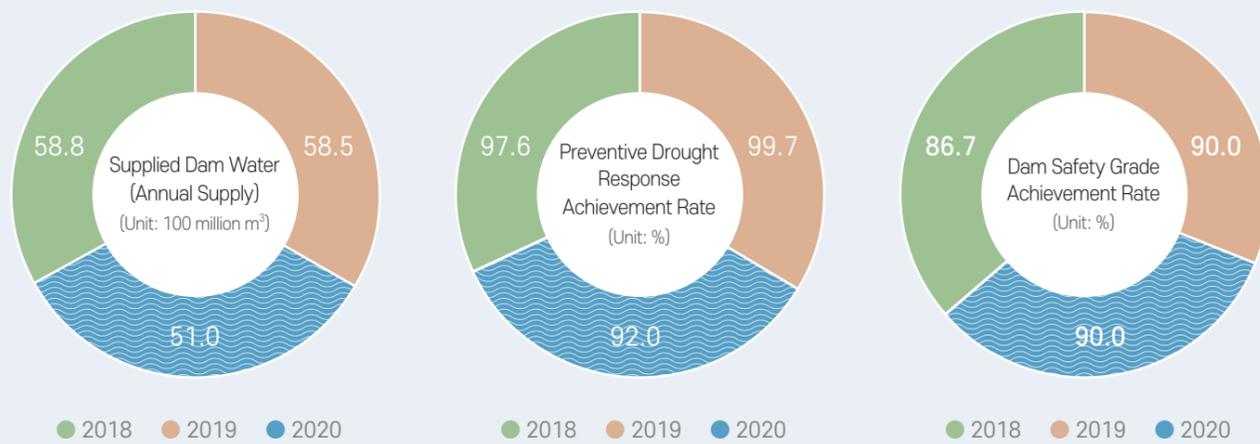
K-water will establish an optimized water circulation system for sustainable water use. The water supply system will be converted from wide-area to local waterworks system, and diversified water management will be integrated into regions. Accordingly, the main strategic task of water safety service and relevant significant issues in sustainable management were selected and are managed systematically to contribute to creating social value.

Promotion Organization (K-water)



| | | |
|--|--|----------------------------------|
| Management & Innovation Services Dept. | Future Strategy Dept. | Water Supply Planning Dept. |
| Water Resources Operation Dept. | Water Resources Facilities Maintenance Dept. | Local Water Supply Dept. |
| Water Environmental Management Dept. | Water Quality & Safety Management Dept. | Carbon Neutrality Planning Dept. |
| Green Energy Dept. | Accounting & Finance Dept. | |

Main Performance



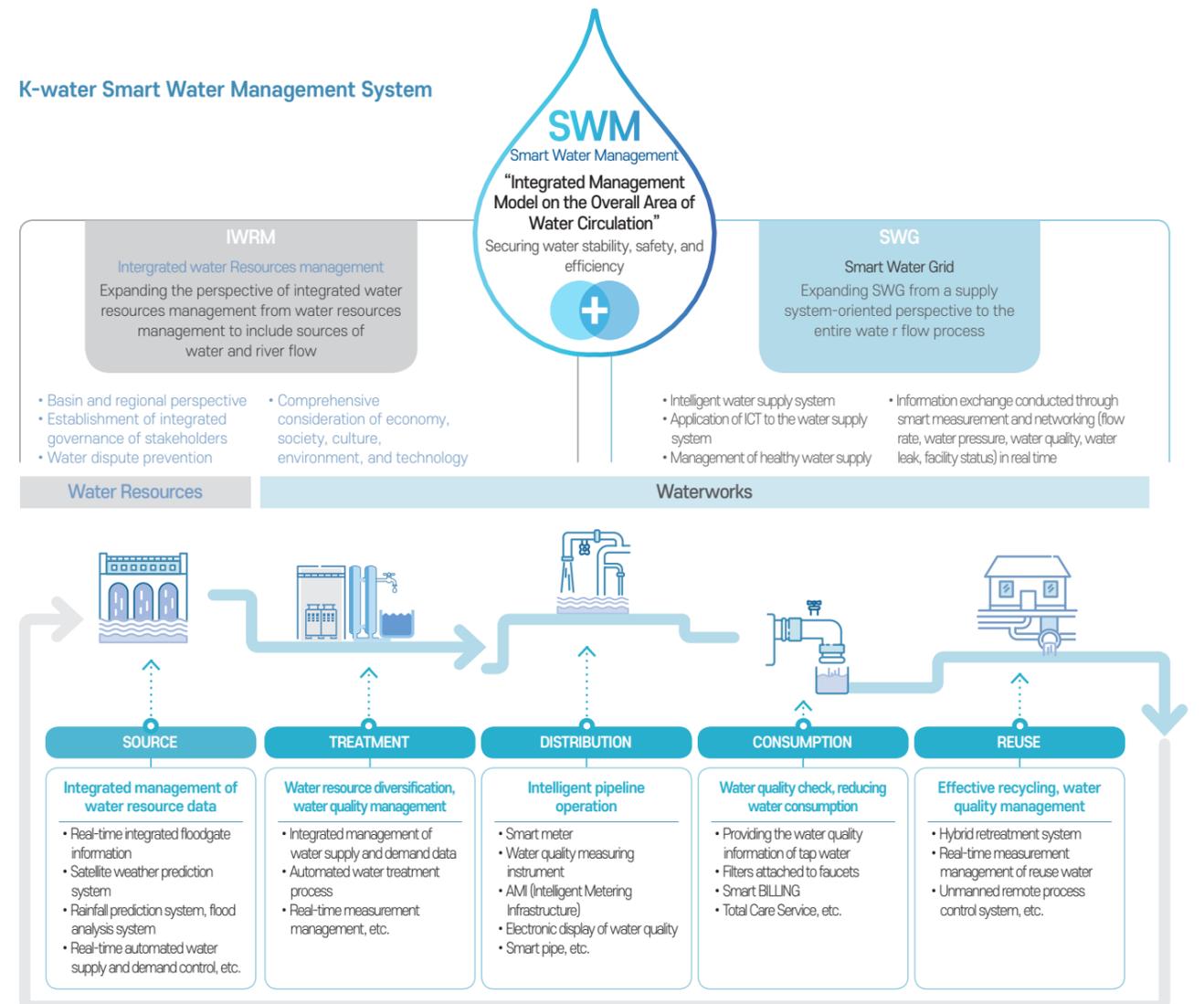
Smart Water Management for Coexistence of Man and Nature

To secure national safety from water disasters such as flood, drought, water pollution, green algae, etc. integrated management is sophisticated for the preemptive establishment of a disaster prevention system in vulnerable areas. In addition, the safety management system is reinforced in an effort to create a safety culture for everyone including the company, vendors, and people.

Operation of Smart Water Management System Utilizing Cutting-Edge Technology

K-water utilized ICT to establish the SWM (Smart Water Management) system, the new innovative paradigm in the overall process of water management. Rainfall prediction, drought analysis, and flood response system were also established and sophisticated. Real-time measurement status, inspection plan and result, and maintenance history data on the multi-purpose dam, water supply dam, and multi-purpose weir managed by K-water were integrated systematically to provide the facility information, with the system established to support facility management more safely and efficiently. Moreover, an integrated water resource information system was established to support quick decision making to continue the efforts in improving the safety of the water resource facilities in preparation for various disasters such as climate change, etc.

K-water Smart Water Management System

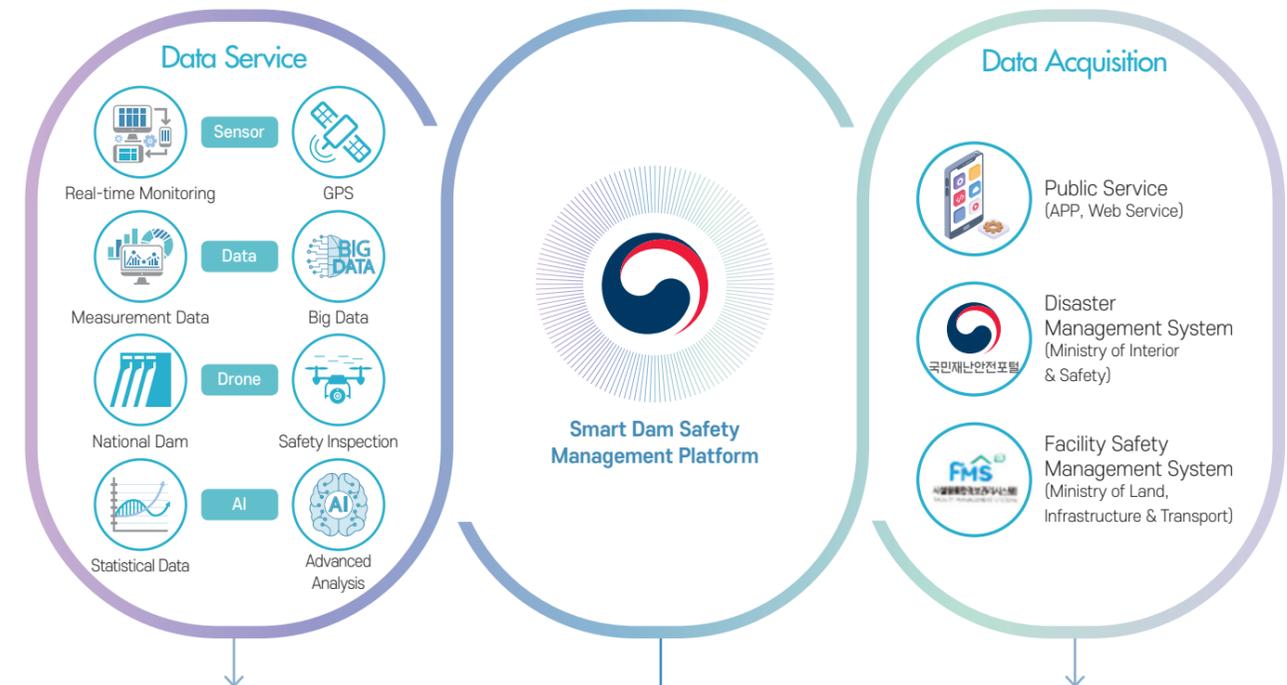


Digital Twin Smart Dam Safety Management

Digital twin is the digital model that displays the physical infrastructure equally on the virtual space, and K-water preemptively introduced the technology for the 4th industrial revolution through national consensus and consultation with experts in the private, public, and academic sectors. In 2020, the "Smart Dam Safety Management" project, referred to as the Korean version of New Deal, was approved. That same year, K-water newly established the safety management center for

smart dam safety management by utilizing drones, AI, Big Data analysis, etc.; based on the Big data, real-time Smart monitoring, drone-based safety inspection, and digital twin-based dam safety management platform were established for 37 national dams. Accordingly, K-water is responding preemptively to extreme weather events such as heavy rain or earthquake, etc., and playing a pivotal role in realizing national safety and water welfare through preventive management.

Smart Dam Safety Management System



| Smart Monitoring | Drone Inspection | AI Analysis | Digital Twin (O&M) | Earthquake Monitoring | Digital Data | Dam Safety Management Center |
|---|--|--|---|--|---|--|
| <ul style="list-style-type: none"> Facility specification GPS/Leak measurement data Emergency alarm system | <ul style="list-style-type: none"> Management of inspection and diagnosis history Video data History of maintenance/reinforcement performance improvement | <ul style="list-style-type: none"> Video data analysis Measurement data analysis | <ul style="list-style-type: none"> Dam/Auxiliary facility Safety prevention | <ul style="list-style-type: none"> Real-time monitoring Seismic analysis, response to crisis | <ul style="list-style-type: none"> Design, licensing, construction Safety manual Inspection/Diagnosis report | <ul style="list-style-type: none"> Technical support Education, Training, R&D System, latest technology information |
| | | | | | | |
| Monitoring | Land Drone | Big Data | Digital Twin | Real-time monitoring | Design Drawing | Education & Training |
| | | | | | | |
| Alarm System | Underwater Drone | Deep Learning | Safety Prediction | Seismic Analysis | Inspection/Diagnosis report | Latest Technology Information |

Eco-friendly River Management by K-water in Connection to the Dam-River

Following the integration of water management and functional adjustment as an affiliated institution, K-water is establishing integrated water environment improvement measures in each river based on close cooperation with stakeholders such as the relevant institutions, government, residents, etc. Likewise, eco-friendly river management is being promoted by centrally considering not only the maintenance of the river for the existing disaster prevention but also the river ecosystem and water quality improvement.

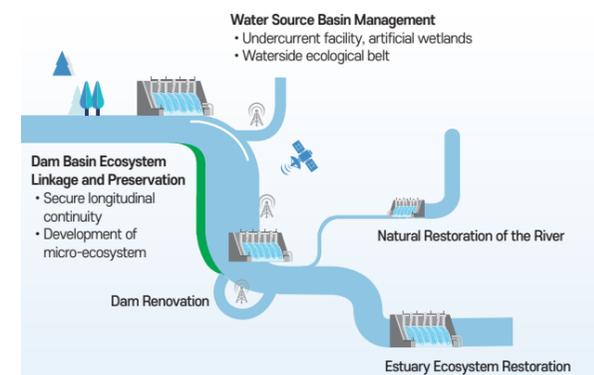
Establishment of Integrated Dam Environment Improvement and Eco-friendly River Management System

To convert the representative grey infrastructure of the dam into green infrastructure, K-water is promoting the one-system management of dam-river for comprehensive improvement of the dam environment and to address the spatial and functional disconnection of the river due to the dam. Safety is reinforced on the dam in preparation for climate change; pollutants flowing into the dam are reduced, and efforts are made to manage the healthy water quality and aquatic ecology by developing the ecological space, etc. In addition, a basic plan is established for the natural restoration of the river to lead the eco-friendly dam-river management. Especially, the project on managing the dam and river as one system by converging the technologies from the 4th industrial revolution such as digital twin, Big Data, AI, etc. were introduced as a pilot project in the Seomjingang River Basin in 2021, and the system will be established in stages for 37 dams nationwide. In June 2020, various seawater inflow methods were reviewed according to the level of floodgate opening on the Estuary Bank, and the 4th experiment on opening the Estuary Bank was performed in October 2021. This resulted in the restoration of the environment, enabling ecological fish species such as salmon to return to the river.

Provision of eco-friendly waterside space management measures by developing the waterside ecological belt

K-water developed the waterside ecological belt near Daechong Dam, which is green infrastructure performing the role of an ecological buffer by utilizing the force and structure of nature such as waterfront forest, wetlands, etc. Dam flood plain is a space where the water resides temporarily when the water level increases due to heavy rain, and complex functions are provided such as control of flooding because it contacts with the surrounding land, filtering of non-point pollution source, provision of biological habitat, etc. Due to the recent climate change and integration of water management, etc., the role and management of flood plains are becoming increasingly important, and the original function of controlling the flood is weakened due to illegal occupation, cultivation, and littering despite continuous control and guidance, causing water pollution and deteriorating the healthiness of the aquatic ecosystem. Accordingly, K-water turned the flood plain into a riverside ecological belt including the waterside purification forest, micro-biological habitat, ecological wetland, etc. with filtering function; the flood plain was redeveloped to play the role of restoring the original function as waterside buffer, absorption of carbon, and ecological resource. Thanks to the expected effect of improving the water quality in the dam basin, restoring the healthiness of the aquatic ecosystem, creating regional income, etc., it became an exemplary case of eco-friendly river management that is receiving good response among the people.

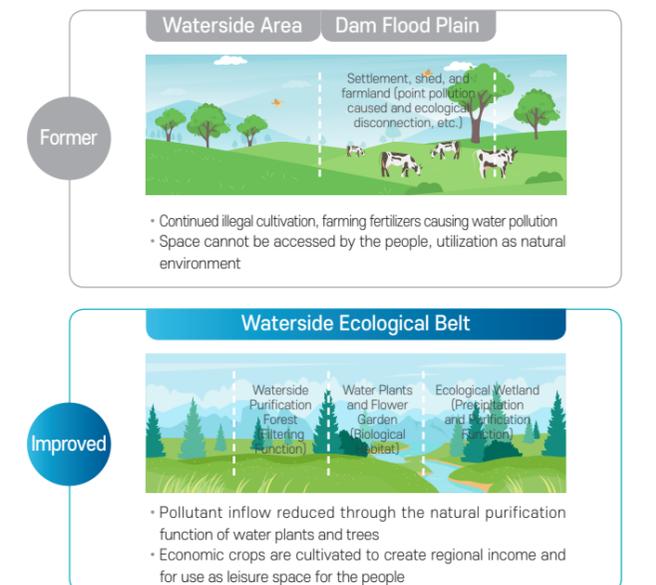
Dam Environment Comprehensive Improvement Program



Overview on the Nakdonggang Estuary Bank Opening Test



Ordinary Floodgate Operation

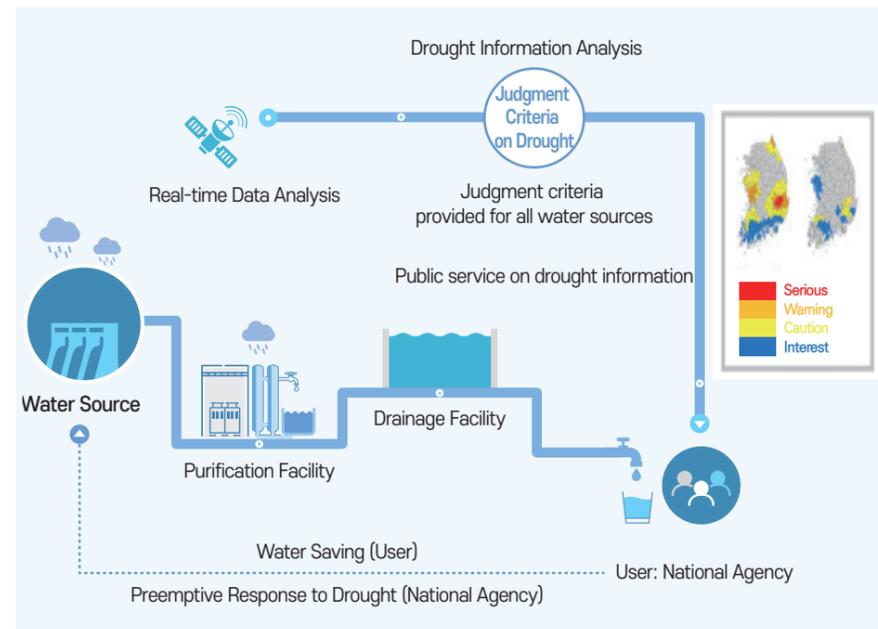


Efforts of K-water to Reduce Damage from Drought

In 2020, flood damage was a big issue due to the record-breaking period of rainy season and precipitation, and there was almost no drought throughout the country. As forecast recently in various climate change research reports, however, severe droughts and floods are occurring more frequently. K-water is performing real-time drought monitoring continuously for stricter drought management, with various drought services provided to improve public awareness of the drought and to enable local government personnel to reinforce their drought response capabilities.

Status of Drought Forecast & Warning

K-water identifies the source of living water and industrial water and water supply system through the survey on 3,483 Eup, Myeon, and Dong (2019), and the status and prospect of the drought are analyzed according to the judgment criteria on drought. Due to the lack of precipitation in the spring season of 2020, "Interest" stage was issued from May for 8 City & Gun in Chungnam (Boryeong Dam water supply area), and the national drought status was "Normal" stage from the rainfall in the summer season; the water reserve rate of the previous year was maintained at "Normal" stage.



Public Drought Information Service

K-water established the national drought information portal to provide high-quality drought information to the people, and the number of users was increased from 40,000 people in 2018 to approximately 300,000 people in 2020 (7.5 times increase). The national drought information portal provides various kinds of information related to the drought such as drought information, basic information, analysis information, etc. Especially in severe drought, it is important that people participate in saving water, so the "Drought Training & Experience Center" was established for the first time in Korea to improve people's experience with drought. As it was difficult to operate the offline experience center due to the COVID-19 pandemic in 2020, the online drought training & experience center was newly established. Accordingly, anyone can visit the "National Drought Information Portal" to use the service on drought training & experience conveniently.

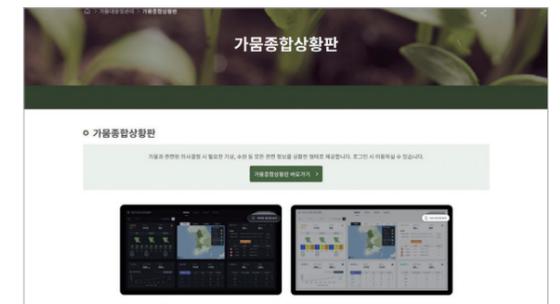
Operation of Local Government Drought Decision-Making Support System

During the drought, it was difficult for the local government officials to access drought information, and there was some inconvenience in making quick decisions and response related to the drought. Moreover, there was no standardized tool for verifying and sharing the information mutually with the experts or central government officials when establishing measures for drought oriented toward the local region. To address such difficulties of the local government, K-water established the comprehensive drought situation board in 2018 so that each region can identify the status of the drought. To enable the local government to take quick response, Drought 119 System with GIS-based emergency resource information was established. In addition, Danbi Service was reorganized to provide drought support service customized for the users and is provided in real time.

Change in Drought Training in Response to COVID-19



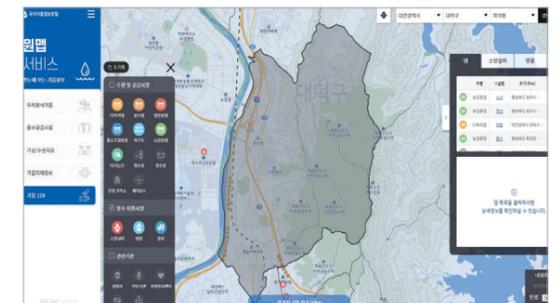
Korea's First Offline Drought Training & Experience Center (2019)



Local Government "Comprehensive Drought Situation Board"

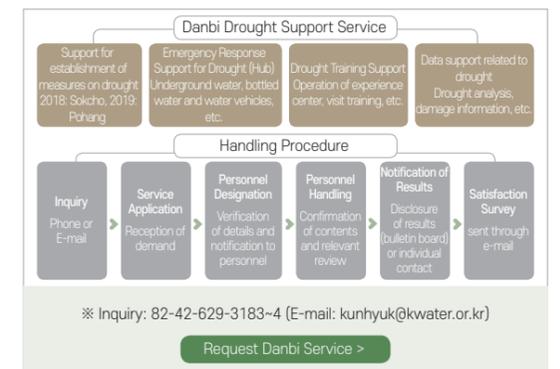
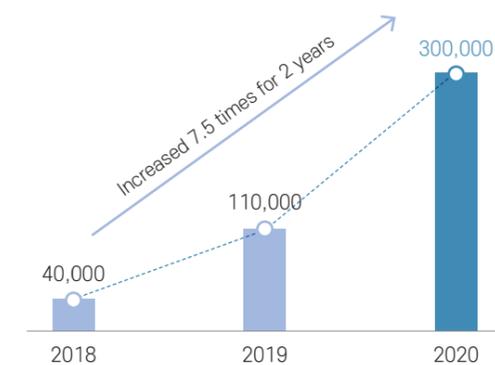


Online Drought Training & Experience Service introduced by utilizing VR technology (2020)



"Drought 119" for emergency support in response to drought

Increase Trend of Users on the Drought Information Portal



User-customized "Danbi" Service

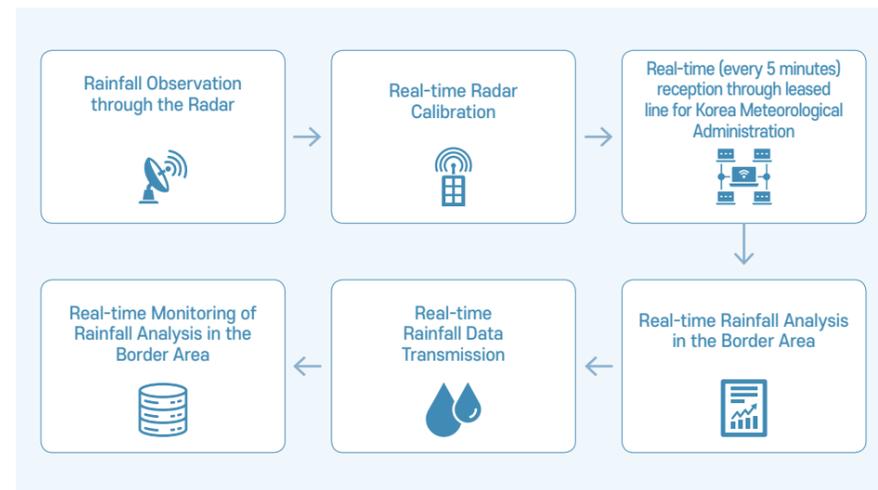
Response to Water Disasters for Coexistence of Man and Nature



Real-time Radar Monitoring System

Establishment of real-time water disaster monitoring system by utilizing the weather radar

For real-time water disaster monitoring, K-water is working together with the Korea Meteorological Administration to receive radar data (500×500m resolution). The radar image in Si & Do unit by the Korea Meteorological Administration is synthesized with the water system map on the overall dams operated by K-water, and more detailed real-time rainfall monitoring technology in the dam basin was developed. To address the difficulties of responding to water disaster crisis in the border area due to lack of real-time meteorological observation data from North Korea, radar (RAR, precipitation assumed by calibrating the radar reflectance and precipitation in the rain gauge) data during the period 2017~2020 was utilized for the development of technology of assuming precipitation in the border area. From 2021, dual-polarized radar (HSR, selective synthesis technology based on multi-elevation angle) was utilized for the process of currently developing the additional technology on assuming the precipitation in the border area. The relevant radar analysis technology will be connected to the K-water system to enable real-time water disaster monitoring and assumption of precipitation in the dam basin near the unmeasured border area, and efforts to reinforce integrated water management and provide the foundation for taking preemptive response to flood risks will be continued.

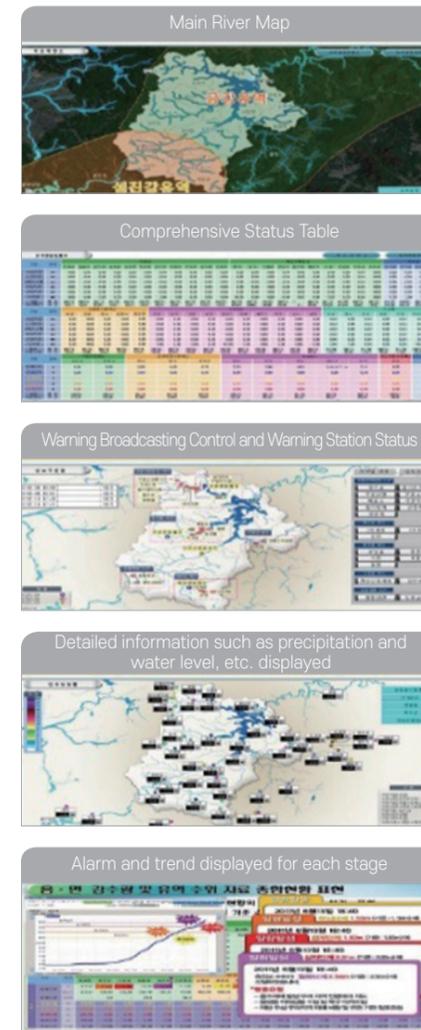


Mimetic Diagram on the collection, analysis, and utilization system of rainfall data through the radar in the border area

Establishment of Integrated Flood Information Management System

As the risk of regional flood damage is increasing due to climate change, and flood damages are occurring repeatedly on small and medium-sized rivers, K-water initiated the project on supporting the establishment of integrated flood management system in local governments in 2010 based on its water management technology and experience. The integrated flood management support project for local governments considers the characteristics of the local government based on the diverse water management experience and technology accumulated for 50 years to establish the system for real-time observation and analysis of flood, so that the local government can make optimized decisions. In addition, free technical support such as system diagnosis, etc. is provided to preferred local governments from 2019 to support the flood response system; as a result, this was selected as an outstanding management case by a public institution by the Ministry of Economy & Finance and as a cooperative project in 2017. It is a verified flood management project that was already requested by 27 local governments such as Ulsan, Jeonju, Gyeongju, Gusan, etc., as a high-quality system can be established at minimum cost by using the exclusive technology of K-water.

Integrated Flood Information Management System Establishment Process



- Reduction of Flood Damage Cost
- Inconvenience of citizens minimized
- National finance reduced
- Flood response capability reinforced

Flood Analysis and Water Disaster Monitoring

The central region suffered from a record-breaking rainy season period of 54 days since meteorological observation started to be performed 73 years ago, with the second largest rainfall of 687mm recorded nationwide to repeat the low precipitation and localized heavy rain. Accordingly, the government-wide "Comprehensive Measure for Innovative Response to Damage from Storm and Flood (Nov. 2020)" was reinforced with the exclusive measure of K-water and collaboration with the relevant agencies, improvement of dam operation, reinforcement of regional communication, etc. to provide measures for each field. This was applied from the flood season of this year. Floodgates on 9 dams were opened this year, and we were able to control the flood without big damage or civil complaints based on the improvement measures.

Occurrence of Great Flood in 2020 - Rainy season that exceeds the design frequency



2021 Improvement Measures for Damage from Storm and Flood



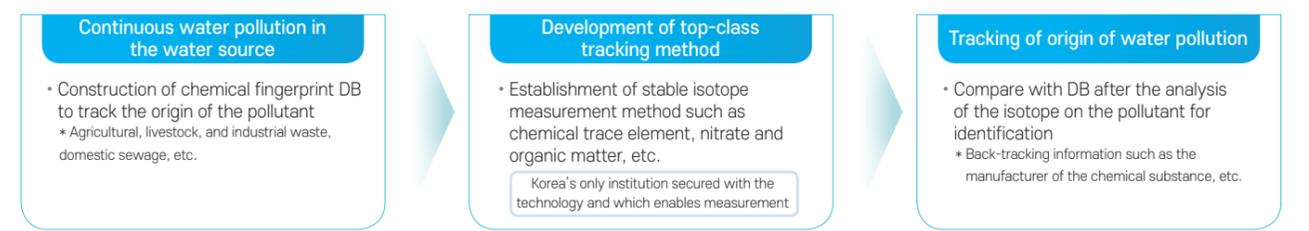
Response to Water Pollution and Green Algae

To enable systematically managing and responding to water pollution and green algae actively and preemptively, K-water established and implemented the action plan on response to green algae from 2014. In 2020, 51 dam branches and weir management offices were established to enable immediate response to water pollution and green algae; thus contributing to maximizing the initial responsiveness at the national level. In addition, practical measures for water pollution such as green algae monitoring and reduction, etc. are established and managed to support measures for water pollution established by the government, and various research studies are conducted continuously to solve the issue of green algae. The relevant data such as the report, etc. are disclosed through the K-water Research Institute website (<https://www.kwater.or.kr/kiwe/main.do>).

Water Pollution Source Tracking Method

Measures for improving water quality and reducing the pollution source are urgent in the basin, and water quality management is required by identifying the pollution source actively, but there were limitations in identifying the pollution source directly through the existing water quality analysis method. Therefore, K-water utilized the analysis method of applying stable isotope for constructing the pollutant DB in an effort to track the water pollution source and to improve water quality.

* Stable Isotope Analysis Method (Environment Monitor): Method of tracking the origin and pollution source of the substance by using the characteristics of the stable isotope changing in abundance ratio on environmental change (Element with the same atomic number but different mass number)



Promotion of Multilateral Method for the Reduction of Green Algae

To reduce green algae, K-water established an effective response system for each step of ① preliminary preventive response, ② monitoring, ③ prediction, and ④ response after occurrence, etc. to reinforce the response system continuously. In addition, the Nakdonggang-Gangjeong-Goryeong Weir ~ Changnyeong-Haman Weir section was applied with the pulse discharge technique of increasing the river flow and flux temporarily to mix the upper and lower layers; thus resolving the stratification and slowing the growth of algae (blue-green algae) down. Moreover, dam-weir linked operation, etc. was performed to reduce green algae in the aspect of integrated management of water quantity-quality. The independent technology of K-water is also applied to the tidal current warning system on Daechong Dam and Namgang Dam to predict the occurrence of alarm in advance. Accordingly, the information is provided to the stakeholders, water intake & purification plant management agencies, and water surface manager as well as the public to reinforce the response capability.



Establishment of Green Algae Management System and Platform on the Overall Process

K-water organized the "Task Force on Enterprise-wide Measure for Green Algae" participated in by all relevant departments for strategic green algae in the overall water management process in the basin from response to green algae in the dam and weir to the reduction of pollutants and drinking water management. Especially, a green algae management platform was provided throughout the overall process from the cause of occurrence to drinking water management to establish a preemptive collaboration system for systematic and quick response to green algae in the summer season and to solve the issue of green algae. To establish the green algae management system and platform for response to green algae, the head of environmental headquarters was appointed as the leader to operate the task force on response to green algae composed of the situation response division, waterworks operation division, monitoring division, external cooperation division, and site response team. Accordingly, a collaboration system was established in the overall process of response to green algae from the dam reservoir to drinking water through the participation of the head office, basin division, and site. As the national water management specialist institution, K-water will continue making its best efforts to supply clean water to the people by taking a preemptive response to green algae and providing measures for reduction.

Crisis Management for Environmental Accidents Regarding Water Quality for the Safety of the People

Risk management for environmental accidents regarding water quality until the people are assured

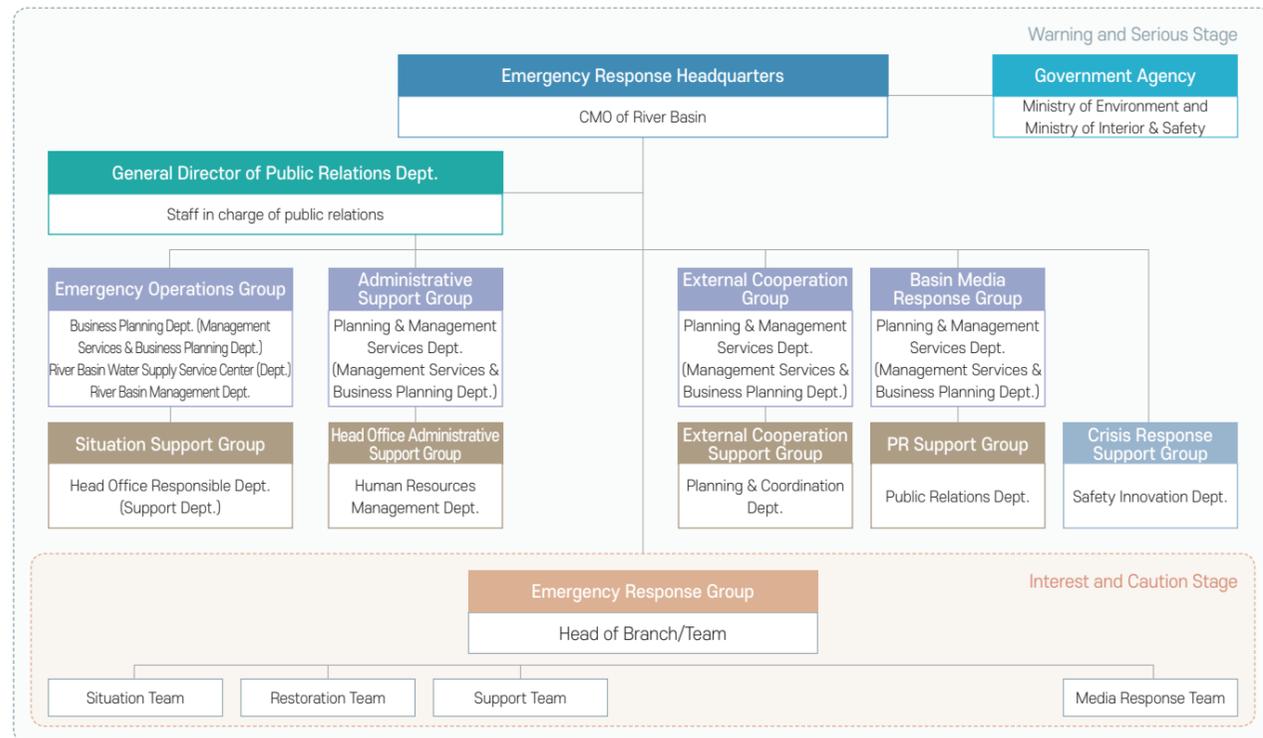
To respond to national water safety accidents such as large-scale accident involving water quality, etc., a water safety monitoring network is established and operated for harmful substances throughout the overall process of water supply from the basin and water intake sources to the faucet of each household. In addition, to respond to various unexpected water accidents, a crisis response system and a mobile water quality analysis system are established to reinforce the safety management of drinking water and to take quick initial response to water pollution accidents. K-water is continuing efforts for the risk management of water safety accidents.

Response System for Large-Scale Water Quality Accidents

As a public enterprise specializing in water supply for the people, K-water is equipped with a crisis response manual to take countermeasures for large-scale water accidents, with a response group organized for each accident risk level to perform simulation training with the dam and weir managers twice a year. To respond to various unexpected water accidents, K-water organized the working group on water pollution accidents with Korea Rural Community Corporation and Korea Environment Corporation (K-eco) and established a collaboration system between the agencies in an effort to relieve the anxiety of the people and minimize damage from environmental accidents through quick response to crisis.



Standard Organization Chart on Response to Crisis



Cases of Response to Water Accidents

Following the contaminated tap water that occurred in Incheon, etc. in 2019 and larva discovered in the tap water in Jeju-do Island and Dongducheon, etc., K-water organized the joint task force with the Basin Management Office and external experts for status check on the hygiene management of all purification plants nationwide, and the status of operation and management such as hygiene management was inspected at 447 purification plants nationwide. In addition, an expert forum was held with the Ministry of Environment in response to the larva discovered in the tap water; based on the discussions during the forum, result of consultation with experts, references, etc., a "Preventive and Response Method on the Occurrence of Larva in Tap Water" was provided. The 81 purification plants operated by K-water were subjected to daily monitoring. For the production of food hygiene-level tap water, Hwaseong Purification Plant was certified in March 2021 to expand the certification to ISO 22000 for all wide-area purification plants. Currently, K-water is in the process of establishing the mid- to long-term comprehensive plan on facility improvement for hygiene management. As a public enterprise specializing in water supply, K-water is sufficiently performing its role in responding to crisis even during the national water crisis situation through its accumulated know-how and technologies.

The quickly responding Mobile Water Quality System is changing the paradigm of responding to water accidents

To respond to various unexpected water accidents, K-water established the mobile water quality analysis system for addressing various issues related to water quality that can occur in the overall process of water supply from the water source to the faucet in each household. The mobile water quality analysis system is a vehicle mounted with equipment that can perform customized water quality analysis for each item such as detection of foreign substances and chemicals, etc., and real-time response is possible at the site from the collection of water sample to analysis and review. As part of the establishment of a water safety management system that can be experienced by the people, K-water performed R&D from 2016 on the analysis technology that can be mounted on a vehicle; this vehicle is currently under pilot operation as of 2020 for stabilization. 8 equipment can be used to analyze 160 items such as organic compound, heavy metal, and microorganism.



Environmental Management of K-water for the Benefit of the Land

As there is global demand for effort on carbon reduction due to the intensified climate change, K-water is also asked to carry out eco-friendly and efficient water management as a public enterprise specializing in water supply and management in Korea. K-water established an eco-friendly management system for practical environmental management in all processes of performing the business. Especially to advance toward a decarbonized society, K-water is continuing efforts in maintaining the existing environment management system, issuing green bonds, and increasing the amount of renewable energy generation through the declaration of climate crisis management, etc.

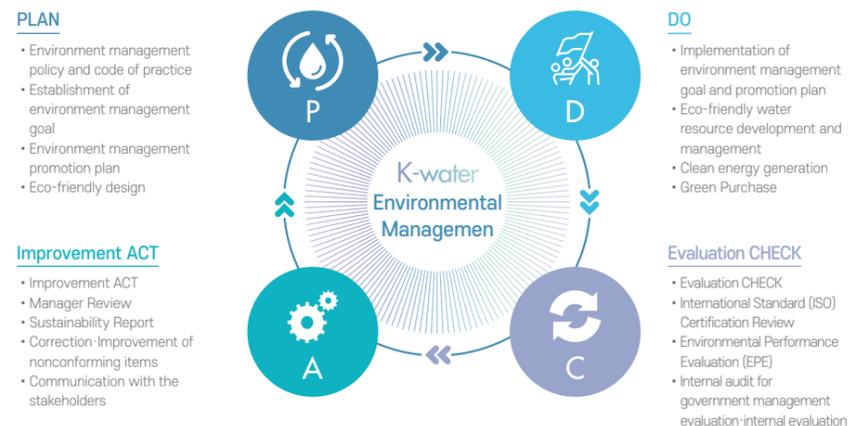
K-water Environment Management System

In October 2002, K-water became the first public enterprise to receive the environment management system (ISO 14001) certification; follow-up review is received annually, including renewal examination every 3 years from the specialized external certification agency to be verified for the effectiveness of the environment management system. In 2007 as well, an environmental performance evaluation system was established internally in 2007 for the first time in Korea, and all departments are participating in the management for each business area. This system is utilized to train and develop the International Standard Certification Auditor on quality and environment management every year, and these internal experts inspect and improve the quality and environment management status of each individual business site for the actual implementation of environment management that complies with the international standard.

K-water Environment Management System

| | | |
|--|---|--|
| <p>Implementation System Enterprise-wide quality, environment, and green management are complying with the international standard</p> <ul style="list-style-type: none"> International standard certification acquired for quality, environment, and green management *Quality Management (ISO 9001), Environment Management (ISO 14001), Green Management (KS I 7001) All departments and internal experts undergo annual inspection from the external specialized certification agency on the implementation status, and improvement activities are performed | <p>Performance Indicator EPE (Environmental Performance Evaluation)</p> <ul style="list-style-type: none"> EPE is an index for measuring the environment management performance comprehensively and quantitatively in all management areas The improvement level in the environmental aspect compared to the base year (2006) is shown in relative value In 2007, an environmental performance evaluation system was established for the first time in Korea, and a patent was acquired | <p>Maintenance of Support Base Development of internal expert for quality, environment, and green management system</p> <ul style="list-style-type: none"> In 2007, internal members were selected to provide the opportunity to receive education as ISO quality and environment management certification auditor As of October 2021, a total of 188 ISO quality and environment management certification auditors were trained and developed Internal experts perform inspection on all sites of K-water for practical understanding of quality and environment management that complies with the international standard |
|--|---|--|

K-water Environmental Management PDCA System



Operation of EPE program

In 2003, K-water introduced the EPE (Environmental Performance Evaluation) program for operation based on ISO 14031. This program is for the periodic measurement and diagnosis and continuous improvement of the environment management performance, with a computerized EPE system established for the first time in Korea in January 2007 to register the patent. EPE index refers to the relative improvement level of environmental performance compared to the base year (2006), and it is designated and managed as the key management performance index of K-water. The EPE index of K-water in 2020 was 147 points, improving 47% compared to the base year (2006).

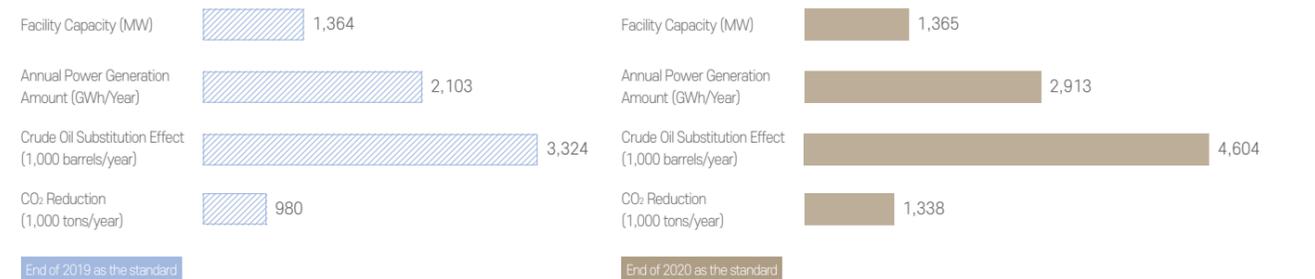
Environmental Performance Evaluation (EPE) Index



Efforts of K-water to Respond to Climate Crisis

In November 2020, K-water became the first public enterprise in Korea to proclaim the "Climate Crisis Management" on making response to climate crisis the top priority in all decision making. "Adaptation," "Mitigation," and "Transformation" on Climate Change were set as keywords to protect the people from climate crisis and to become the innovative platform for transforming the crisis into opportunity, and efforts will be continued until 2030 to be safe from flood and drought damages and to provide a life of enjoying healthy and clean water environment. In addition, K-water became a member of RE100 for the first time among public enterprises and supported TCFD to convert 100% of power usage into renewable energy. K-water will fulfill the responsibility of leading the national carbon-neutrality, guarantee water safety for the people, and construct a future water circulation city.

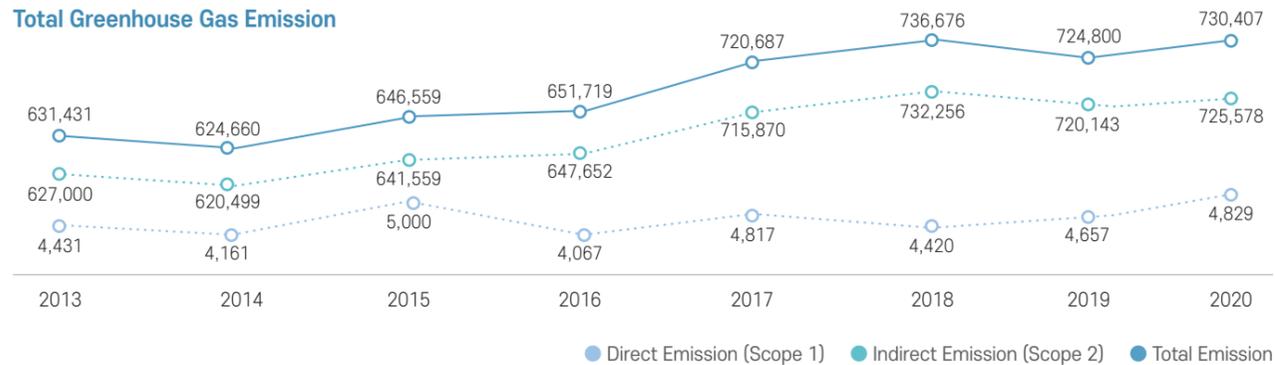
Amount of Renewable Energy Generation



Status of Clean Development Mechanism (CDM) Project

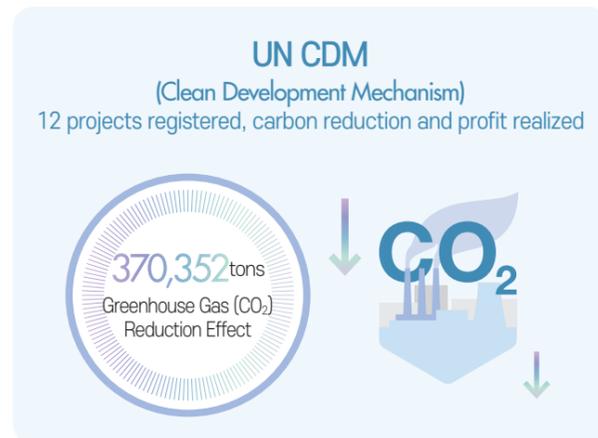
| Classification | Target | UNFCCC Registration Date | Annual Generation Amount (MWh/Year) | CO ₂ Reduction (tCO ₂ -eq/year) |
|------------------------------|--|--------------------------|-------------------------------------|---|
| Total | | | 830,176 | 466,489 |
| Sihwa tidal power | Sihwa tidal power | Jun. 2006 | 507,629 | 251,089 |
| Small hydro power 1 | Andong, Jangheung, Seongnam 1st Plant | Oct. 2006 | 15,473 | 8,103 |
| Small hydro power 2 | Daecheong, Juam, Dalbang, Seongnam 2nd plant | Feb. 2007 | 13,944 | 8,331 |
| Sihwa hydro power | Sihwa hydro power | Nov. 2007 | 6,293 | 2,521 |
| Small hydro power 3 | Gosan, Pangyo Plant | Nov. 2009 | 5,557 | 2,987 |
| Small hydro power 4 | Seongdeok, Gimcheonbuhang plant | Oct. 2010 | 4,963 | 2,759 |
| Small hydro power 5 | Angye, Hoengseong 2nd plant | Apr. 2012 | 4,603 | 3,100 |
| Water efficiency improvement | Paldang 3rd intake facility | Aug. 2012 | - | 7,044 |
| Hydro power 6 | Ipo, Yeosu, Gangcheon weir | Oct. 2012 | 76,406 | 50,772 |
| Hydro power 7 | Sejong, Gongju, Baekje, Sangju weir | Sep. 2012 | 57,541 | 38,237 |
| Hydro power 8 | Nakdan, Gumi, Chilgok, Gangjeong Goryeong weir | Sep. 2012 | 58,170 | 38,654 |
| Hydro power 9 | Changnyeong, Changnyeong-Haman, Seungchon, Juksan weir | Sep. 2012 | 79,597 | 52,892 |

Total Greenhouse Gas Emission



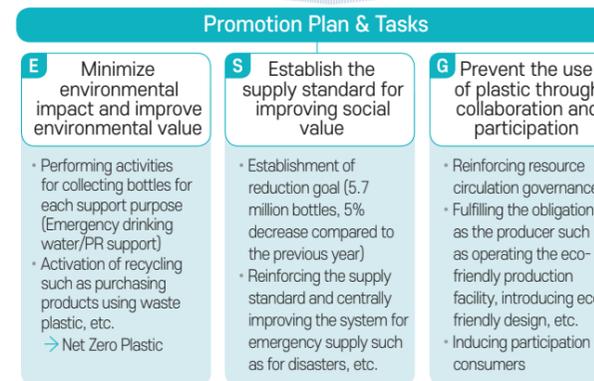
KRW 80 billion worth of Green Bonds issued

In March 2021, K-water issued green bonds for the first time among Tier 1 public enterprises to attract KRW 50 billion worth of environmental investment fund from Germany. In August, too, KRW 30 billion worth of green bonds were issued additionally for the sustainability of the green finance activities. The green bonds by K-water were highly evaluated for the efforts toward response to climate change such as the development plan for green energy using water and promoting carbon neutrality. As a result, K-water received the highest grade of G1 in the Green Bond Certification. The amount procured from issuing the bond will be utilized for water environment improvement that can be experienced by the people, and K-water will disclose the details of use and effect of environmental improvement transparently to improve the reliability of the green management activities.



Small but Big Leap Toward the Environment

For the practice of decarbonization and environment management, K-water is conducting activities such as replacing company vehicles with low-emission vehicles, reducing the use of living water, and reducing the environmental load with all employees. To control the air pollutants emitted from vehicle use, a "Green Mobility" plan was established involving replacing the company vehicles with electric and hydro-electric vehicles. The goal is to replace 700 company vehicles with low-emission vehicles by 2025. As a company supplying water, K-water does not use water in the process of production but is continuing efforts in reducing the use of living water such as proper management of water pressure in the company building, installation of water-saving equipment, and development of rainwater garden for reuse of the water into water for landscaping and irrigation. In addition, a recycling bin is installed in the office, and a water-saving campaign is ongoing at the restrooms to perform practical environmental load reduction activities that can be participated in by all employees. Especially, activities such as reducing the use of disposable products in the public institution, weight lightening of PET bottles for bottled tap water, reduction of production amount, etc. were performed to reduce the PET bottle weight by 29% along with a 53.8% reduction in supply amount; plastic usage was also reduced by using no-label PET bottles.



Along with the existing efforts, K-water is planning to apply the ESG management aspects to the overall stages of bottled tap water to minimize the supply of bottled tap water for each support purpose and collect the bottles for activating the recycling process. In addition, the purpose of supplying bottled tap water will be clarified to establish the goal for reducing the production amount, and the standard for supply will be reinforced to supply only for emergency purposes such as disasters. Moreover, resource circulation governance will be reinforced with the companies performing collection and recycling to continue preventing the use of plastic.



ESG Commitment 2 - Water Sharing Services

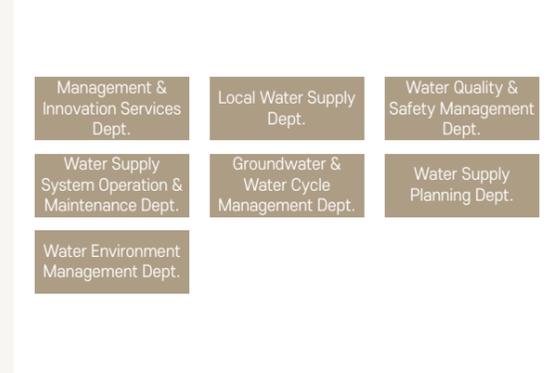
K-water aims to expand the "Healthy Water" paradigm nationwide based on smart water management knowledge, and consolidate water welfare and equity by stably providing clean and safe water to service isolated areas through operational efficiency of large-area and local waterworks.

Importance of the Issue & Approach



K-water plans to adopt smart water management step-by-step, centered on delegating local governments, and to elevate the public's trust through tap water quality improvement and value enhancement. We are endeavoring to expand agricultural and fishing villages' water welfare and improve local waterworks operational efficiency, etc. K-water has selected our major strategic agendas, water-sharing service, and the associated material issues of sustainability management, and systematically manage these, and thus, we have made contributions to social value creation.

Organizations to Propel K-water

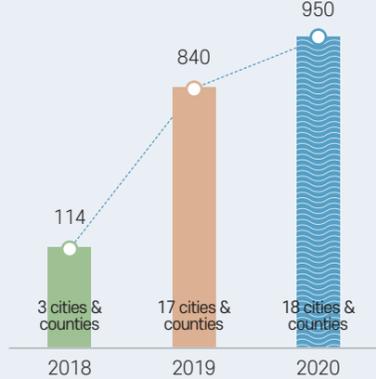


Major Milestones

Water Flow Rate Improvement & Savings



No. of Households for Social Safety Net Service (Unit: households)



Adoption of ISO 22000 certification



Supply of Potable Tap Water Safe for the Public

Due to larvae found in tap water, the production and supply of tap water that the public can safely drink has recently emerged as a key agenda. K-water has recognized that now is the time to shift the tap water quality control paradigm to food quality control level, and adopted HACCP-based ISO 22000 (Food Safety Management System) in water purification plants to actively cope with the paradigm shift. The construction of the quality management system and adoption of water purification plants under the ISO 22000 where facilities improvement need to be carried out are expected to contribute to tap water sanitation management consolidation, safe tap water supply, and drinking rate enhancement. In March 2021, Hwaseong Water Purification Plant gained the ISO 22000 international certification first-ever in K-water, and we plan to expand the certification to 38 large-area water purification plants producing water for home use by 2023.



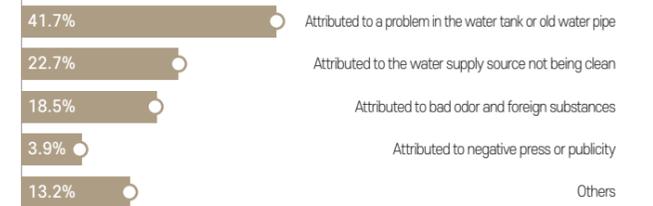
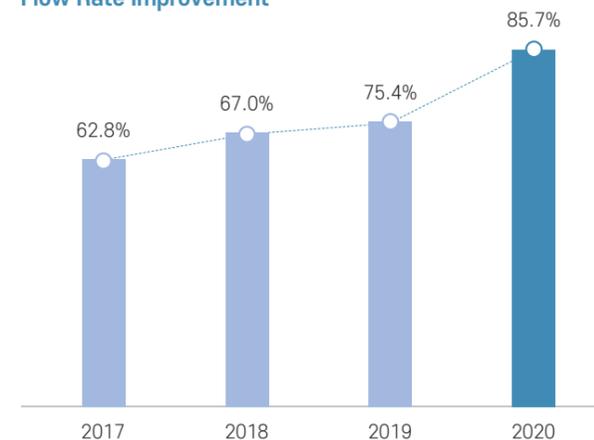
Worn-out Facility Improvement in the Whole Water Supply Process for the Public's Health

31% of the Korea's over 20-year-old waterworks pipes (58,000km) are worn down, and thus, 6,900,000m³ of water leaks, equivalent to 48 days of supply nationwide, arises with an annual cost of KRW 600 million in losses. To prevent this loss and ensure efficient use of water resources, K-water operates local governments' local waterworks, whose operation it is entrusted with. To this end, we construct a pipe network management system, intensively improve outdated facilities, enhance water flow rate, and enhance customer satisfaction.

Provision of Tap Water Safety Services to Resolve Public Concern

K-water operates our "tap water safety services" in which we provide water quality information by inspecting the faucet's water quality of each household and resolve any identified problems to ensure public trust of tap water. Targeted at the delegating local governments since 2009, water quality inspectors in charge of water quality inspections by visiting households provides water quality information through a tap water safety-checking system. Also, "Pipe cleaners", acting as preemptive water quality personnel, conduct indoor pipe diagnosis and cleaning services. With all this, K-water strives to improve the reliability of tap water at the moment of truth for the public. K-water introduced 126,000 cases of service to delegating local governments in 2020, which is over 10% of total Korean households, providing top level service in Korea.

Saving Results based on Water Flow Rate Improvement



Source: Ecological Study of Drinking Tap Water in 2017 (Korea Water and Wastewater Association)

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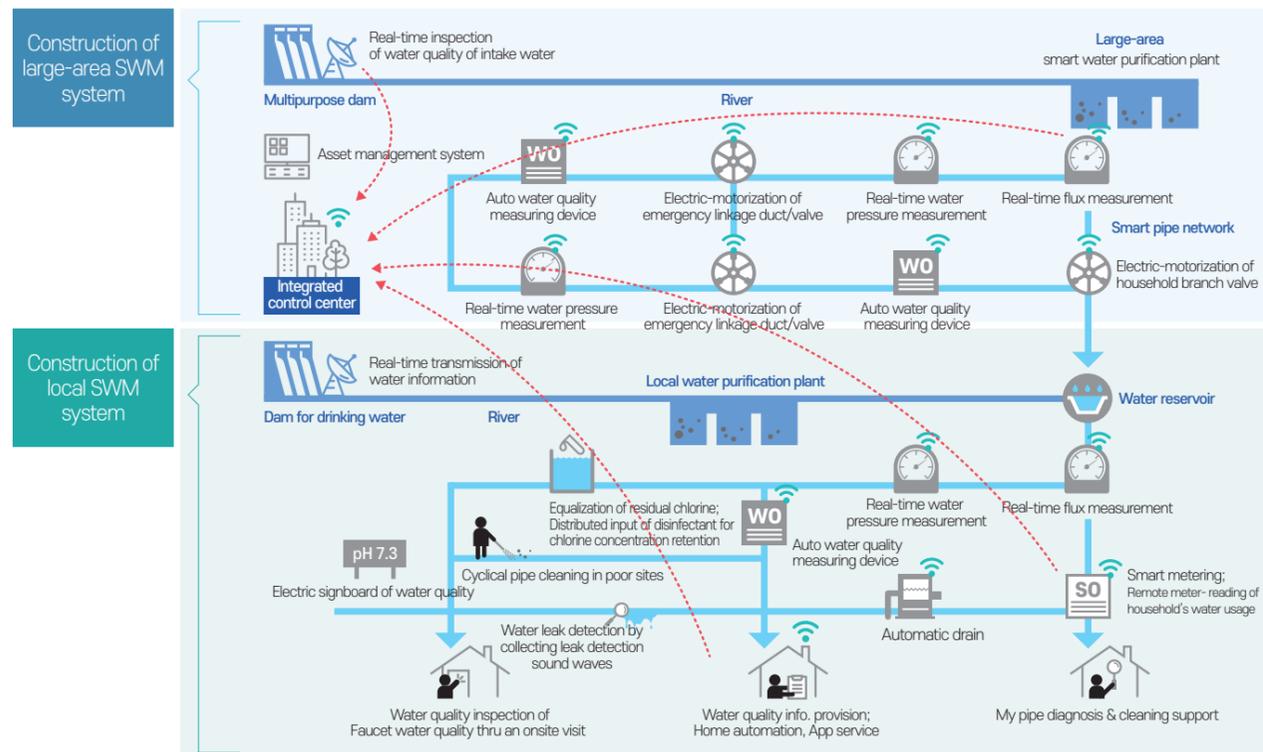
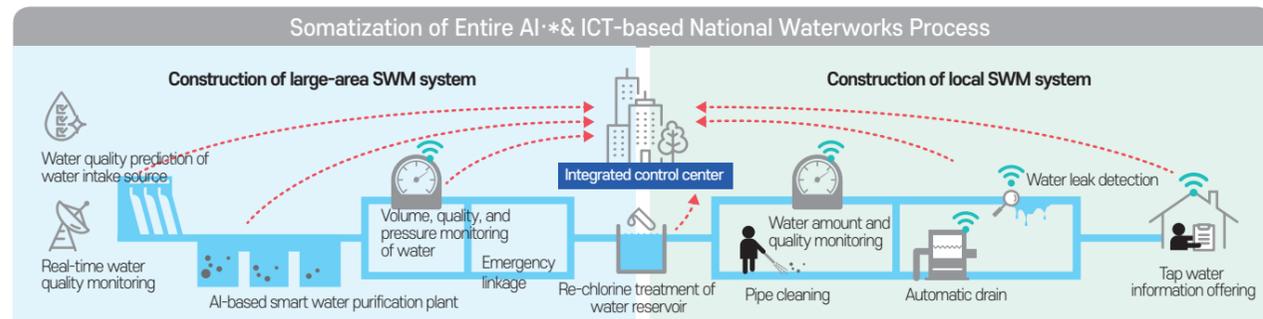
Korea's Tap Water Quality Ranks 8th in the World

Water quality ranking by country, the UN

Excellence of Korea's tap water system has been recognized for its scientific water treatment!
But why don't Koreans drink potable tap water?

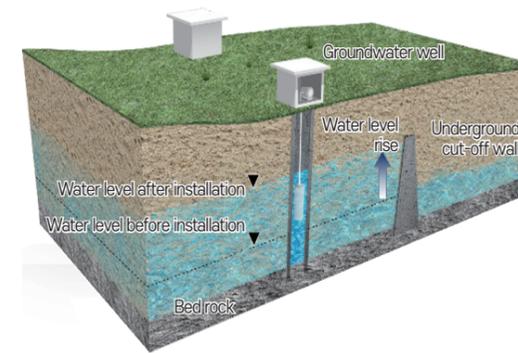
Construction of Eco-friendly, Low Carbon National Smart Waterworks Supply System with ICT Technology

The construction of a smart water management (SWM) system means a healthy water supply system with which consumers can trust to drink water by combining ICT for the whole water supply process from the water intake source to faucet, scientifically managing the volume and quality of water, and providing tap water information. In the 48 large-area waterworks facilities, a safe tap water production system against abnormal water inflow and various accidents is constructed through the real-time water quality monitoring of water intake sources, and realization of AI-based smart water purification plants. In addition, we have built a stable tap water supply system including quick accident recognition and response through real-time water quality and volume monitoring by adopting a smart pipe network management. With the use of big data-based asset management system, systematic facility maintenance is effectively enabled. In local water supply, we are supplying safe water services to the public by using the following excellent technologies: equalization of residual chlorine; automatic drain facility; real-time water quality measurement & water quality information across the entire supply process; pipe cleaning; advanced non-interrupted water probing equipment; smart metering; a remote leakage monitoring system; and pipe network operation & management system, etc. Through construction of a national smart waterworks system in tandem with large-area and local waterworks system by applying smart technology in the entire tap water supply process, the tap water supply system that the public trust is maximized.



Ground Water Reservoir for Water Welfare of Underserved Areas, and Seawater Desalination

K-water is currently promoting a ground water reservoir business to obtain water on islands areas. We started to supply water, after completing the installation of a reservoir in Daeijakdo Island, Ongjin-gun in December 2020 for the first time, and we are installing one on Anmado Island, Yeonggwang-gun and Bogildo Island, Wando-gun. We are also operating seawater desalination facilities to provide drinking water, water for home and industrial use, etc. through the seawater treatment process that is difficult to use. Due to a cumulative deficit, we finished the contracts of 18 facilities in 2019, but have extended the seawater desalination facility operation period, reduced water bills by 60%, and thus, lowered residents' burden for their water welfare.



Concept drawing of ground water reservoir



Aerial view of ground water reservoir installation on Daeijakdo Island

Water Quality Monitoring Consolidation to Ensure Tap Water Safety

K-water is monitoring 300 items including legal management items targeting the water purification plants of K-water to ensure tap water safety and manage potential hazardous factors.

| Classification | Total | Survey Frequency (based on 2021) | | | | Dept. |
|---------------------------|--|----------------------------------|----------------|--------------------------|-------------|--|
| | | Total Once a month | Once a quarter | Once in every six months | Once a year | |
| Legal Items | Water quality standard of drinking water | 61 | 61 | - | - | Water Quality Inspection Center of River Basin Head Office |
| | Water quality monitoring of drinking water | 31 | 2 | 14 | 1 | |
| In-house management Items | 208 | - | 100 | - | 208 | Water Quality & Safety Management Dept. |
| Total | 300 | 63 | 114 | 1 | 222 | |

Optimal Management of Amount of Chemical Materials Use in the Tap Water Production Process

K-water is managing the amount of chemical materials use as the basic unit, i.e. amount of chemical materials use (KRW) per ton of tap water output for optimal management of the chemical materials (water treatment agents) in the tap water production process. We are continuously managing optimal input rate of water treatment agents for high quality tap water production and cuts in amount of chemical material use under a more challenged water environment due to climate change such as heavy rain and algae occurrence.

Application of Global Water Quality Standards to Enhance Drinking Water Quality & Safety

K-water is fully complying with national water quality standards to supply water that people can safely drink. Despite difficulties of water treatment arising from climate change and industrialization, we are supplying safe tap water by adopting and operating world top level global water quality standards, as well as water treatment, considering characteristics of each intake source. As for the global water quality standards, our 71 water purification plants (38 for large-areas and 41 for local areas and delegated/ entrusted plants) have achieved an achievement rate of 99.99% of the standards that we have set by adopting the strictest standards by Item among the drinking water quality standards of the WHO, EU, and major OECD countries.

| Classification | | 2018 | 2019 | 2020 |
|---|--------------------------|------|------|------|
| Basic unit of chemicals (KRW/m ³) | Water for home use | 7.24 | 7.3 | 8.54 |
| | Water for industrial use | 9.96 | 9.41 | 8.63 |
| | Based on meter-reading | 7.51 | 7.61 | 9.22 |
| | Based on meter-reading | 9.71 | 9.20 | 8.32 |

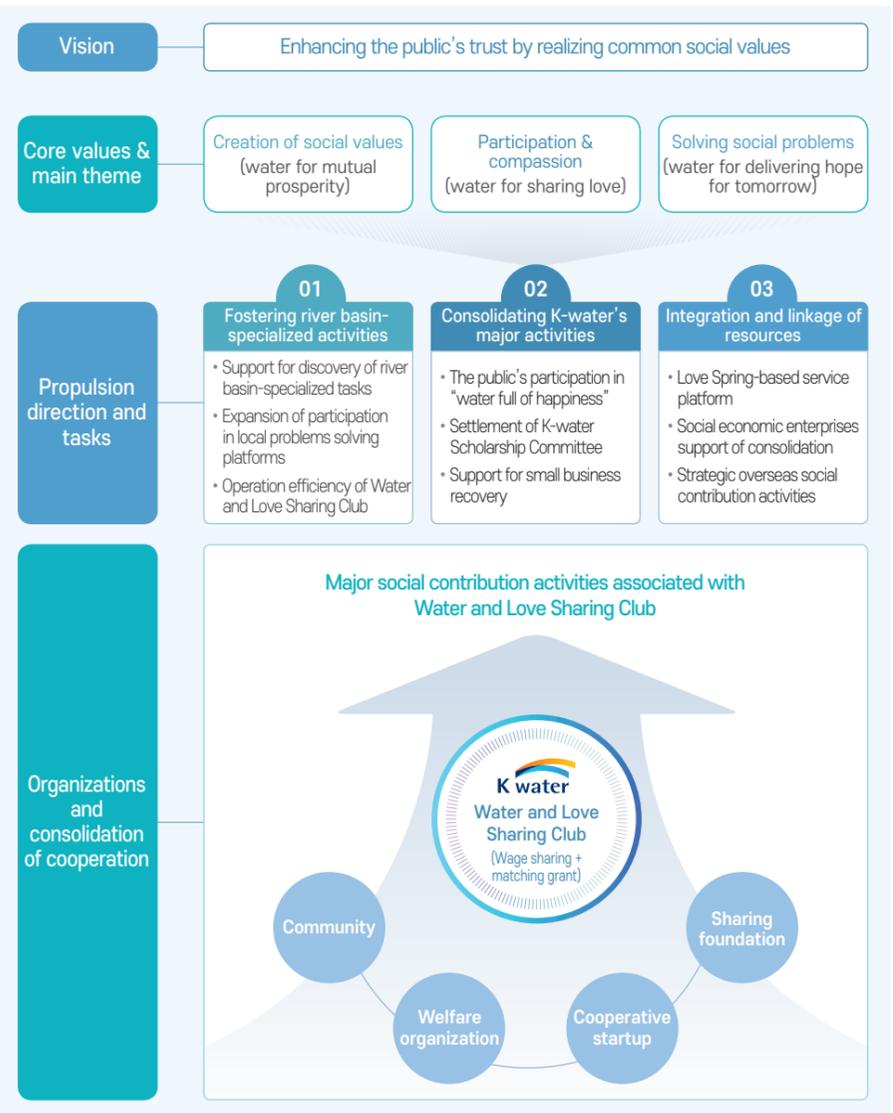
Stories of Overcoming COVID-19 Written Together with the Public

The WHO declared COVID-19 as a pandemic, the highest warning level that refers to the worst level of a specific global infectious disease. K-water is determined to overcome the crisis together with interested persons including our employees, small and medium venture businesses, customers, and communities to respond to the national crisis of the prolonged COVID-19 pandemic, and uphold their safety through diverse support activities.

Social Contribution of K-water Promoting Social Values

K-water has set three major social contribution core values and a propulsion direction reflecting our core values and management policies under our mission motto of "K-water builds a happier world with water." We are doing our best to become a respected corporation contributing to the development of state and communities by fulfilling corporate sustainable development and social responsibilities and various social contribution activities associated with business characteristics and possessed resources. In 2020, K-water drew detailed agendas to propel and implemented them by concentrating all our capabilities based on pan-government comprehensive measures, aiming at promptly overcoming the COVID-19 and promoting normalization of the local economy.

K-water's Social Contribution Strategy



Preemptive Implementation of Government Policies to Cope with COVID-19

- 01** Promotion of structural shift
Declaration of Korean New Deal in the water management field
- 02** Coping with Post COVID-19
Climate crisis management & declaration to participate in RE 100
- 03** Supporting economic recovery
Post-COVID-19 support for supporting economic recovery

One More Step to Local Economic Revitalization

K-water is playing diverse roles for daily life recovery alongside the public. For sharing of pain caused by COVID-19 on the public, our employees donated part of their wages, raising KRW 110 million to be shared and selected socially vulnerable facilities and households from COVID-19 as the subjects for the public's participation. Through our sharing efforts, we matched donations of KRW 90 million contributed by 40,000 local people for the socially vulnerable segment, reaching KRW 200 million in total donations. With this, we conducted sharing services or activities to help overcome COVID-19 struggles for 3,821 vulnerable children and senior citizens nationwide. Also, we provided KRW 2.47 billion in local economic revitalization through customized activities to boost consumption by business type enduring rapidly decreased consumption.

Customized Activities for Businesses Enduring Rapidly Decreased Consumption to be Boosted

Invigorate traditional market

- Designated day to visit a traditional market
- Paid part of wage with gift certificates → Created KRW 2.18 billion in local consumption

Invigorate floricultural farm houses

- Implementing company-wide flower purchasing campaign
- Promoted social contribution activities with flowers → Support of KRW 190 million for floricultural farmhouses

Invigorate traditional market

- Long-term rental and exhibition of local works of art
- Cultural events including drive-in theater → Discovered KRW 100 million of demand for culture

Daily Life Recovery Together within the Public

Need of the public's participation for the success of social distancing

"Together with the Public" Campaign of preventive measures against COVID-19

Nationwide street campaign for promotion of the public's participation

10,000 people from seven cities participated in the K-water campaign

Step-by-step return to school for normalized education

"Start of Normal Daily Life Recovery" Support for normalization of education

Support of online class infrastructure, and providing bottled water for drinking to elementary schools

Donated PCs for 750 adolescents and 600,000 bottled waters for 23 elementary schools

Emergency of national blood supply due to prolonged COVID-19

"Voluntary Participation" Group blood donation of employees

Company-wide relay blood donation event & introducing official leave scheme for blood donation drives

632 employees in 44 departments participated in blood donation

Community-Oriented Seungju Village Eco-Market

The crisis of local area's collapse deepens due to the declining population and demographic concentration in the Seoul Metropolitan Area. In fact, eight areas among 15 high risk areas of collapse are around the dams operated by K-water. Thus, K-water has paid attention to the areas around multipurpose dams in doldrum in tandem with the industry concerning this issue and promoted Seungju Village in Jeonnam around the Juam dam as a model case. Through this project, we have concentrated on community activation, rather than the new population attraction method which is an overly macro-approach as a solution to the local area's collapse. By building a welfare center from remodeling a closed school and establishing an eco-market, we have persistently operated programs in which local residents become the main actors to solve community problems including providing jobs to senior citizens and establishing an agricultural corporation. As a result, we expanded the support scale of the Seungju Village, leading to achievements confirmed by the residents' participation in cooperation with Jeollanam-do Province and the Ministry of Environment, etc. The case has become a benchmark of other institutions.

Happier World with Water, Water Welfare Services of K-water

K-water has shifted a water supply system that was operated by dividing it into large-area waterworks and local waterworks to a river basin integrated supply system, as sustainable water volume is necessary for use in tandem with existing water resources facilities, the recycling of water, and demand management fortification, etc. without large scale dam development. Also, to promote water supply stability and efficiency, K-water improves equity in "quantity, quality, and fare of water" in vulnerable areas to water, fulfilling its social responsibility and official role as a public corporation. In the future, we will supply tap water services that the public can trust to drink by resolving clean water conflicts between regions alongside high quality tap water supply.

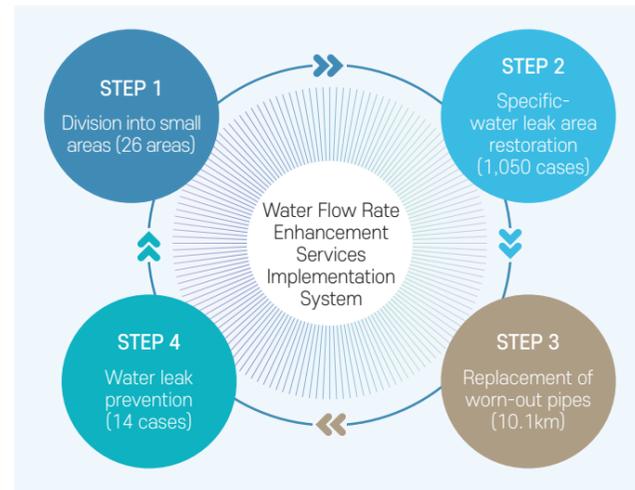
Resolving Social Blind Spots in Water Welfare

The agricultural and fishing villages and island areas have difficulties in obtaining water supply by the short-term drought period because they depend on small scale water sources including ground water and are susceptible to water quality problems due to non-professional water quality management. While the provision of water supply to vulnerable areas is local government's responsibility, K-water is making earnest efforts to quickly expand water welfare for those vulnerable areas as a public corporation specialized in water. To resolve water shortage problems in Namhae-gun that has lasted for 45 years, the water flow rate rose from 33% to 70% in two years since service launch through division into small areas, restoration of water leak areas, replacement of worn-out pipes, and prevention of water leaks. Consequently, 1.66 million tons of water leaks annually decreased, saving on tap water production costs by KRW 700 million.

Activities to Enhance Water Flow Rate in Namhae-gun



"The water supply was cut off at 10 o'clock at night, but now we are conveniently using water, because water is supplied all the time."
- CEO of a restaurant in Namhae-gun -



10-Year Plan to Solve Water Utility Billing Discrepancy



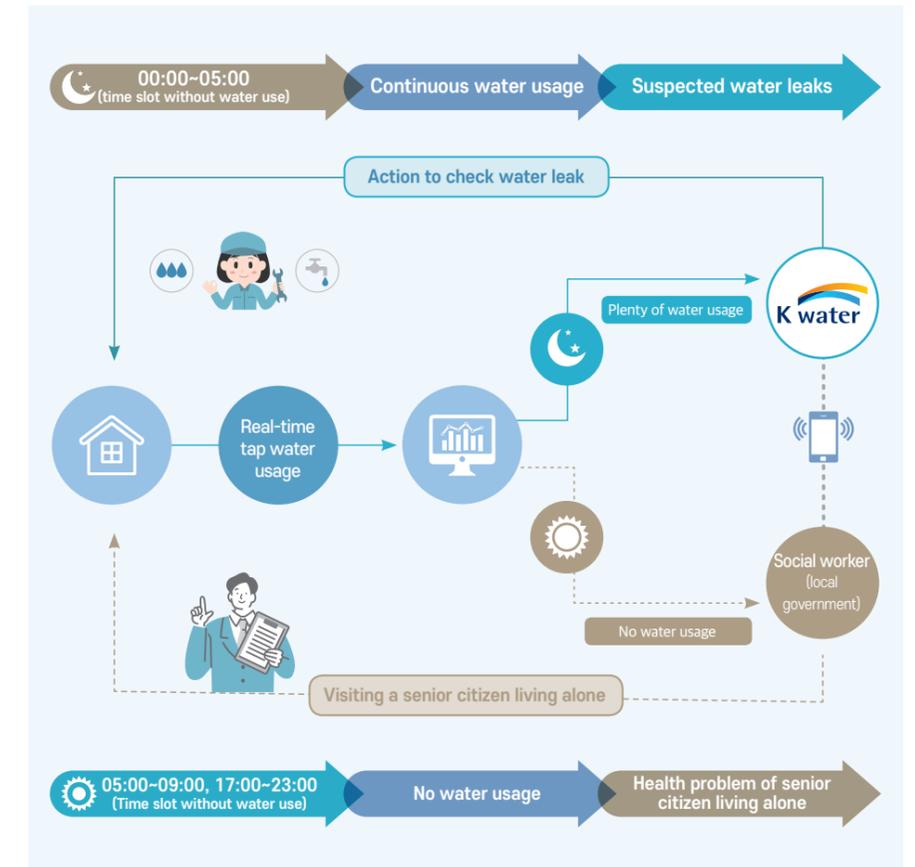
Initial Introduction of Local Waterworks' Uniform Utility Billing in the West Gyeongnam Area

Inefficiency improvement and resolving any water utility bill and water service discrepancy according to dual operation of large-area waterworks and local waterworks have been national policy tasks. K-water proposed a unification model based on operational efficiency achievement including large-area and local waterworks integrated operation experiences and water flow rate enhancement in the West Gyeongnam Area. Through cooperative governance (government, K-water, local governments) operation and revision of local governments' ordinances, we instated united tap water billing among four local governments (Tongyeong, Sacheon, Geoje, and Goseong) for the first time. We reached an achievement in which 220,000 households in the West Gyeongnam Area cut their tap water bills by instating united billing.

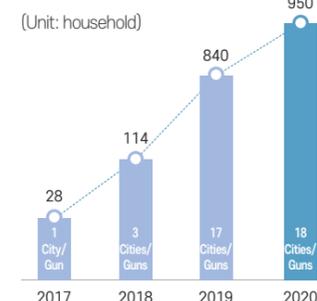
Construction of Social Safety Net by Smart Meter-Reading

K-water has constructed a social safety net service for the socially vulnerable segment including senior citizens living alone through a combination of water supply service and innovative technology. The local waterworks sites operated by K-water through delegation/ entrustment are mostly located in rural areas, and so we have made efforts in earnest to protect socially vulnerable people such as senior citizens with a compact welfare safety net using the public utility service of tap water meter-reading. We have established a service predicting a crisis situation by monitoring their water use pattern with IoT technology such as smart meter-reading and big data, etc. and identifying the status of water use at specific time slots through a meter-reading visit, etc.

Response in Tandem with Relevant Institutions with Social Workers & 119



Number of Households Using Social Safety Net



Creating Eco-Villages together with Local Residents

K-water is propelling dam eco-villages for local economic invigoration including discovery of income creation model using the eco-cultural resources of villages around dams by organizing National Happiness Design Group alongside local residents as part of social value realization. We are propelling lhyeon-dong village around Daecheong Dam as a pilot service, and endeavoring to form sympathy with communities, improve infrastructure reflecting local resident needs, and create programs by expanding dam eco-villages by river basin. For implementing the 2050 carbon neutral government policy, K-water is performing the carbon-neutral Yongdam Lake eco-village construction using village's unique resources and water environment resources as a follow up service through private, public, and academia collaboration. With all this, we will focus on making a successful model for local residents-led carbon-neutral implementation.

Activities to Make Independent Eco-village of National Happiness Design Group



Restoration of Biodiversity and Waterside Healing Space Expansion Nationwide

K-water plans to shape waterside forest and wetland in reservoir areas, where ecological function restoration is necessary, and transform the areas into healthy waterside buffer areas. We also plan to perform various complex functions including pollutant purification, wildlife habitat offering, microclimate control, and eco-experience tourism, etc. In addition, K-water wants to provide local eco-cultural services to the public through creation and operation, etc. of river culture invigoration programs. We will make contributions to local economic activation by realizing river culture invigoration, securing sustainability through natural resources preservation, and providing various public-oriented services using water.



Activities of Community Council to Make Carbon Neutral Eco-village



Activities of the Water and Love Sharing Club

K-water's social contribution club, Water and Love Sharing Club has been continuously carried the following diverse activities since its foundation in July 2004: environmental conservation, relief of disaster areas, helping less fortunate neighbors to deliver love to vulnerable neighbors, and contribution to communities with its employee's commitment to voluntary service. Under the vision "The public's trust improvement through realization of social shared values," the Water and Love Sharing Club is doing its activities, such as employees' voluntary wage donation and K-water's matching grant donation.

Water for Mutual Prosperity Creating Shared Values

To resolve problems that communities have, the club is performing activities helpful for local residents in line with field departments' Water and Love Sharing Club, as well as discovering activities suitable for local characteristics through partnership with communities based on cooperation. Through clean water-sharing activities, the club is striving for elementary, middle, and high schools in rural areas where local resident drink groundwater to use clean drinking water. In addition, the club is discovering and promoting customized services by generation through communication with local residents for the quality of life improvement of the residents around dams.



Water for Delivering Hope for Tomorrow to Solve Social Problems

Through a leading social contribution campaign, Water for Delivering Hope for Tomorrow Project of K-water that reflects the water industry's characteristics, we are contributing to the guarantee of the basic water use right of vulnerable people by improving water use spaces such as toilets, tap water facilities, sinks, and water pressure, etc. of low income households and worn-out welfare facilities, and to the improvement of quality of life including hygiene and health. K-water is also providing KRW 2 billion in annual scholarships. The K-water annually donates KRW 2 billion to the future generation. The Scholarship Committee Danbi, launched in 2020, has operated for the last five years including comprehensive growth support such as mentoring, etc. that aids children's dreams, as well as scholarship for middle and high school students.

Water for Sharing Love Consisting of Participation & Sympathy

Since 2006, K-water, an expert global water corporation, has been supporting sustainable development such as drinking water development for underdeveloped countries suffering from water deficit in resolving global water problems. Based on overseas social contribution by K-water, local residents can be supplied clean water, and children can have big dreams and hopes. In 2020, we provided essential and emergency items for preventive measures against COVID-19 for countries in a poor medical environment and economic situation amid the global COVID-19 pandemic. Through Love Spring service visiting the underprivileged segment and marginalized areas with a special vehicle embedded with a washing machine and shower system, we are providing hygienic services to marginalized areas and making efforts to solve welfare dead zone.

ESG Commitment 3 - Water Convergence Services

K-water is endeavoring to meet national requirements for water's eco-cultural values and wise use and maintain healthy and sustainable waterside values. K-water is also actively participating in GHG emissions reduction and efforts to ease climate change, as demand of renewable energy is on the rise. We are striving to fulfill public company's social responsibilities by enhancing economic vitality and balanced growth through fostering small hidden champions in the water industry, and by joint overseas entry.

Importance of the Issues & Approach



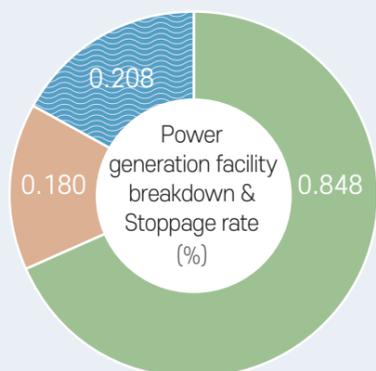
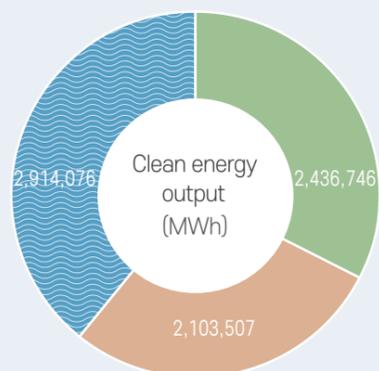
K-water striving in earnest to set the trend in eco-friendly energy paradigm shift including nuclear power phase-out, etc. by through developing and expanding renewable energy that converge water and energy with unlimited potential values, to realize national water welfare by offering healthy and water-friendly spaces, to consolidate small and medium venture business support system, and to fortify global competitiveness of the water industry. We are contributing to social value creation by systematically managing the related material issues.

Organizations Advancing K-water



| | | |
|---|--------------------------------------|-------------------------------------|
| Green Energy Dept. | Digital Water Platform Dept. | Carbon Neutrality Planning Dept. |
| Water Supply System Operation & Maintenance Dept. | Water Environmental Management Dept. | K-water Research Institute |
| Smart City Development Dept. | Water Industry Innovation Dept. | Global Planning & Engineering Dept. |

Major Milestones



100% Use of Water Energy

K-water is implementing diverse management activities to realize carbon-neutral water management to cope with the climate change crisis. We will greatly expand water energy development and utilization including the floating photovoltaic system and hydrothermal energy, and will lead the transformation into a carbon-neutral society through diverse water management.

Energy Independence, Carbon Emissions Reduction with Clean Energy Business Using Hydrothermal Energy

K-water aims to realize an eco-friendly energy society using hydrothermal energy that uses water as a heat source. We plan to implement a convergence cluster project in Gangwon-do, shape a data industrial complex, smart farm complex, and water companies-specialized complex by 2025, and plan to supply 16,500RT of hydrothermal energy using deep seawater. K-water also intends to expand the development of 127,000RT* of hydrothermal energy by 2030 targeting large-area and local waterworks pipes and consumers around river basin and continuously drive efforts to achieve zero energy. * RT (Refrigeration Ton): Cooling capacity required to make 1 ton of water at 0°C into ice at 0°C for 24 hours

Mid- and Long-Term Roadmap for Renewable Energy Business

K-water is endeavoring to participate in national carbon emissions reduction and renewable energy expansion to respond to climate change by realizing carbon neutrality water purification plants and declaring participation in RE 100, and to realize a sustainable low carbon, green society. Carbon neutrality carbon neutrality refers to the concept where the sum of energy used and produced nets out to zero by minimizing the amount of required carbon-emitting energy consumption through renewable energy sources. We plan to achieve our carbon neutrality target for our 43 water purification plants nationwide: 24 water purification plant by 2025 and the rest by 2030. We aim to produce solar power energy with the used of the extra site of the water purification plants and heating and cooling using hydrothermal energy.

Declaration of K-water carbon neutrality

- Supplementation of Korea's No. 1 status in renewable energy production
- Energy savings and renewable energy expansion of water supply workplaces using large amounts of energy

Expansion of carbon neutrality workplaces

- Expansion of carbon neutrality workplaces for 43 water purification plants (currently 2 -> 43 by 2030)
- Energy savings and renewable energy expansion of water supply workplaces using large amounts of energy

Improvement of energy independence rate

- Expansion of renewable energy (solar power, small hydro power)
- Adoption of heating and cooling thru hydrothermal energy
- Replacement with high efficiency facilities (motors, etc.)

Rising Star in the Low Carbon Era, Floating Photovoltaic System

In line with government's climate and energy policy, K-water, is implementing the 147.4MW floating photovoltaic system installation on five dams including the Hapcheon dam, etc. through the development and expansion of a floating photovoltaic system, considering eco-friendly and local residents' acceptance. In 2020, we received Environmental Product Declaration on the product's environmental reliability excellence, specifically the electricity produced by the floating solar power plants installed on Hapcheon Dam, Boryeong Dam, and Chungju Dam from the Ministry of Environment. With this, we could expand renewable energy project domain and resolve resident's vague anxiety towards environmental safety. Through the local resident-participatory floating solar power project, we are contributing to higher residents' income with the return of pension-type fixed income and local tourist attractions through landscape design. For implementing carbon neutrality, we plan to execute the floating solar power business of other dams by benchmarking the Hapcheon dam model case.



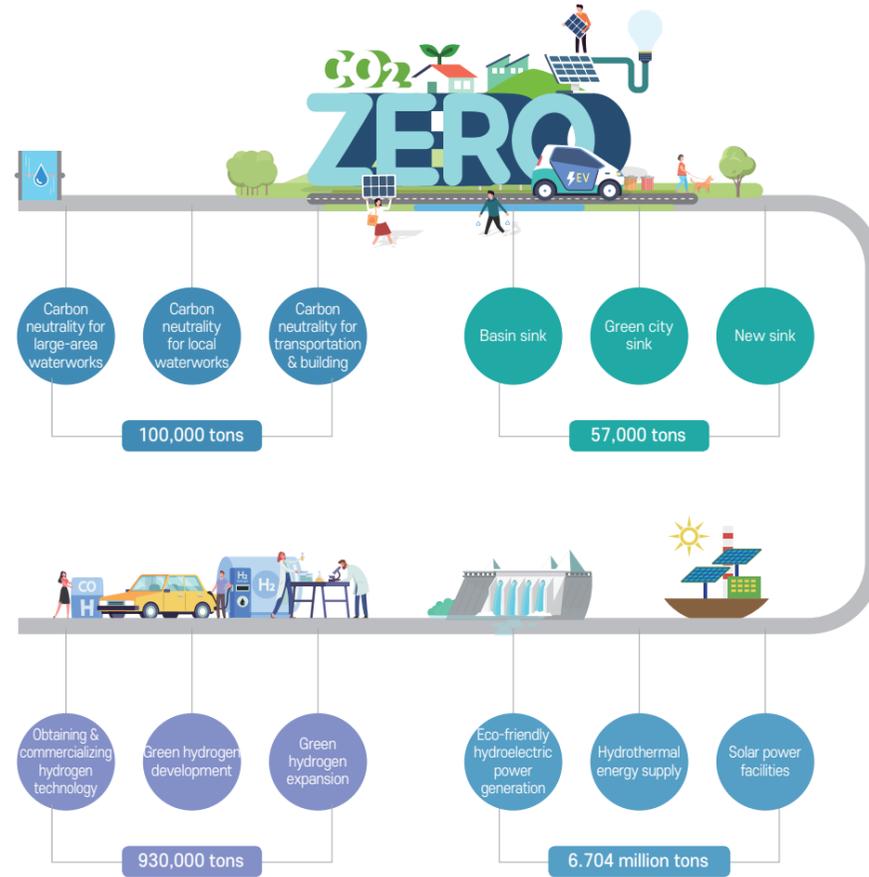
Aerial view of the Gangwon Hydrothermal Energy Convergence Cluster



Hapcheon Dam's Floating Photovoltaic System Project

Mid- and Long-Term Roadmap for Carbon Neutrality

K-water established a 2050 Carbon Neutrality Roadmap in 2021 to take the head of national carbon neutrality, present carbon neutrality vision and direction of methods to reduce carbon emissions, and implement the project in a speedy way. Under the goal of reducing 7.8 million tons of GHG emissions by 2050, we have established four major strategies — carbon neutrality water management, water energy expansion, green hydrogen activation, and carbon sink shaping. We plan to actively pursue GHG emissions reduction in the following ways: large-area and local waterworks carbon neutrality; river basin green city sinks; green hydrogen development and expansion; and energy production using eco-friendly renewable energy.



Current Status of Renewable Energy Operation & Development in 2020

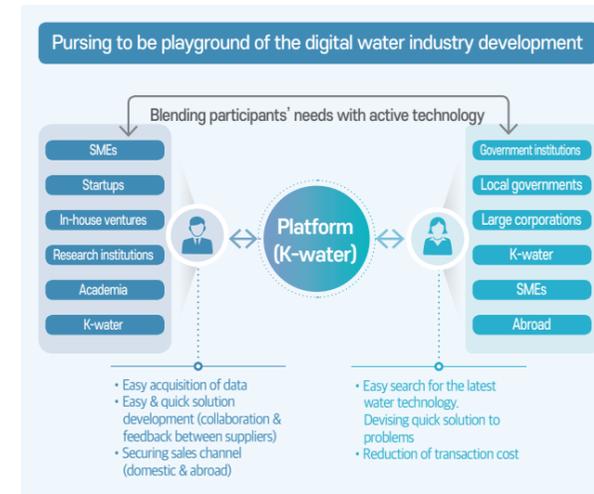
| Classification Details | Operation status | | Development status | |
|------------------------|--|---|---|--|
| | Details | Facility Capacity (MW) | Details | Facility Capacity (MW) |
| Total | | 1,364.6 | | 154.6 |
| Hydroelectric power | Large hydro power | 9 including Soyang River, etc. | 1,004.6 | |
| | Small hydro power | 53 including Andong Small Hydroelectric Power | 83.0 | 4 including Chungju Reservoir, etc. (continuous project) |
| Tidal power | 1: Sihwa Tidal Power | 254.0 | | |
| Wind power | 3: Sihwa Bangeameori, Gyeonginhang, Gampo Dams | 8.0 | | |
| Solar power | 34 including Boryeong Floating Photovoltaic System, etc. | 14.9 | Floating Photovoltaic System and land solar power including Hapcheon dam, etc. (continuous project) | 147.4 |
| Temperature difference | 14 including Hakya Water Purification Plant, etc. | 3,693RT | Busan EDC Smart Village, Gangwon-do Hydrothermal Cluster, Samsung Seoul Hospital, etc. | |

Future Water Management to Secure Water Competitiveness

K-water is leaping ahead as a global comprehensive water platform company by constructing a digital water platform in which data and innovative solutions are converged and values are created based on our comprehensive water service capabilities. We are also supporting real-time monitoring system construction through smart pipe network management, and assisting quick decision-making through an integrated water quality monitoring and forecasting response system. Through all this, we continue to contribute to the innovation and technological capabilities improvement of the water management industry.

Securing Global Water Competitiveness through Digital Water Platform Construction

K-water is dedicated to implement an open business platform in which innovative water technology is promptly developed and serviced together with diverse participants including companies and academia, etc. to solve complex and various water problems that could not be solved with existing technology and services. Based on our digital comprehensive water service competence, we aim to become a global comprehensive water platform corporation by constructing our digital water platform where various data-based innovative services and businesses are created by converging and fusing Fourth Industrial Revolution technologies.



Water Management Analysis Model (K-series) Development

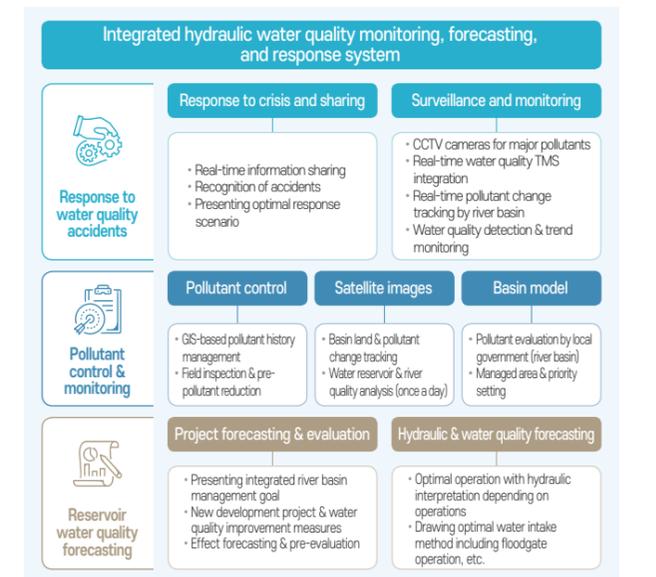
K-water is developing and managing technology software to lead smart water management, K-series. The K-series is a strategic technology software package that embodies our technology and knowledge in the water resources, tap water, and energy fields in a software format. To lead the trend in integrated water management technology, we are improving the water management system by coming up with a linkage model and hybrid model (convergence of physical and chemical models and data model) based on K-series. In addition, K-water has been continuously contributing to technological capability improvement of the Korean water management industry through K-series opening (sharing-system of K-series through MyWater) and technology software community operation (a joint open platform system between industry, academia, and research).

Monitoring System Operation of the Whole Tap Water Process through Smart Pipe Network Infrastructure Construction

K-water has been constructing and managing smart pipe network management infrastructure to monitor real-time water quality and water amount. We have built tap water management infrastructure for tap water management including a precision filtering device and water quality monitoring system by combining waterworks pipes with information and communication technologies (ICT) by signing an agreement on smart pipe network management infrastructure construction with 31 local governments. K-water is supporting decision-making by establishing a real-time monitoring system in the whole process of tap water supply process.

Decision-Making Support through Integrated Hydraulic & Water Quality Monitoring, Forecasting Response System

K-water has constructed an integrated hydraulic water quality monitoring and predictive response system using its own technological capabilities and is consolidating water quality accident response, pollutant control and monitoring, and reservoir water quality forecasting. We provide highly precise water quality data, support quick decision-making on water quality accidents, and minimize impacts on the ecosystem due to water quality change using a real-time water quality forecasting and monitoring system (SURIAN) linking with a climate, basin, dam, and river model.



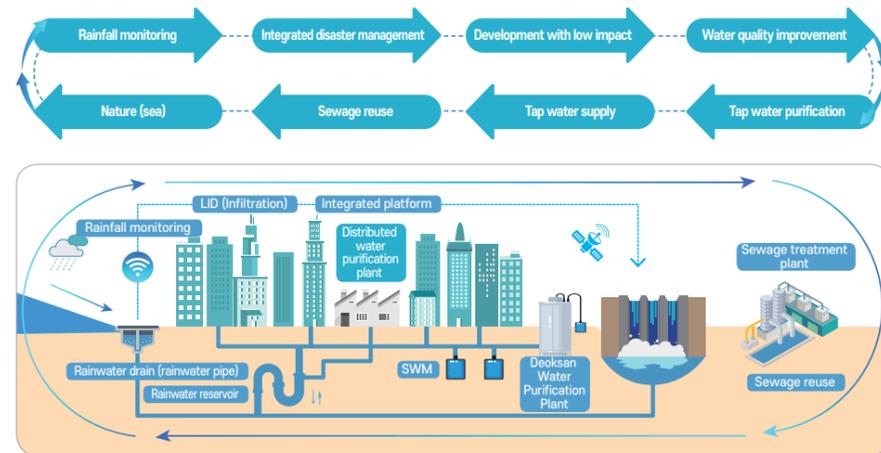
Shaping Smart City and Environment Convergence City

K-water is propelling Busan Eco Delta Smart City, a national pilot city planning project to cope with frequent droughts and floods due to rapidly changing climate change, greater uncertainties, and threats to public safety, in addition to devising our preemptive response for a carbon neutrality target with the Fourth Industrial Revolution, a global megatrend. The project is being propelled in a basic direction of a human-centered city where work and rest co-exist, a city where humans and nature live together, a Fourth Industrial Revolution city where citizens sympathize under the vision of "Global innovation and growth city" advancing the future in harmony with nature, people, and technology. We are constructing a water-specialized city that adopts smart water management technology which can comprehensively manage city's whole water circulation steps. In fact, we are shaping zero energy-specialized complex (carbon neutrality) using the smart innovative technology and renewable energy with citizens' participation and startups as a leading project.

Shaping Korean Water-Specialized City

The water disaster risk and water management difficulties have increased due to frequently occurring droughts and floods linked to climate change, while water disaster response capabilities and water quality have declined as the environment deteriorates from on-going rapid urbanization. Therefore, efforts to control climate change using renewable energy are necessary. K-water is endeavoring to restore city's water circulation and shape a water-specialized city by using our water management expertise and knowledge in the following ways: combining AI and ICT in the whole process of water supply from the water intake source to faucet, real-time water amount and quality management, adoption of distributed smart water purification plants, and a city water disaster response system, etc. to cope with localized torrential rain.

Urban Water Circulation Process



Operation of Living Lab in Harmony with People in Various Classes Selected through Public's Participation

Busan Smart Village (56 households) is the first village of the national pilot city and is planned to be shaped as a space where innovative technologies being adopted in the smart city are tested. The smart village where various innovative technologies such as water and energy, healthcare, and robot are applied is Korea's first-ever zero energy grade 1 complex. By shaping and testing low carbon living spaces, the smart village will play a role as a mutual collaborative platform for new concept residential space creation and shaping an innovation ecosystem. The residents of various social classes and generations were selected through public recruitment and will live in the village for free for five years, experiencing prototype product technology and giving their feedback.

Smart Village Residents Innovate Residential Space for Themselves



Global Capability Consolidation Alongside Small Hidden Companies

The world's economic growth rate is 3%, whereas the world's water market size is growing at 4.2% annually on average and the global water industry is persistently developing under deteriorating water management conditions due to population increase, industrialization, and rapid climate change. In line with this trend, K-water wants to dominate the world market in advance by constructing our own water industry export model, based on key technology development and activation of the country's market invigoration.



Co-Entry with K-water to Overcome Economic Crisis due to COVID 19

Overseas Water Market Expansion Together with SMEs

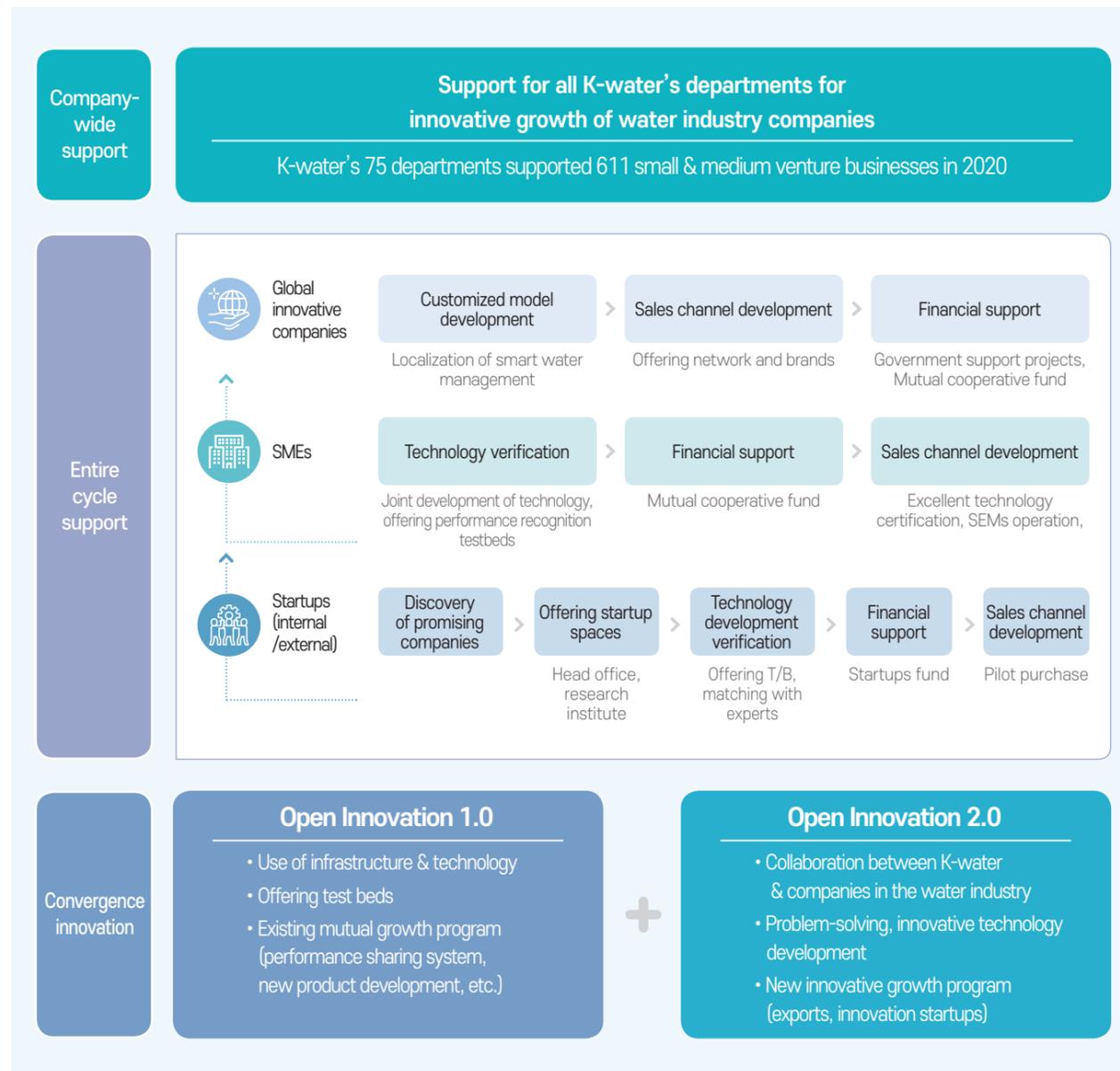
2020 was a tough year for SMEs (small and medium-sized enterprises) due to immigration restrictions (entry into Korea) and cancellation of exhibitions, etc. amid COVID-19. However K-water has supported SMEs' initial-stage sales channel with operating the SMEs-customized sales channel support program. We have developed the initial-stage sales channel of SMEs by promoting tailored overseas exhibitions and expos by organizing our overseas market development team (small and venture business) by water industry sector. K-water provided the integrated water problem solution-based sales channel, applying our water expertise and SMEs' innovative technology, and won orders for localization pilot projects, IBS projects, etc. worth KRW 3.1 billion from four countries. As the first public corporation, we accomplished our milestone of winning the Foreign Affairs Ministry's IBS project, etc. (KRW 2.3 billion) for two consecutive years. Based on this, 108 jobs were created along with expanding KRW 19.9 billion in sales for 39 partner firms. In these ways, we have been contributing to national water industry promotion and government policy implementation.



Operation of Water Industry Open Platform

K-water, a public corporation specializing in water, aims to foster unicorn companies in the water sector with our support for small and medium venture businesses in the water industry. To this end, K-water opened Water Industry Platform Center (current Water Industry Innovation Dept.), an open platform in 2017, and has been playing a role in creating jobs for small and medium venture businesses and as a partner for co-entry into overseas market through water industry innovative growth. We fostered 611 (1.6 times more year-on-year) promising companies in the water industry in 2020, and those companies posted sales of KRW 296.8 billion (1.4 times more year-on-year), which are steadily increasing. We continuously make efforts to consolidate support over the entire corporate growth cycle by investing in a water industry venture fund for SMEs' growth fund assistance.

K-water's Water Industry Open Platform Process



Water Management Nurturing the Korean Economy

K-water is laying a foundation for entry into overseas markets using the smart city, and promoting the overseas entry or expansion of smart city's key water-specialized technology. Although we had presented a smart city business model direction including traffic residential and life solution, etc. based on the Fourth Industry Revolution technology until 2019, we have been leading the global market through water-specialized technology export of the smart city where water, energy, and environment interact in harmony, while establishing K-city boasting with water circulation and eco-friendliness since 2020.

Overseas Business Strategy

K-water is vigorously performing PR of water technology in Southeast Asia where water problems are serious to take off as a top city model for Asia by establishing the smart city model called K-city. At the Korea-ASEAN summit, K-water operated the water-specialized technology and service experiential center that was applied to Busan Eco Delta City, including smart water purification plant, and held a special presentation for the Indonesian president and others. We promoted the water city without water purifier to 15,000 people including the state heads of 10 countries, and 22 buyers, and it was selected as the best project in the IDC Asia Pacific Smart City Awards. Our model rose to a major city model in Asia.

Consolidation of Platform for Overseas Entry

K-water has exported the Korean waterworks project by operating the cooperative system of Team Korea consisting of K-water, government, and water companies. We exported a large scale water supply project (KRW 200 billion) to Indonesia, a key country of Korea's New Southern Policy, and could preoccupy a favorable position in bids as a result of 16 years of efforts ranging from aid projects to large investment bids. This achievement was rated as the best performing SOC export by the government's New Southern Policy Special Committee. Domestic employment creation of 756 jobs and social achievement of benefiting 2 million people in Jakarta were also realized.

South-North Korean Water Resources Management Collaboration to Lead the Water Industry in the Period of Unification

K-water is laying a foundation for new business by constructing a water resource management cooperation system between South and North Korea for the Korean Peninsula's Water Industry Development. We support devising of permanent consultation channel between the two Koreas in the water environment sector including agenda of inter-Korea talks and the actualization of possible projects. We also discover collaborative tasks through cooperation with North Korean institutions and operation of the Unification Water Research Group. K-water is strengthening the project foundation through DB construction and promoting consultations and support between the relevant ministries for agenda in inter-Korea talks in the water environment sector. Also, K-water is leading environmental cooperation through concretization of feasible collaborative projects between South-North Korea and proposal to the government.

Achievements of Overseas Projects of K-water's Smart City

| Overseas business | Uzbekistan | Indonesia | Vietnam |
|-------------------|---|---|--|
| | Worn-out waterworks pipes (water flow rate: 65%) and water quality problem of tap water continues | Recommendation relocating capital due to water shortages and environmental problems (Jakarta → Kalimantan) | Mekong river basin urban area under development due to serious city center's water volume problems |
| City model | <ul style="list-style-type: none"> Advisory of smart city policy SWM technology applied M/P establishment (KRW 340 million) | <ul style="list-style-type: none"> Integrated water resource management and SWM discovery in association with new capital construction Basic plan service (KRW 490 million) | <ul style="list-style-type: none"> Participation in master plan establishment of Mekong Delta area smart city Preliminary-feasibility survey (KRW 440 million) |

Cooperation System to Enter Overseas Market

| Secure superior bid-winning competitiveness thru excellent teamwork of Water Industry Team Korea | | |
|--|--|--|
| K water Public institution High credit rating & experience of smart waterworks projects Supplementation of fund procuring capability & responsible project-matching competency that private sector lacks | Korean company Construction capabilities recognized internationally Guarantee of construction quality & construction period management | Government Diplomatic position & export financing support ability Top level diplomacy support with export credit fund(2% 1) of low interest rate national policy projects |

Detailed Measures of Inter-Korean Cooperation in Water Resources Management

| Goals | Detailed Measures |
|-----------------------------|--|
| Laying a foundation | <ul style="list-style-type: none"> Reinforcement of cooperation (permanent) with the National Assembly, government, public institutions, and domestic and international private organizations. Identifying tasks, policy proposals, and PR, etc. through an internal advisory organization, Reunification Water Research Group Operation of and participation in training programs to strengthen internal capabilities Data research and analysis, and DB construction and systematic management of water environment in North Korea |
| Government support & agenda | <ul style="list-style-type: none"> Consultations support with the relevant departments to include the water environment field in the agenda of the inter-Korean talks |
| Cooperation projects | <ul style="list-style-type: none"> Materialization of inter-Korean cooperation projects associated with drinking water, sanitation, energy, and forestry Devising detailed measures for cooperation for rivers shared by South-North Korea and proposing them to the government Establishing methods to effectively use North Korea's water resources |

ESG Commitment 4 - Future of K-water Linking Nature & People

K-water is striving in earnest to realize social value realization under our motto "K-water: linking nature and people," and has set up an organization to obtain driving force, while establishing an integrated control tower to realize social contribution values and replenishing personnel. We make every effort to diffuse social values by opening a communication channel where the public can participate in business and service improvement, allowing their opinions to be voiced.

The importance of the Issues and Approach



K-water is determined to spread social values along with the public through the expansion of participation and communication channel in which anybody can participate for business and service improvement, while listening to people's opinions. We aim to disseminate social values widely by enhancing the public's interest in water through construction of open communication channel in which anybody can participate and consolidation of communication more, and by establishing a process that can develop our society.

Organizations Advancing K-water



| | | |
|--|---|-------------------------------------|
| Planning & Coordination Dept. | Organizational Culture Innovation & Secretariat Dept. | Information System Management Dept. |
| Management & Innovation Services Dept. | Human Resources Development Institute | Water Industry Innovation Dept. |
| Accounting & Finance Dept. | Safety Innovation Dept. | |

Achievements



Creating Quality Jobs for Clean Tomorrow

K-water, Korea's only water public corporation, is taking a leading role in better job employment in line with government policy by concentrating on our enterprise capabilities. We strive in earnest to be a public company contributing to social value realization through the creation of 'good K-water-oriented jobs that everyone can enjoy' and the restoration of public nature.

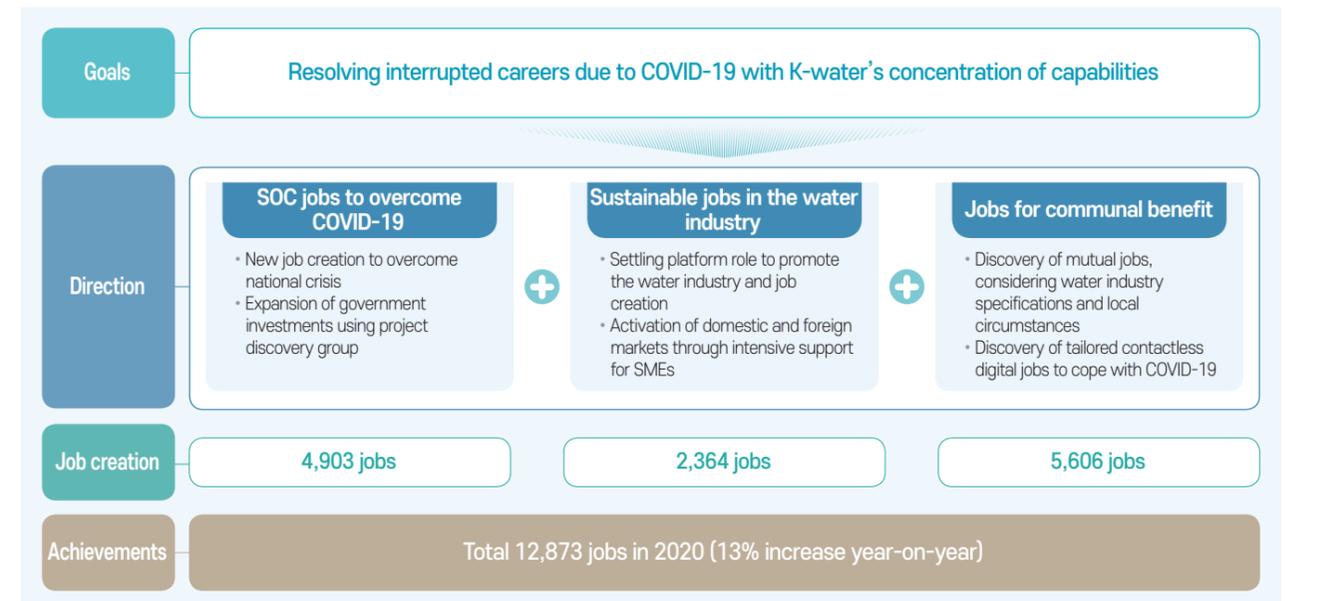
Job Creation to Overcome COVID 19

K-water has recognized the need for creating diverse jobs directed at local people, besides existing business such as water supply and water resources, etc. and has created jobs in multiple fields to overcome COVID-19. Despite the COVID-19 situation, we have built a job creation system (non-contact, digital, disables) through company-wide surveys for demand, proper job discovery, and actively procuring capital funds to expand and achieve job opportunity goals and job creation.

Actualization of K-water-oriented Jobs



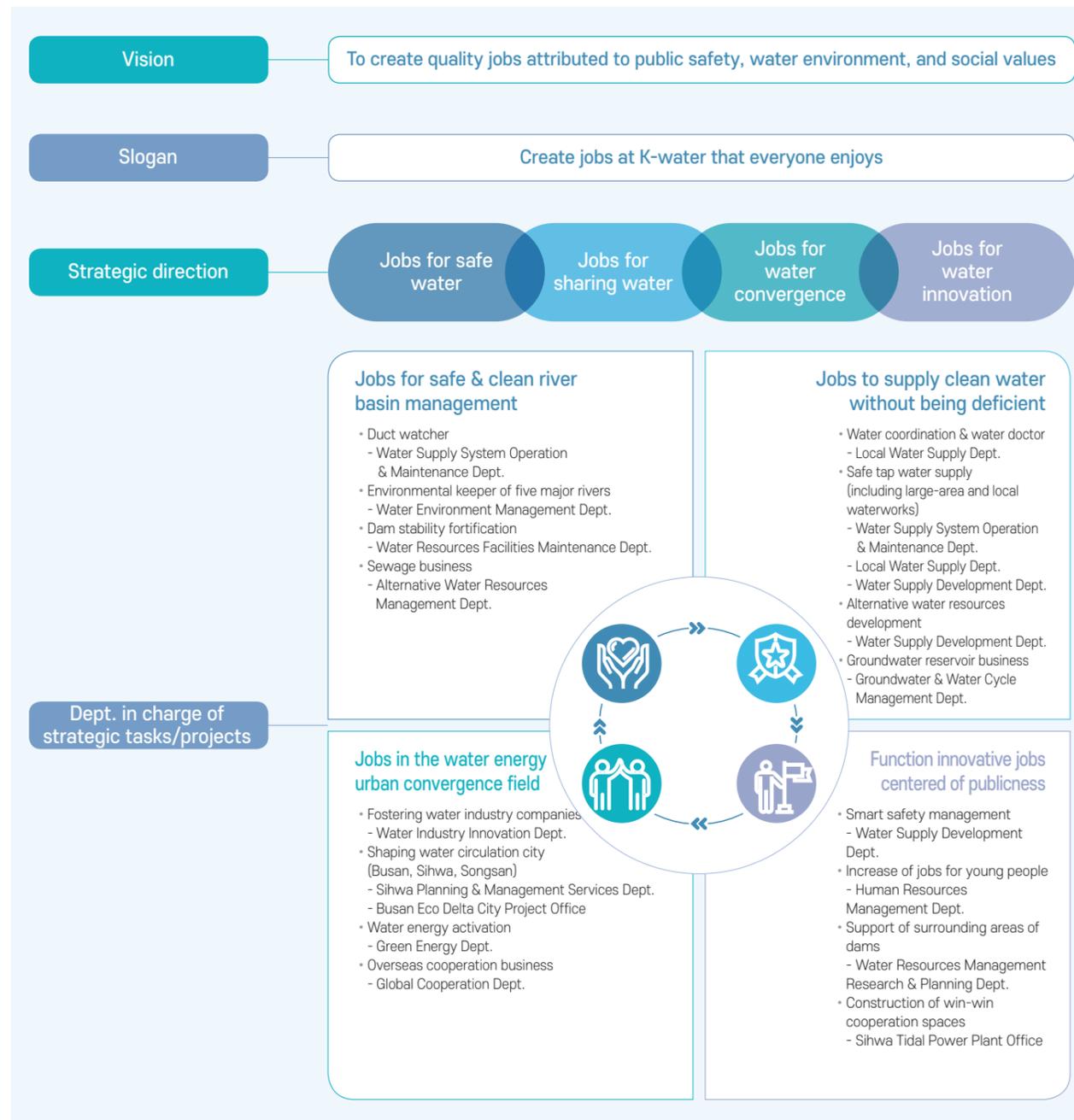
Goals of Job Creation & Achievements



Re-establishment of Quality Job Creation Roadmap

K-water organized and has been operating the Quality Job Creation Task Force in March 2020 by concentrating capabilities of 19 departments for 21 tasks/projects, as the job's market trend is changing and the concentration of water sector competence is needed according to rapid social and economic change ahead of the Fourth Industrial Revolution. The task force reviews achievements in each quarter, executes quality assessment of jobs, offers feedback on the results, and thereby, meets social value role of a public institution.

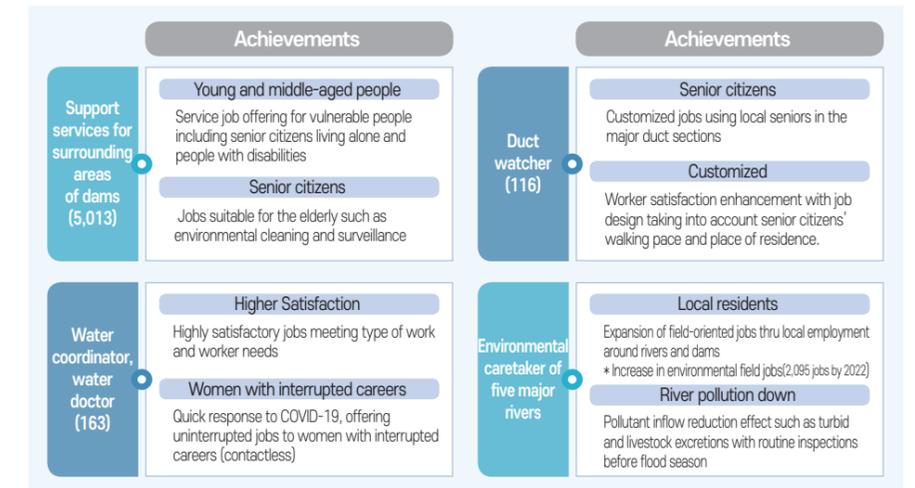
Roadmap for Quality Job Creation



Diffusion of Win-Win Jobs Considering Characteristics of Region & Group

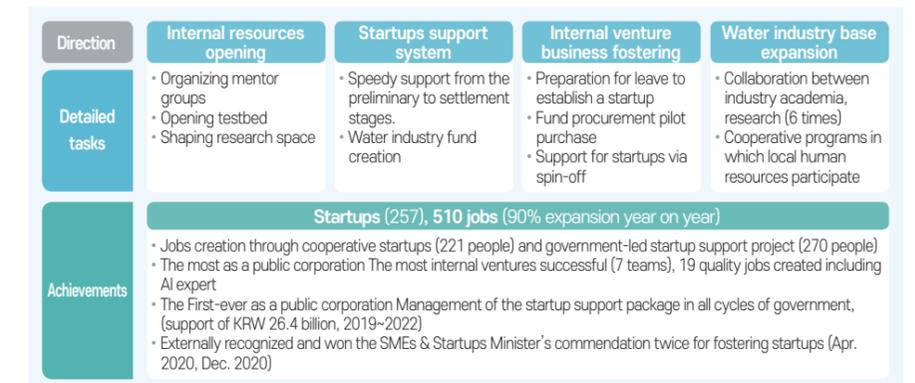
K-water created 5,405 social value jobs embracing vulnerable people including local residents, senior citizens, and women with interrupted careers, whose income and welfare decreased, so that they could be provided actual employment opportunities. For higher income and welfare enhancement in the surrounding areas of dams where the economic environment is poor, we have devised a virtuous cycle of income generation for local residents' employment based on group characteristics.

Creation of Social Value Jobs



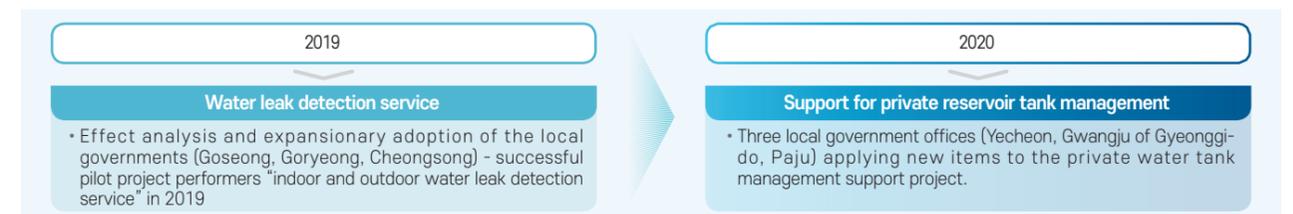
Creation of Startup Jobs with a Customized Support System by Fully Mobilizing Infrastructure

We strive in earnest to grow startups in the water field using smart technologies such as drones, AI, big data, for the water industry ecosystem to keep pace with the Fourth Industrial Revolution. Along with startups, the relevant jobs quickly increased, which is a great achievement.



Discovery of Jobs Using Ideathon

K-water carried out quality job discovery in the social value field and each public institution field in water supply, electricity, and railway through the 2020 public institutions joint-job ideathon, and enhanced the completion level of ideas with one-on-one mentoring support. We found 18 new business items by adopting the non-contact, real-time citizens' evaluation group consisting of 35 people due to the COVID-19.

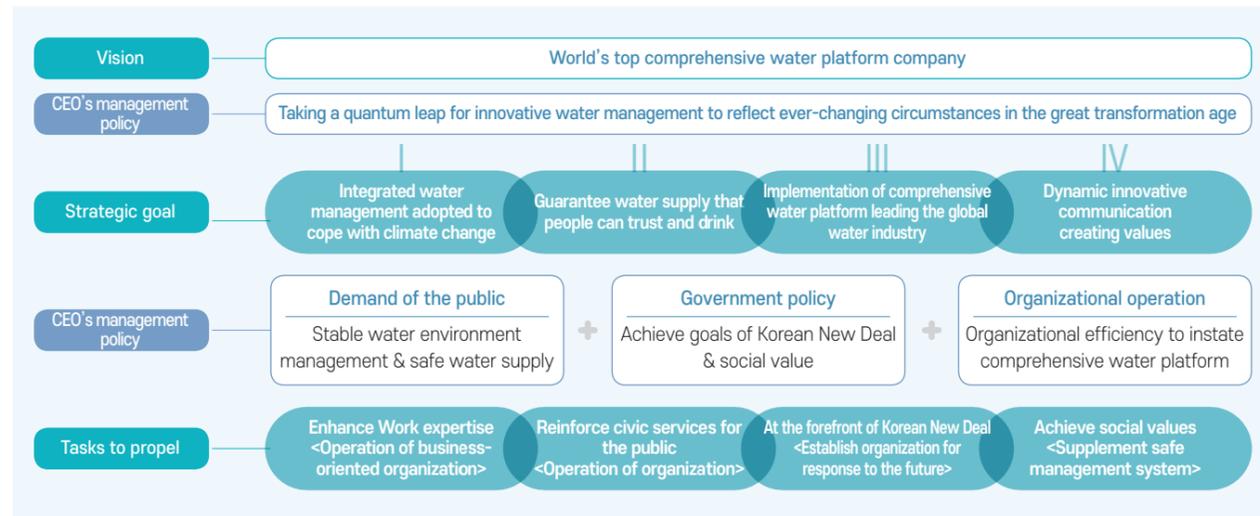


Construction of Advanced Organizational Culture

K-water is shaping people-oriented workplaces by promoting various activities including work environment improvement for capability consolidation and continuous training of the organization's members. We widely disseminate the civic values by listening to varieties of opinions and ideas of the public and our employees through the participation and communication channel platform.

Construction of Organizational Culture to Realize Goals of K-water

K-water establishes dynamic organizational system through proactive internal communication to allow all members to be treated equitably in work, become a people-oriented happy workplace, and grow together by bolstering internal competences, such as training employees and fostering human resources. We strive to achieve our goals by designing agendas or projects to be implemented in order to realize innovative water management.



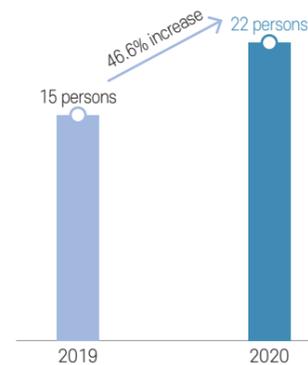
Shaping Work-Family Life Balance Culture

K-water strives to provide a free work-life balanced workplace for employees to work in harmony. With flexitime, we encourage our employees' work-life balance. By encouraging clocking out on time, K-water focuses on enhancing to efficiently work and reduce work with low added value. With the work-family balance system customized for the life cycle, we try in earnest to keep a work-life balance by improving those welfare and wellness of employees in pregnancy and childbirth.

Work-Family Life Balance Culture Programs

| Category | Details |
|--------------------------------------|--|
| Expansion of flexitime | - Expanded remote work, a non-contact work format free from time and place constraints due to work environment changes including COVID-19 (from 14 cases in 2018 to 53,085 cases in 2020) - Improved autonomy as to work hours selection (frequent change possible) (from 2,156 people in 2019 to 3,591 people in 2020) |
| Improvement in work practices | - With the adoption of the total work hours management system linked to individual work schedules and total PC usage amount, we guarantee employee's right to leisure by paying 1.5 times of base salary for compensation leave for previous overtime work. |
| Incentivization of childbirth policy | - (Preparation for pregnancy): Established leave of absence regulations for the challenges of being pregnant and support of medical treatment or surgeries. - (During pregnancy) Reduced work hours for pregnant women, improvement in fetus examination leave, adjustment of the number of day-offs due to miscarriage and permission of partner leave |
| Support for work-family life balance | - Recognized leaves of absence from the date of day-off/ leave, when an employee uses maternity leave for over one year. - Established family care leave - Improved child care leave |

Current Status of No. of Employees on Paternity Leave



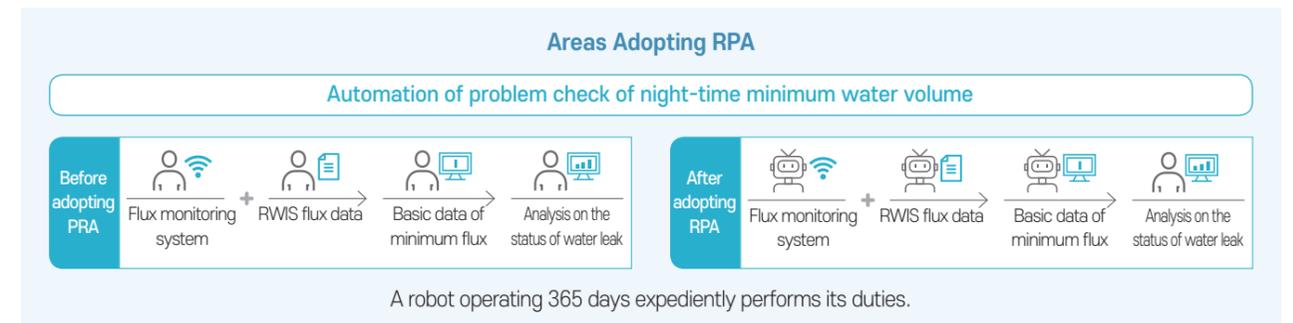
Consolidation of Digital-Based Work Innovation

The need for non-contact and flexible work free from time and place constraints has emerged to reduce time spend working at the workplace, while enhancing performance in the ever-changing environment due to COVID-19. For a non-contact work environment, we manage selection of work hours for the autonomous work setting that is equipped with a remote work system and video conferencing and training and total PC usage amount. K-water reduces hours of simple and repetitive work by adopting RPA (robotic process automation) in which a robot with recognition ability handles regular and repetitive work for improved service to the public. Thus, 3,800 hours of work reduction effect annually has been brought. Data control efficiency has been improved by providing basic data.

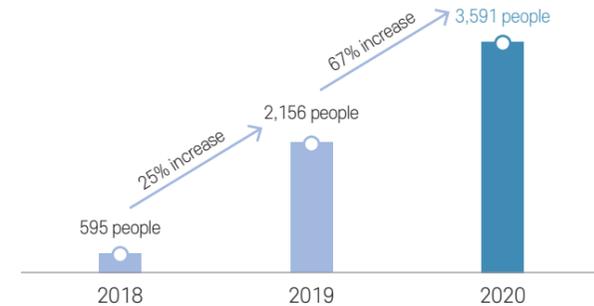
Through registering data with a drought system by automatically acquiring and arranging data that was manually collected or connecting with a small scale flux monitoring system by workplace through adopting RPA, we have improved data management efficiency.

Two-Way Communication Channel in Place

K-water has opened a space in which relevant department manager's official reply can be posted through the two-way employee request board called Talk Talk Collection, in addition to the labor union message board. Through Talk Talk Collection, management and members can engage in two-way communication by posting comments. If more than 100 employees support/ concede on a request within two weeks, the opinion can be reflected into management policy. We accelerate official communication on the HR system and company-wide issues that forms members' consensus through labor-management cooperation, and listen to our members' voices by setting up the Adhoc HR System Reform Committee and multiple communication channels including focus group workshops.



Use of Working Hours Selection System



Examples of Removing Work with Low Added Value

| | | |
|---|--|---|
| <p>Procedure simplification</p> <p>Service contract</p> <p>Reduced repetitions and unification of distributed work</p> | <p>System implementation</p> <p>Adopted qualification screening presentation system</p> <p>Making non-electronic records to electronic documents and improved accessibility convenience</p> | <p>Content sharing</p> <p>Standardization</p> <p>Improved usability through standardization and shared space</p> |
|---|--|---|

Talk Talk Collection Board



Milestones of Two-Way Communication Channel

[No. 42] Suggestion of adopting mobile employee ID card

- (Request name)** Let's store the employee ID card on cellphone.
-In January, a mobile public official ID card was instated with high satisfaction. If K-water adopts the mobile employee ID card, we can expect to conveniently enter or exit workplaces.
- (Status)** (Sympathize) 153 people, (Not sympathize) 8 people, (Comments) 6
- (Reply)** (Reply of Hwang OO, Human Resources Management Dept. Manager: adoption of the mobile employee ID card.

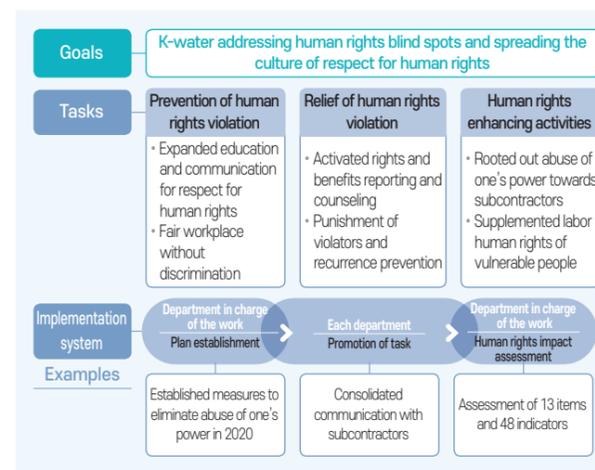
Realization of Management Culture Based on Respect for Human Rights

K-water is dedicated to shaping organizational culture emphasizing the respect for human rights as well as human rights violation prevention and relief with the fundamental principle of supporting and complying with international standards and norms including the UN Charter of Fundamental Human Rights. We pursue an active response to and support for human rights' protection and improvement of our employees and stakeholders along with domestic and international human right issues by expanding the scope management based on human rights. We will continue to strive in earnest to introduce a global human rights management system and fulfill social responsibility management.

Human Rights Management Putting People First

K-water has been detecting blind spot areas of human rights and continuously improving to alleviate them by conducting annual human rights impact assessments with the establishment of Human Rights Management Guidelines in 2018. Focused on human rights-related social issues in 2020, we expanded communication and education to prevent human rights violation of our members and stakeholders, and consolidated human rights relief counseling and report process. In this way, K-water has been promoting system improvement. To protect the human rights of the underprivileged people including seniors living in solitude and solo parent who may be in more difficulties due to prolonged COVID-19, we have been performing diverse support activities for them.

K-water's Human Rights Management System



Supplementation of Human Rights Violation Relief Process

K-water has opened and has been operating "One-stop rights and benefits protection portal" through which counseling and reporting can be carried out through an external agency when rights and benefits violation of employees including harassment and sexual harassment within workplace occurs. To prevent further disadvantages or harm, we immediately separate the assailant and victim, operate Employees' Rights Protection Committee consisting of labor-management representatives and external experts, investigate damages and facts, and determine the corrective measures to take. We also operate a psychological counseling support program, which is the EAP (employee assistance program) for victims.

Human Rights Violation Relief Process



K-water's Anti-Discrimination between Full-time & Interim Employees

K-water is providing the same welfare benefits as the full-time employees to the interim employees and the recently enlisted full-time employees, while continuously discovering and rooting out sources of discrimination by current employees, concerning title, personnel evaluation, education/training, and remuneration system. We are providing solutions relying on feedback from all employees' grievances without discrimination between the full-time and interim employees by activating communication channels through which they can freely express opinions and anonymously exercise their rights via the internal Talk Talk Collection board, which launched in 2020, and the labor message board.

Dissemination of Employees' Human Rights Management Recognition

K-water is dedicated to improving human rights recognition of all our employees in order to internalize the respect for human rights and consideration of internal and external stakeholders. In education offered to improve the consciousness of human rights, 156% more employees, compared to the number in previous year, attended in 2020. We could publicize and guide them to learn and use the relief system when human rights violations occur, as well as communication for preventing human rights violations. K-water held a labor-management joint declaration ceremony to root out sexual violence and harassment, and other forms of molestation to prevent abuse of power and sexual harassment, which have gotten worse as social issues. Therefore, we made and distributed guidelines for "properly understanding rights and benefits protection," shared recent examples in the public sector, and basic principles, and raised our employees' social awareness.



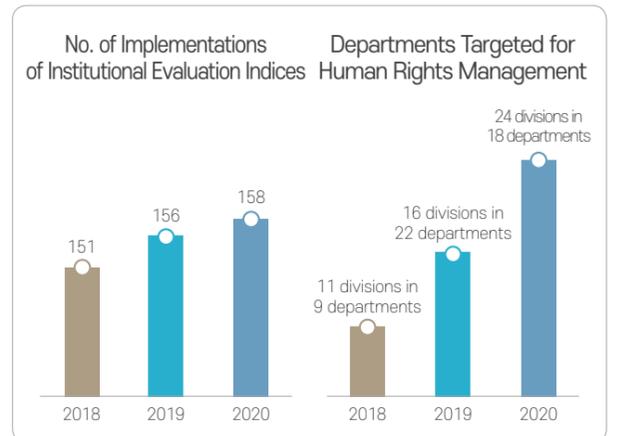
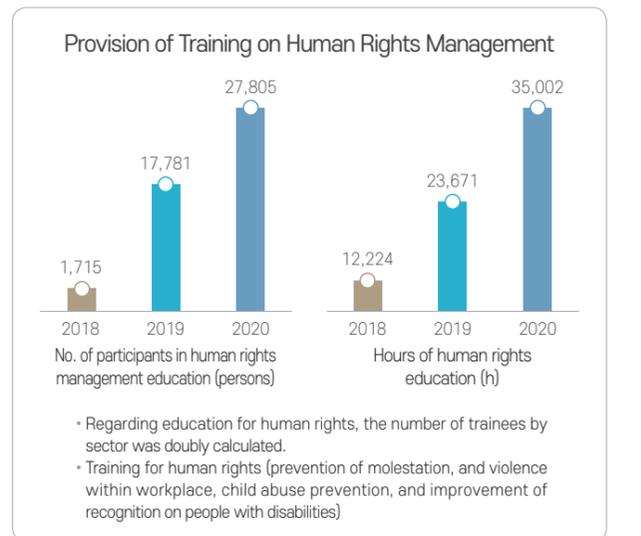
Implementation & Improvement of Human Rights Impact Evaluation

K-water has carried out human rights impact evaluation using the standard of National Human Rights Commission to manage human rights risk in advance. In 2020, we improved 158 indicators of 33 items in 10 sectors reflecting K-water's characteristics, and have advanced operation evaluation. We diagnosed human rights analysis and drew improvements targeting our construction projects vulnerable to human rights such as abuse of power and accidents. K-water has impeded causes of human rights violations in advance and spread the culture of the respect for human rights through human rights impact evaluation in all sectors of human rights management.

Consolidation of Management of Human Rights for Vulnerable Segments

K-water has supported people who are in the human rights' dead zone by preemptively responding to COVID-19 restrictions. We have helped seniors living in solitude, children, adolescents, small business owners who can be vulnerable groups in human rights in everyday life. We have shaped the proper working environment for foreign workers who may lack understanding of the Korean working environment, not to mention language barrier, including foreign language safety signs, foreign language translating device, improvement of rest areas, and their national flags raising, so that they can work in safety and security.

Resolving Blind Spot in Human Rights Alongside Neighbors



Human Resources-oriented Management where People Develop Together

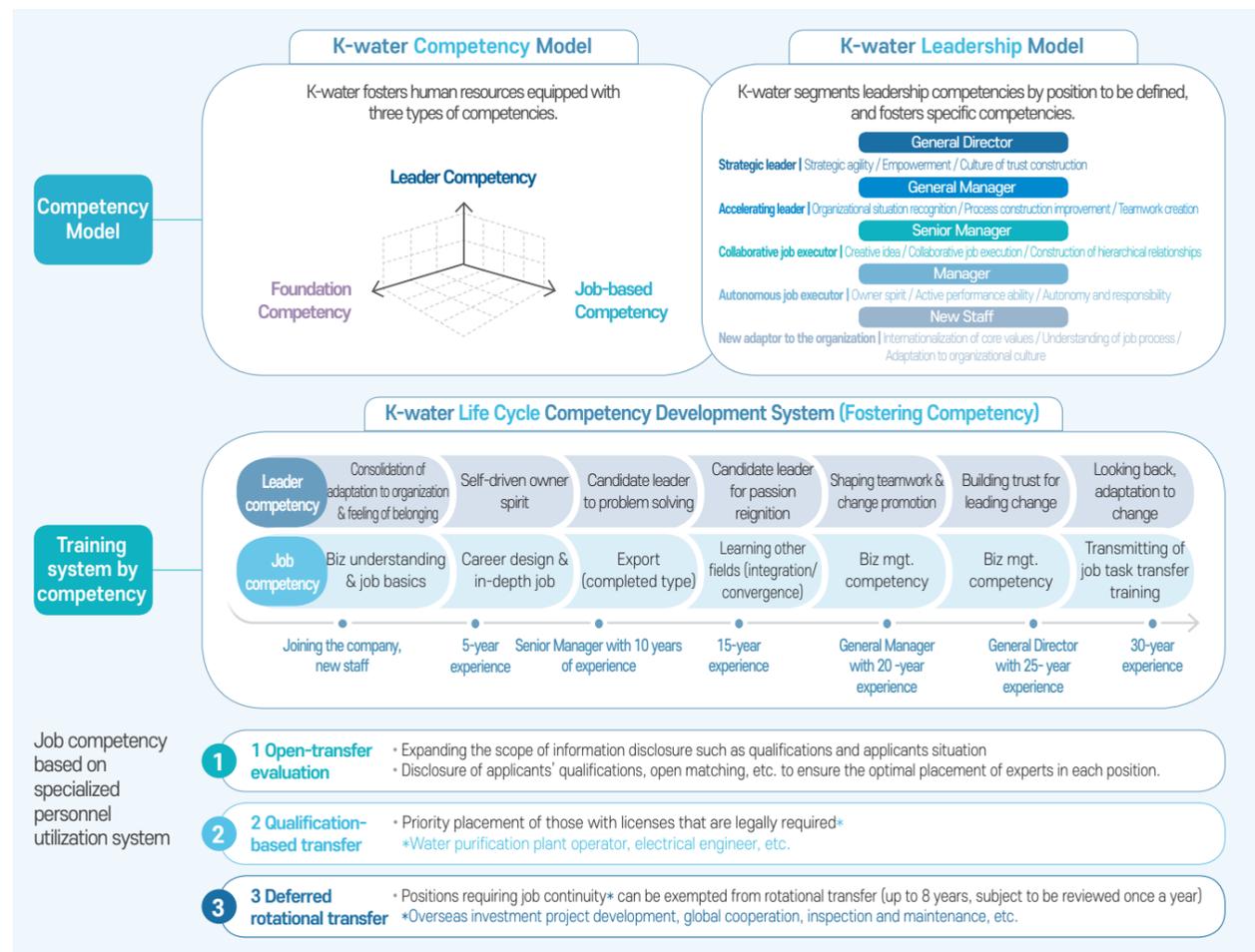
We believe that the competency of K-water organizations stems from that of our employees. We make efforts to secure, foster, and maintain excellent human resources equipped with expertise/professionalism and passion to realize technologies benefiting society. We will grow into a water industry platform company conveying satisfactory experiences and impression to the public by shaping the work environment in which our employees can professionally and personally develop.

Human Resource-oriented HR Strategy

K-water is implementing a human resource-oriented management system to promptly respond to changes in organization, HR, training, and evaluation. We establish project-based role organizations, build a growth path to instill various job experiences, and enable obtaining environmental adaptation capabilities through special promotion and exchanges between institutions. We also match essential competencies to perform strategies with job training, present a roadmap by growth stage, and support supplementing competencies.

Mid- and Long-term Human Resource Fostering Strategy

With our vision based on the motto of "Fostering human resources the world's leading comprehensive water platform company," we foster customized competencies by position by establishing a K-water competency model and a K-water leadership model under the human resource fostering road map by life cycle and advancing our training and HR system.



Improvement of Training Courses in Response to COVID-19

Since existing training programs including lectures and international education/ training cannot be actively conducted due to COVID-19 constraints, K-water has needed measures to overcome the in-person training challenge with the non-contact learning platform. K-water has improved and expanded training courses to cope with COVID-19 including non-contact training/educational content development and learning platform improvement.

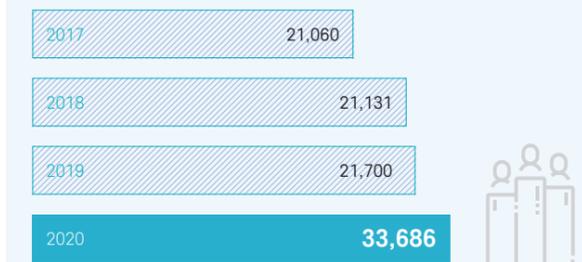
Improvements of Training Courses in Response to COVID-19

- Expansion of contactless education/training**
 - Overcoming collective education/ training risk factors through online education/ training expansion (230 courses, 37% increase yoy)
 - Expanding reading education (63 courses) and securing safety through adoption of non-contact field practice using mobile App for real-time video lectures (12 courses)
- Content optimization**
 - Water management unification through new online content production for legal education of water supply (six courses) and reflection of law revisions.
 - Supporting/ enabling new employees' adaptation to field work with job software production (four courses including Arduino, AutoCad)
- Change in learning environment**
 - Video lecture & online content manufacturing and utilization by establishing the video lecture center
 - Introducing the non-contact learning platform (OASIS + Video conference, ZOOM, Gooromee)
 - Real-time Q&A is possible → Ensuring training results of face-to-face learning

Creative Talent Training Focused on Convergence for the Future

K-water is striving to foster human resources for the mid- and long-term along with core competency management. We have devised core fields by accounting for future change and strategic tasks to foster experts in the Fourth Industrial Revolution as well as realization of ICT-based integrated water management.

Current status of No. of K-water trainees (Unit: persons)



Fortification of Job Expertise/ Professionalism

K-water is fostering internal and external experts for fortification of job expertise/professionalism, and enhances human resource capabilities. We have additionally selected positions to secure the healthy water supply and water management unification-based competitiveness by externally expanding and operating open positions. We are appointing experts in key positions to strengthen expertise/ professionalism in the safety and win-win cooperation area by internally screening and assessing the status of adequacy under the Job Management Committee.

Training to Foster Diverse Experts

K-water aims to train and foster diverse experts to keep up with the ever-changing era. To develop communication experts, we have built a labor-management win-win talent pool, and have appointed a labor issue advisory group and honorary work investigators. They are growing into experts through a top management course for labor-management relations and workshops for labor issue management personnel twice a year, and cyber education for labor expert qualification exam. We offer collective training to nurture managerial talent concentrated for the head office and divisions including field experts, discuss measures to improve the labor relationship laws and labor-management partnership, and consolidate department capabilities by benchmarking other leading companies through regular forums.

Fostering Human Resources for Integrated Water Management & Convergence

K-water has opened leader-tailored degree programs and is operating new training courses to nurture financial experts for investment business including overseas business and local waterworks business. We have signed a mutual agreement to foster experts in the water field with Hannam University. Through the agreement, we selected seven department managers and plan to train them as leaders having global water management competency such as integrated water management and policy-making with an innovative mindset.

Convergence Financial Expert Course

| Education period | 1 year and four months (accounting for the essential training content and expertise level) |
|-------------------------|--|
| Selection | Selection of trainees considering the possibility of commitment to job development, regardless of type of job. |
| Curriculum | Provision of training department guide, autonomous selection of cyber courses by recipients |
| Performance utilization | Provision of an opportunity to grow into an expert |

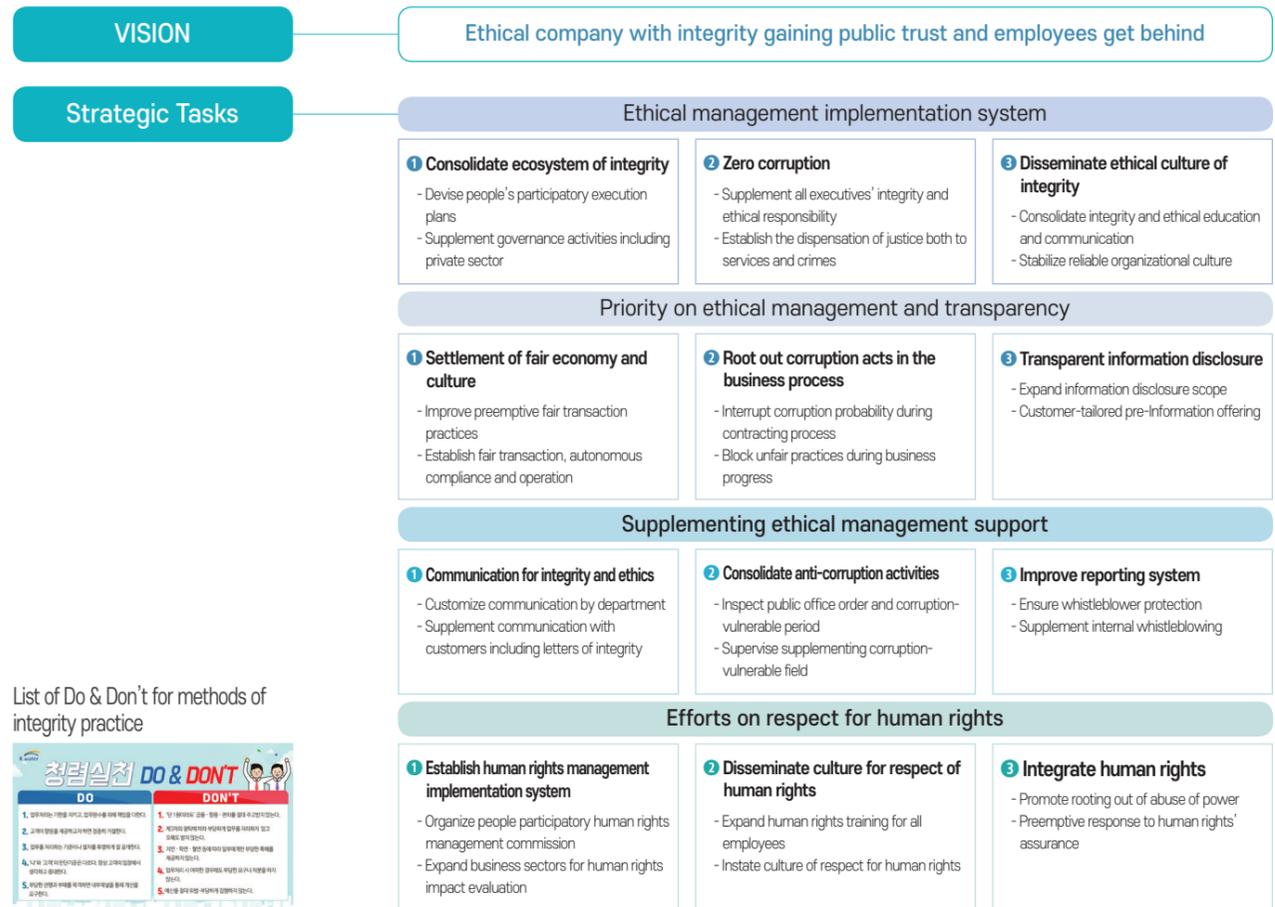
Education/ Training for Fostering Diverse Professional Personnel

| Focused Area of Fostering | Unit | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---------|------|------|------|------|------|
| Hydraulic and floodgate, river plans, existing dam redevelopment | Persons | 48 | 49 | 42 | 36 | 38 |
| ICT-based integrated water management, modernization of worn-out pipes | Persons | 42 | 44 | 51 | 58 | 58 |
| Renewable energy, eco-friendly waterside space (LID), overseas business | Persons | 21 | 28 | 28 | 21 | 21 |
| Water policy and water resources economy, management, and charges | Persons | 33 | 35 | 35 | 43 | 44 |

Ethical Management
Re-taking off as
a Company of
Integrity

K-water has established an ethical and compliance management system under our vision's motto of "Ethical corporation of integrity that the public trusts and our employees get behind." All our employees practice life of integrity, and we are implementing various policies to spread the culture of integrity to communities. K-water regularly executes anti-corruption and integrity training, so that all employees can comply with laws and regulations and practice integrity. We establish optimally customized measures through an analysis and diagnosis of corruption-vulnerable areas, improve systems, and strengthen internal control. Through cooperation with diverse business partners including partnering firms and relevant institutions, we focus on transactional culture of integrity, construct and cooperate governance of integrity, and we are doing our best to disseminate the culture of integrity.

K-water's Ethical Management
Vision & Strategic Tasks



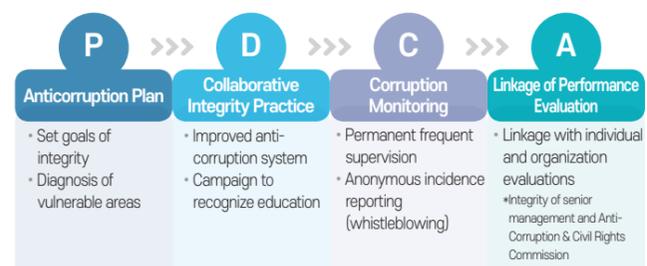
List of Do & Don't for methods of integrity practice



Consolidation of Integrity & Ethics

K-water is focusing on improving integrity level including highly effective measures on vulnerable fields and reorganizing our integrity implementation system. In 2020, we reorganized the PDCA system to uphold and conduct ourselves with integrity and ethics, integrated policy and execution organizations, set up an AI-based automatic detection of accounting irregularities, the Subcommittee on Integrity and Ethics, Consulting Audit Dept., general consulting for vulnerable departments, and the 'Dos & Don't' list on integrity, and responded to the ethical management environmental change.

PDCA Implementation System for Ethical Management of Integrity



Operation of the Whistleblower Anti-Corruption Reporting System

K-water adopts and is operating various internal reporting channels (allowing whistleblowing) including K-whistle, anonymous incidence reporting (whistleblowing) system, and external safe lawyer system to activate incidence reporting and protect whistleblowers' anonymity. In 2020, we strived in earnest to spur the reporting system through hands-on mock corruption reporting, integrated internal/ external public relations for the corruption reporting channel, and transparent incidence report (whistleblowing) handling disclosure, remove misunderstanding paternalism and identity exposure on the corruption reporting system, and enhance its reliability.

| Classification | Unit | 2018 | 2019 | 2020 |
|---|-------|------|------|------|
| No. of received report (whistleblowing) cases | Tally | 96 | 98 | 66 |
| No. of resolved report cases | Tally | 96 | 98 | 66 |
| No. of unethical action and punishment cases | Tally | 28 | 52 | 22 |

ISO 37001 Anti-Corruption Management System Certification

K-water has adopted an anti-corruption system meeting global standards, established anti-corruption management standards, and devised a system in which its members autonomously detect and improve corruption risks that may occur in the course of performing duties. We are continuously diagnosing, monitoring, discovering, and taking action against corruption risks through internal audits. In October 2020, we gained an international standard in the corruption sector, ISO 37001 (Anti-corruption Management System) certification, and were selected as a pilot KCP certification institution.

Advancement of Internal Control System Monitoring & Auditing Corruption from Public's Perspective

K-water has advanced our internal control system to prevent corruption from the public's perspective by listening to the public's voices, and achieved transparent management. Through public contests, we selected 17 audit areas, and preemptively improved the relevant system. We have carried out transparent and objective audits with external experts through our Citizen Integrity Internal Control System. K-water pledges to become a public corporation of integrity in line with the public's expectation by constructing an anti-corruption system that the public can get behind and trust.



Leading Diffusion of the Culture of Integrity in the Private Sector & Communities

K-water has waged diverse activities for disseminating a culture of integrity targeting the private sector to play its part as a public institution to build a society of integrity. We have carried out diverse activities to enhance citizens' recognition of integrity and induce the practice of integrity including an integrity campaign targeting local residents, integrity mentoring for future generations, and production and distribution of videos to disseminate the culture of integrity. We have also implemented various integrity policies in cooperation and solidarity with other public institutions. K-water has made and distributed manuals including a collection of integrity management success and failure cases, unfair transaction cases survey and fair trade models, and in-workplace harassment system situation case survey that other institutions, private companies, and the public can confirm themselves with the Public Corporation Society Council of Integrity. K-water has been implementing various integrity policies for disseminating integrity culture as the second chairman company of the Public Corporation Society Council of Integrity since 2021.



Internalization of Employee's Integrity & Awareness of Ethics

K-water is performing integrity and ethics training/ education with diverse ways such as integrating the code of conduct like the oath of job integrity, codes on how to conduct oneself with integrity in practice, and code of ethics, online integrity training/ education, and integrity communication training by visit in order for all employees to internalize integrity. In 2020, we designed optimal education/ training materials by hierarchy/ theme, ensured educational effectiveness, educated on recognition improvement of corruption vulnerable areas as well as public officials' ethical norms including the Solicitation Prohibition Act, shared actual punishment cases in the public sector, and enhanced the understanding of our anti-corruption system. In this way, we improved educational effects by planning and using training content, so that our members can internalize ethical awareness and practice integrity.

Implementation of Integrity Training for All 127 Departments

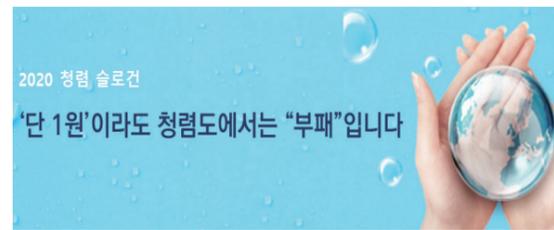


Current Status of Ethical Management Training/Education

| Classification | | Unit | 2018 | 2019 | 2020 |
|----------------------------------|--|---------|-------------|-------------|-------------|
| Collective education (employees) | No. of courses | Courses | 5 | 6 | 5 |
| | Total education hours | Hours | 20,753 | 22,835 | 12,344 |
| | No. of employees completing the education/recipients | Persons | 4,639/4,955 | 4,889/6,112 | 6,164/6,337 |

Dissemination of Organizational Culture based on Integrity

In 2020, the CEO declared integrity and ethical management as high priority values, formed a bond of sympathy on ethical management through our integrity motto and integrity campaigns in the form of talent donation, and boosted employees' participation in the campaign. Practice of integrity was emphasized using integrity RAP UCC and integrity webtoons made by employees. In this manner, we have focused on the dissemination of the culture of integrity throughout the organizational culture.



Slogan in 2020



Manufacturing Integrity UCC

Pledging Practice of Integrity together with Stakeholders including Partnering Firms

To build a fair society with integrity, we have emphasized the practice of integrity and customers' participation together with our employees, and required all the other parties in a contract with K-water pledge an oath to comply with their duty of integrity in contract performance. We adopted a mandatory presentation of "an oath for the socially vulnerable segment's protection and fair trade" in 2020. We also offered special training for anti-corruption and integrity to employees in charge of business dealing with customers, delivered our employees' commitment to integrity practice to our customers through meeting with our customers, and online one-on-one communication. K-water supplemented our guide and PR on reporting channels and handling process when corruption occurs.



Special lectures for employees in charge dealing with customers



Meeting with customers by paying a visit



Corruption and Abuse of Power Report Center on the website

Win-Win Growth Shaping the Water Industry Ecosystem

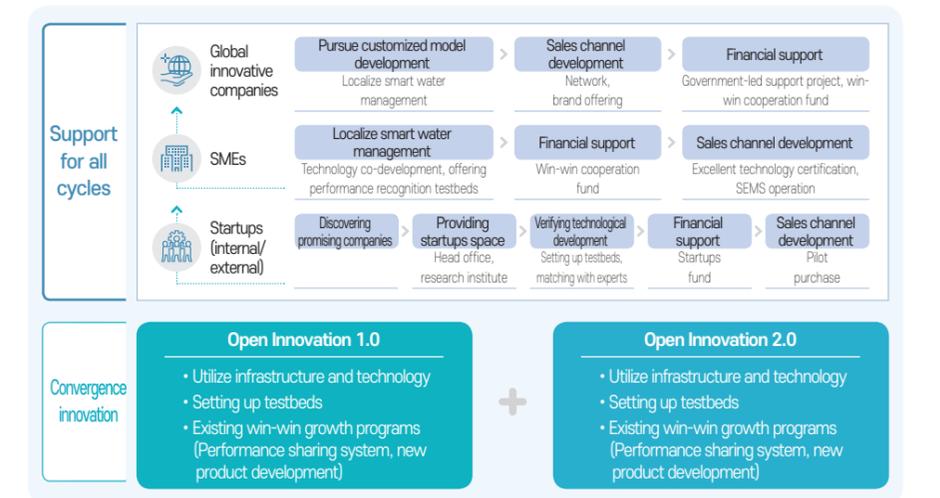
Strategy to Shape the Water Industry Ecosystem

K-water, an expert public water corporation, is implementing a systematic small and medium venture business development policy to contribute to shaping the water industry innovative startups ecosystem and to job creation. Based on K-water's knowledge and technology infrastructure, we are focusing company-wide capabilities on the growth and development of small and medium venture businesses. We are strengthening existing SMEs' technological development support system, and offering optimally customized support at each corporate growth stage ranging from establishing a startup to exports.

In the water management new normal age of climate change and Digital Transformation, K-water aims to devise a new solution by communicating with industry, academy, and research members, respond to the rapidly changing water management environment, and become the spearhead of national water industry growth through sound water sector governance, while legal and institutional frameworks are set up for water industry development such as revising the Government Organization Act and enacting the Water Industry Promotion Act, derived from water management unification.



K-water's Water Industry Open Platform



Signing Business Agreements with VWCC (Voluntary Win-Win Cooperative Company)

K-water was selected as VWCC, a first-ever for a public corporation, and has been integrating Green New Deal unicorns. VWCC is a short form of "voluntary win-win with allied companies," and is a program where the SMEs & Startups Ministry selects 20 companies, cooperates with them for policy and investment partner, and aims to foster them as world-class small hidden champions through the support of all cycles from startup. With this, we have formed a sustainable venture investment fund specialized for the water industry worth KRW 300 billion by leveraging our expertise/ professionalism with large scale investment.

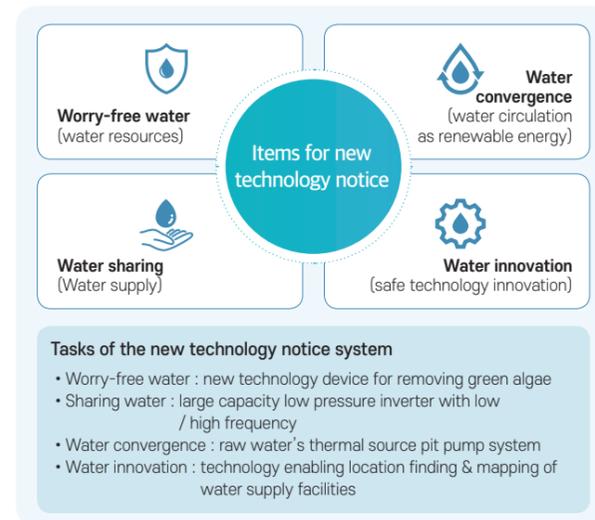
Agreement of Business with VWCC



Advancement of Win-more-Win Growth through the New Technology Notice System

A technology notice system is helping SMEs and venture businesses propel commercialization of the technology in demand at the early stage through pre-notice of information on the future water management technology in demand in an effort to cement water companies' technological development and commercialization success. We are operating and managing the new technology notice system consisting of 102 items, accounting for the latest trends (as of November 2020). We use it as a priority for the whole process of our water industry development program. We aim to discover water management problem-resolving technologies by offering domestic and foreign market information on future water management technology to the relevant companies for free and connected support for consulting on technological development.

Areas to Leverage the New Technology Notice System



Candidate Unicorns Growing Together with K-water

K-water is pursuing various changes in line with startups' life cycle and innovative market needs. We are especially supporting the entire life cycle for a startup company with potential to develop into a unicorn and then stabilize into a middle standing firm by overcoming the Death Valley stage, and we are creating the water industry innovation synergy. As a result of this, seven teams of nine internal venture teams succeeded to become startups while 510 jobs were created. Our deed to technology startup ecosystem activation was commended by being honored with the SMEs and Startups Minister's award.

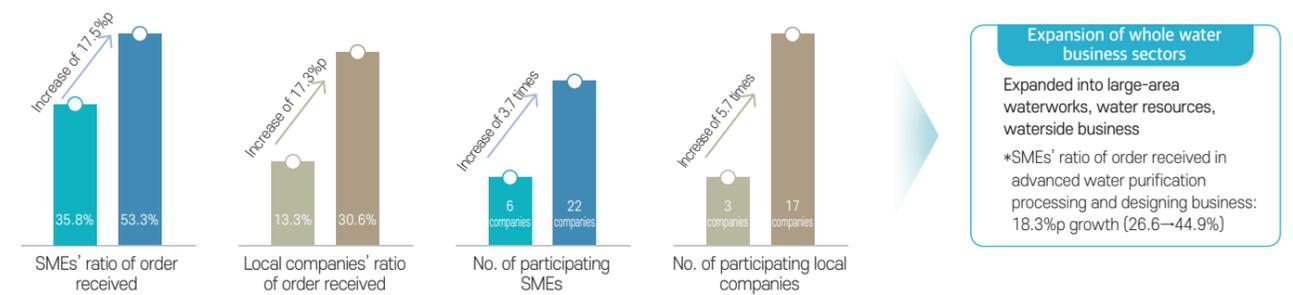
Candidate Unicorn's Innovative Technology & Achievements

| Innovative Technologies | Cooperation Achievements |
|--|--|
| <p>7iQuant Established in 2015</p> <p>Developed a water scanner that can immediately analyze harmful substances including colon bacillus contained in water through convergence of spectroscopic technique with K-water's water quality analysis technology.</p> | <ul style="list-style-type: none"> Excellence Prize in the Startup Water (Ministry of Environment, Nov. 2020) Selected as a Green Venture in 2020 (Environment Ministry and SMEs & Startups Ministry) Selected as a partner firm of the U.S. Bill Gates Foundation (Feb. 2020) |
| <p>WI.Plat Established in 2020</p> <p>Set up intelligent water leak management platform that converged IoT and AI-based water leak sound sensing technology with K-water's water supply management data.</p> | <ul style="list-style-type: none"> Grand Prize in the Startup Water (Ministry of Environment, Nov. 2020) Grand Prize in the Green New Deal Idea Competition (Ministry of Environment, Aug. 2020) Appointed as Korea's delegation in the 2020 P4G Partnership |
| <p>movements Established in 2018</p> <p>Converted to 3D using K-water's 2D water supply management drawings data, and underground pipe life cycle management solution offering.</p> | <ul style="list-style-type: none"> Excellent Prize in 2020 Position-based Service Contest (Korea Communications Commission, Sep. 2020) Grand Prize in the Mentor Group Performance Presentation (Nov. 2020) Succeeded in investment attraction - Daedeok Venture Partners: KRW 500 million, Mirae Holdings: KRW 5 million |
| <p>수퍼빈 superBin Established 2015</p> <p>Developed smart resources circulation solution for garbage recycling items using AI and big data. Using K-water smart city as a testbed.</p> | <ul style="list-style-type: none"> Selected as a social value realizing company (MSIT, Jun. 2020) Attracted KRW 20 billion venture investment, company value surpassed KRW 100 billion (Aug. 2020) First adoption of robotic technology within Busan smart city |

K-water's Fair Trade Model

K-water aims to settle a fair trade culture by laying the foundation for bidding system's innovation. The contracting parties with K-water are selected under the following laws and regulations by amount, competing product, and region: Ministry of Economy & Finance's Established Rules of Agreement, National Contract Law, K-water's Agreement Regulations and other relevant laws and regulations. We ease customer's warranty burden by removing obscure and excessive warranty terms with legal complexity, as well as by making main contractors mandatory to protect SMEs and improving the practice of low-priced subcontracts. By systematizing inspection checklist for unfair contracts, we inspect and block fundamentally unfair contracts in advance. By expanding the use of a standard contract, we are improving the practice of unreasonable cost burdens by establishing a fair trade framework for subcontracting, abolishing contractor/ subcontractor's cost burdens, improving unreasonable cost-bearing practices.

Achievements of K-water's Fair Trade Model Adoption



Consolidation of Win-Win Cooperation by Communicating with Partnering Firms

Due to large design companies' dominating and winning bids that have reached 74.1% for the last three years, the practice of low-priced subcontracting for SMEs is ongoing. In response, K-water has focused on instating a upper-limit stake participation system for large company, a first-ever for a public corporation, by finding vulnerable areas by communicating with partner firms, limiting top five order-winning firms' joint order receipt, easing performance criteria upon evaluation, and reducing evaluation items. In this way, K-water has made efforts to expand SMEs' participation opportunities. As a result, SMEs' participation rate rose 17% compared to 2019.

| Participatory upper-limit system for large companies | Easing bid screening standards | Evaluating both SMEs & local firms' participation |
|---|---|---|
| <p>Existing Autonomous to participate in contracts, up to 90% of large design companies</p> <p>Improvement Limited large design companies' contract participation rate less than 40%, and prohibited joint order winning between top bid winning performers</p> | <p>Existing only waterworks field accepted, (large company domain), no recognition of performance other than design</p> <p>Improvement Expanded by including sewage performance so that SMEs can be at an advantage, and recognized similar works such as supervision</p> | <p>Existing Large company-based evaluation system including performance, engineer, and career</p> <p>Improvement Evaluated win-win efforts including participation rate of SMEs and local companies and No. of companies (full marks for 40% and 30% of SMEs and local companies, respectively)</p> |

Purchasing Amount of Social Enterprises & Cooperative Associations Products



Advancing & Supporting the Social Economy

K-water is advancing the social economy as a partner of collaboration beyond simple support and our growth strategy for win-win prosperity. We are striving to discover social enterprises' ideas, support their commercialization, and support technology-based social ventures through collaboration with specialized institutions. We purchased 1.5 times more year-on-year by increasing purchases from social enterprises through a system on behalf of the socially vulnerable segment and improving perception on them. We continuously train employees in charge of contracts and monitor them on a monthly basis.

**Industrial Sites
Where Everyone
is Safe**

K-water is practicing safety by shifting our management system focused on the public's health and personal safety as well as employees/field workers. Based on questionnaire surveys, we perform company-wide internal diagnosis and field worker's work diagnosis to establish a safety management strategy, and have been supplementing the safety management system at company-wide through internalizing and reinforcing a safety-first culture.

Declaration of Safety Management Charter

Through the declaration of the charter of safety management, K-water has declared safety and protection of the public's life, health, and property from workers' accidents, social disasters, and natural disasters as our primary mission/ value. We are committed to stably supplying clean and safe potable water as a healthy water circulation service partner, and to being responsible for the public's protection from water-related disasters/ accidents.

Construction of Safety and Health Management System (ISO 45001)

K-water is shaping the preventive environment of workplace and workers' accidents by establishing a management system in the industrial, construction and facility safety field. To devise safety guidelines for workers, accounting for workplace aspects and requirements, we have established and distributed a contract business safety and health manual. To build a safe workplace, we have gained and operate the ISO 45001, an internationally accredited standard in the safety and health field through collaborations, such as workshops or training with the head office and worksites, and thus, we are equipped with a business system to prevent workplace industrial accidents. Through the ISO 45001 support for our subsidiary, Water Resources Environmental Industries Promotion Institute, we strive to be accountable for safety accident prevention of our partnering firms.

Composing Safety Organization

K-water reorganized a safety organization under direct control of the vice president to that of the president in 2020. The safety organization is divided into Disaster Safety Department, Quality Safety Department, and Construction Safety Department. The Disaster Safety Department serves as the control tower for overall safety management measures including company-wide disaster and facility safety management, risk management, and accident response and supportive measures. The Quality Safety Department oversees the technical system and support for improving construction quality and safety such as the construction system management. The Construction Safety Department is responsible for safety management activities to reduce construction site accidents. The vice president oversees safety management as a safety manager.

Safety Organizational Structure



K-water's Safety Management Charter

We pledge and practice the following to shape K-water's never compromising on safety.

- We shall practice safety priority management in all business performance, actively participate in safety-first culture activities, and secure the public's and our own safety.
- We shall maintain all workers' safe work environment by improving hazardous and dangerous work environment.
- We shall secure facilities' stability through systematic maintenance of facilities and safety inspections.
- We shall perform preventive activities to cope with various disasters, and strive in earnest for to take quick response and implement restoration.

K-water Safety & Health Management System



Certificate of Safety & Health Management System (ISO 45001)

Field-Related Safety Innovation

K-water has established a safety activity mobilization center in charge of field safety innovation, and has been practicing field-related safety innovation that supplements field safety activities. As part of such activities, we have applied color-coated schemes at each facility's hazardous zone, so that workers can easily identify hazardous elements/ factors with vigilant awareness each routine workday. We have implemented e-call, a mobile automatic accident detection, so that timely response is conducted within the golden time when a field accident occurs. We have confirmed the accident reduction by 41% in construction sites year-on-year by waging a sensitivity campaign such as looking at family photos and safety guidelines made in foreign workers' native language.

Color-coated scheme for safe in water purification plants Safety guideline in workers' native language (Indonesia)



Establish Workers' Safety-first Culture

K-water aims to construct a safety management system and establish a worker-oriented safety-first culture through internalizing safety awareness. We offer customized training by hierarchy from new employees to senior management, and implement online training and work practices for new employees as well as tailored safety training such as special lectures for industrial safety and experts. We also execute training for safety diagnosing and risk assessment employees, including hazardous chemical managers and industrial safety supervisors. K-water inspires safety awareness of employees through various safety training/education such as safety workshops and company-wide accident/ disaster management training.

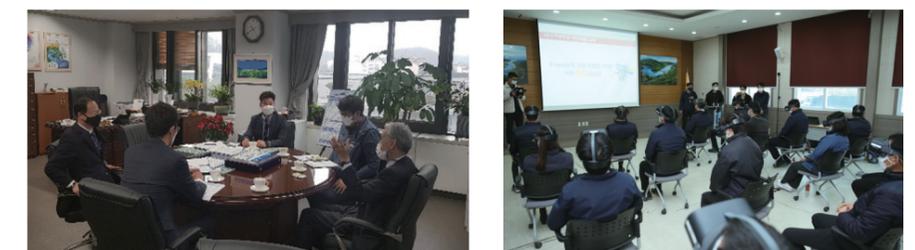
Adoption of Risk Index Assessment System by Workplace

K-water has adopted a risk index assessment system by workplace, a first-ever in Korea, and designated safety levels classified and discerned with signal lights for each workplace. Also, we have enhanced public credibility by acquiring intellectual property rights for developing a process-based safety assessment model and programs. As a result, we can establish optimally customized countermeasures by detecting weaknesses/shortcomings at each workplace.

Risk Index Safety Assessment Model of Workplace

| Offices | Overall | Management factors | | | Facility factors | |
|----------|---------|--------------------|------------------------------|--------------------------|------------------|------|
| | | Management system | Workers' awareness/alertness | Water purification plant | Booster station | Duct |
| A Office | ● | ● | ● | ● | - | - |
| B Office | ● | ● | ● | ● | - | - |

*(Safety level) ● Blue (High) > ● Green > ● Yellow > ● Red (Low)



Safety Education for Employees

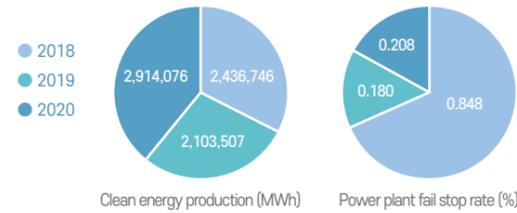
Appendix

| | |
|-----|---|
| 90 | ESG Data Center |
| 104 | Third-Party Assurance Statement |
| 106 | GRI Standards Index |
| 108 | ISO 26000 Implementation Level Diagnosis |
| 110 | SASB Index |
| 112 | Code of Ethics; Quality, Environmental, and Green Management Policy; Customer Charter Statement; Human Rights-Centered Management Statement |
| 114 | Climate Crisis Management Declaration |
| 116 | ESG Management Declaration |
| 118 | Support for UN Global Compact's 10 Principles |
| 120 | Memberships and Awards |
| 122 | Questionnaire for Readers |

Environmental Performance

Renewable Energy Project Performance

| Category | 2018 | 2019 | 2020 |
|--------------------------------|-----------|-----------|-----------|
| Clean energy production (MWh) | 2,436,746 | 2,103,507 | 2,914,076 |
| Power plant fail stop rate (%) | 0.848 | 0.180 | 0.208 |



Renewable Energy Operation & Development

| 2020 | | | | |
|------------------------|---|--|---|---|
| Category | Operation Status | | Development Status | |
| | Details | Facility Capacity (MW) | Details | Facility Capacity (MW) |
| Total | | 1,364.6 | | |
| Hydroelectric power | Large hydropower | Nine including Soyang River | | 1,004.6 |
| | Small hydropower | 53 including Andong Small Hydropower Plant | 83.0 | Four including Chungju Reservoir (continuous project) |
| Tidal power | Sihwa Tidal Power Plant (1) | 254.0 | | |
| Wind power | Sihwa Bangameori, Gyeongin Port, Gampo Dam (3) | 8.0 | | |
| Solar power | 34 including Boryeong Floating Solar Power System | 14.9 | Floating solar power & land solar power (continuous project) | 147.4 |
| Temperature difference | 14 including Hakya Water Purification Plant | 3,693RT | Busan EDC Smart Village, Gangwon-do Hydrothermal Energy Cluster, Samsung Seoul Hospital | |

| 2019 | | | | |
|------------------------|---|--|---|--|
| Category | Operation Status | | Development Status | |
| | Details | Facility Capacity (MW) | Details | Facility Capacity (MW) |
| Total | | 1,364.0 | | |
| Hydroelectric power | Large hydropower | Nine including Soyang River | | 1,004.6 |
| | Small hydropower | 52 including Andong Small Hydropower Plant | 82.5 | Seven including Seomjin River Dam & Chungju Reservoir (continuous project) |
| Tidal power | Sihwa Tidal Power Plant (1) | 254.0 | | |
| Wind power | Sihwa Bangameori, Gyeongin Port, Gampo Dam (3) | 8.0 | | |
| Solar power | 34 including Boryeong Floating Solar Power System | 14.9 | Floating solar power & land solar power (continuous project) | 132.1 |
| Temperature difference | 13 including Hakya Water Purification Plant | 3,673RT | Busan EDC Smart Village, Gangwon-do Hydrothermal Energy Cluster, Samsung Seoul Hospital | |

| 2018 | | | | |
|------------------------|---|--|---|--|
| Category | Operation Status | | Development Status | |
| | Details | Facility Capacity (MW) | Details | Facility Capacity (MW) |
| Total | | 1,357.5 | | 83.0 |
| Hydroelectric power | Large hydropower | Nine including Soyang River | | 1,000.6 |
| | Small hydropower | 53 including Andong Small Hydropower Plant | 80.4 | Seven including Seomjin River Chungju Reservoir (continuous project) |
| Tidal power | Sihwa Tidal Power Plant (1) | 254.0 | | |
| Wind power | Sihwa Bangameori, Gyeongin Port, Gampo Dam (3) | 8.0 | | |
| Solar power | 33 including Boryeong Floating Solar Power System | 14.5 | Five including Hapcheon Dam & Yongdang Dam (continuous project) | 72.0 |
| Temperature difference | 14 including Hakya Water Purification Plant | 3,673RT | | |

Current Status of CDM Registration

| 2020 | | | | | |
|-------------------------------------|---|-------------------------------|--|--|--|
| Category | Subject | UN Registration Date (Y. M) | Annual Power Generation Amount (MWh/y) | Discharge Coefficient (Ton CO ₂ /MWh) | CO ₂ Emissions Reduction (Ton CO ₂ /y) |
| Total | | | | | |
| Sihwa Tidal Power | Sihwa Tidal Power | 2006. 6 (renewed in 2018. 7) | 457,251 | 0.5197 | 237,634 |
| Small hydro power 1 | | | | | - |
| Small hydro power 2 | Daechong, Juam, Dangbang, Seongnam 2 | 2007. 2 | 10,706 | 0.5975 | 6,397 |
| Sihwa Wind Power | Sihwa Wind Power | 2007. 11 (renewed in 2017. 4) | 4,125 | 0.6567 | 2,709 |
| Small hydro power 3 | Gosan, Pangyo | 2009. 11 | 2,120 | 0.5375 | 1,140 |
| Small hydro power 4 | Seongdeuk, Gimcheon Buhang | 2010. 10 | 5,902 | 0.5561 | 3,282 |
| Small hydro power 5 | Angye, Hoengseong 2 | 2012. 4 | 2,097 | 0.6735 | 1,412 |
| Water supply efficiency improvement | Paldang 3 Chui | 2012. 8 | - | - | - |
| Hydroelectric power 6 | Ipo, Yeosu, Gangcheon | 2012. 10 | 71,431 | 0.6645 | 47,466 |
| Hydroelectric power 7 | Sejong, Gongju, Baekje, Sangju | 2012. 9 | 15,184 | 0.6645 | 10,090 |
| Hydroelectric power 8 | Nakdan, Gumi, Chilgok, Gangjeong Goryeong | 2012. 9 | 51,231 | 0.6645 | 34,043 |
| Hydroelectric power 9 | Dalseong, Hapcheon Changnyeong, Changnyeong Haman, Seungchon, Jooksan | 2012. 9 | 39,397 | 0.6645 | 26,179 |

| 2019 | | | | | |
|-------------------------------------|---|-------------------------------|--|--|--|
| Category | Subject | UN Registration Date (Y. M) | Annual Power Generation Amount (MWh/y) | Discharge Coefficient (Ton CO ₂ /MWh) | CO ₂ Emissions Reduction (Ton CO ₂ /y) |
| Total | | | 830,176 | - | 466,489 |
| Sihwa Tidal Power | Sihwa Tidal Power | 2006. 6 (renewed in 2018. 7) | 507,629 | 0.5197 | 251,089 |
| Small hydro power 1 | Andong, Jangheung, Seongnam 1 | 2006. 10 | 15,473 | 0.6007 | 8,103 |
| Small hydro power 2 | Daechong, Juam, Dalbang, Seongnam 2 | 2007. 2 | 13,944 | 0.5975 | 8,331 |
| Sihwa Wind Power | Sihwa Wind Power | 2007. 11 (renewed in 2017. 4) | 6,293 | 0.6567 | 2,521 |
| Small hydro power 3 | Gosan, Pangyo | 2009. 11 | 5,557 | 0.5375 | 2,987 |
| Small hydro power 4 | Seongdeuk, Gimcheon Buhang | 2010. 10 | 4,963 | 0.5561 | 2,759 |
| Small hydro power 5 | Angye, Hoengseong 2 | 2012. 4 | 4,603 | 0.6735 | 3,100 |
| Water supply efficiency improvement | Paldang 3 Chui | 2012. 8 | - | - | 7,044 |
| Hydroelectric power 6 | Ipo, Yeosu, Gangcheon | 2012. 10 | 76,406 | 0.6645 | 50,772 |
| Hydroelectric power 7 | Sejong, Gongju, Baekje, Sangju | 2012. 9 | 57,541 | 0.6645 | 38,237 |
| Hydroelectric power 8 | Nakdan, Gumi, Chilgok, Gangjeong Goryeong | 2012. 9 | 58,170 | 0.6645 | 38,654 |
| Hydroelectric power 9 | Dalseong, Hapcheon Changnyeong, Changnyeong Haman, Seungchon, Jooksan | 2012. 9 | 79,597 | 0.6645 | 52,892 |

| 2018 | | | | | |
|-------------------------------------|---|-------------------------------|--|--|--|
| Category | Subject | UN Registration Date (Y. M) | Annual Power Generation Amount (MWh/y) | Discharge Coefficient (Ton CO ₂ /MWh) | CO ₂ Emissions Reduction (Ton CO ₂ /y) |
| Total | | | 830,176 | - | 466,489 |
| Sihwa Tidal Power | Sihwa Tidal Power | 2006. 6 (renewed in 2018. 7) | 507,629 | 0.5197 | 251,089 |
| Small hydro power 1 | Andong, Jangheung, Seongnam 1 | 2006. 10 | 15,473 | 0.6007 | 8,103 |
| Small hydro power 2 | Daechong, Juam, Dalbang, Seongnam 2 | 2007. 2 | 13,944 | 0.5975 | 8,331 |
| Sihwa Wind Power | Sihwa Wind Power | 2007. 11 (renewed in 2017. 4) | 6,293 | 0.6567 | 2,521 |
| Small hydro power 3 | Gosan, Pangyo | 2009. 11 | 5,557 | 0.5375 | 2,987 |
| Small hydro power 4 | Seongdeuk, Gimcheon Buhang | 2010. 10 | 4,963 | 0.5561 | 2,759 |
| Small hydro power 5 | Angye, Hoengseong 2 | 2012. 4 | 4,603 | 0.6735 | 3,100 |
| Water supply efficiency improvement | Paldang 3 Chui | 2012. 8 | - | - | 7,044 |
| Hydroelectric power 6 | Ipo, Yeosu, Gangcheon | 2012. 10 | 76,406 | 0.6645 | 50,772 |
| Hydroelectric power 7 | Sejong, Gongju, Baekje, Sangju | 2012. 9 | 57,541 | 0.6645 | 38,237 |
| Hydroelectric power 8 | Nakdan, Gumi, Chilgok, Gangjeong Goryeong | 2012. 9 | 58,170 | 0.6645 | 38,654 |
| Hydroelectric power 9 | Dalseong, Hapcheon Changnyeong, Changnyeong Haman, Seungchon, Jooksan | 2012. 9 | 79,597 | 0.6645 | |

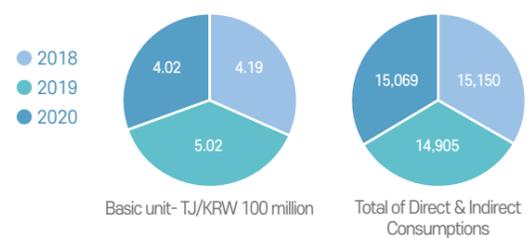
CERs Sales in CDM (Cumulative)

| Category | Project Name | CERs | Sales Profit (KRW) |
|----------|---|-----------|--------------------|
| 2008 | Small hydro power 1 | 6,782 | 180 |
| 2009 | Small hydro power 1 | 8,608 | 200 |
| 2010 | Small hydro power 1, 2 | 8,081 | 157 |
| 2012 | Small hydro power 1, 2, Sihwa Tidal Power, Sihwa Wind Power | 128,000 | 125 |
| 2013 | Sihwa Tidal Power | 319,066 | 476 |
| 2015 | Sihwa Tidal Power | 141,059 | 2,006 |
| 2016 | Sihwa Tidal Power | 643,874 | 11,183 |
| 2017 | Sihwa Tidal Power | 321,794 | 6,726 |
| 2018 | Sihwa Tidal Power, Small hydro power 1, 2, 3 | 178,019 | 4,165 |
| 2019 | Sihwa Tidal Power | 361,516 | 10,467 |
| 2020 | Sihwa Tidal Power | 178,900 | 6,247 |
| Total | - | 2,116,799 | 35,685 |

Greenhouse Gas Emissions

| Category | 2018 | 2019 | 2020 | |
|-----------|--|---------|---------|---------|
| Emissions | Total (tCO ₂) | 736,676 | 724,800 | 730,407 |
| | Direct (tCO ₂) | 4,420 | 4,657 | 4,829 |
| | Indirect (tCO ₂) | 732,256 | 720,143 | 725,578 |
| | Carbon cleanliness (tCO ₂ /TOE) | 20.36 | 20.03 | 20.19 |
| Reduction | Reduction target (tCO ₂) | 141,292 | 129,416 | 161,815 |
| | Estimated emissions (tCO ₂) | 736,676 | 724,800 | 730,407 |
| | Permitted emissions (tCO ₂) | 595,384 | 595,384 | 568,592 |
| | Total reduction (tCO ₂) | 6,434 | 53,338 | 4,795 |
| | Reduction in the year (tCO ₂) | 6,434 | 53,338 | 4,795 |
| | Early reduction-used (tCO ₂) | 0 | 0 | 0 |

Energy Consumption



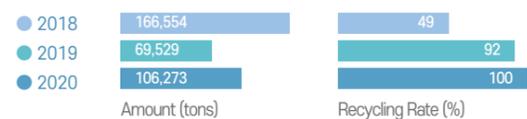
| Category | 2018 | 2019 | 2020 | |
|-------------|--------------------|--------|--------|--------|
| Basic Unit | TJ/KRW 100 million | 4.19 | 5.02 | 4.02 |
| | Total | 15,150 | 14,905 | 15,069 |
| Consumption | Direct (TJ) | 73 | 77 | 81 |
| | Indirect (TJ) | 15,077 | 14,828 | 14,988 |

Environmental Performance Evaluation Index



| Category | 2018 | 2019 | 2020 |
|---|------|------|------|
| Environmental Performance Evaluation Index (points) | 158 | 151 | 147 |

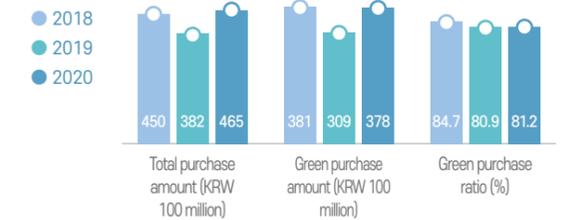
Sewage Sludge



| Category | 2018 | 2019 | 2020 | |
|---------------|--------------------|---------|--------|---------|
| Sewage sludge | Amount (tons) | 166,554 | 69,529 | 106,273 |
| | Recycling rate (%) | 49 | 92 | 100 |

Green Purchase

| Category | 2018 | 2019 | 2020 | |
|----------------|---|------|------|------|
| Green purchase | Total purchase amount (KRW 100 million) | 450 | 382 | 465 |
| | Green purchase amount (KRW 100 million) | 381 | 309 | 378 |
| | Green purchase rate (%) | 84.7 | 80.9 | 81.2 |



Quality of Water Discharged from Water Purification Plant

| Category | 2018 | 2019 | 2020 | |
|---|------------|------|------|-----|
| Quality of water discharged from water purification plant | BOD (mg/ℓ) | 2.2 | 1.9 | 1.5 |
| | COD (mg/ℓ) | 5.5 | 5.2 | 4.9 |
| | SS (mg/ℓ) | 2.3 | 2.1 | 2.2 |

Air Pollutants Emissions

| Category | 2018 | 2019 | 2020 | | |
|--------------------------|-----------|----------------------|-------|-------|-------|
| Air pollutants emissions | Fine dust | Total emissions (kg) | 205 | 217 | 223 |
| | SOx | Total emissions (kg) | 1,442 | 1,526 | 1,388 |
| | CO | Total emissions (kg) | 1,020 | 1,068 | 1,092 |
| | HC | Total emissions (kg) | 201 | 210 | 225 |
| | NOx | Total emissions (kg) | 3,231 | 3,390 | 5,452 |

Chemical Substances Emissions

| Category | Substances | 2018 | 2019 | 2020 |
|-----------------------------------|--------------------------|---------|---------|---------|
| Chemical materials emissions (kg) | Chlorine | 6,401.4 | 5,200.7 | 5,337.8 |
| | Aluminum & its compounds | 70.0 | 135.7 | 29.5 |
| | Sodium hydroxide | 0.0 | 0.0 | 0.0 |
| | Sulfuric acid | 0.0 | 0.0 | 0.0 |
| | Hydrogen peroxide | 0.0 | 0.0 | 1.4 |
| | Fluorosilicic acid | 0.0 | 0.0 | 0.0 |

Fuel Usage

| Category | Unit | 2018 | 2019 | 2020 |
|----------|---------------------|-------|-------|-------|
| Kerosene | 1,000ℓ | 39.3 | 40.7 | 34.5 |
| Diesel | 1,000ℓ | 804.4 | 853.2 | 776.1 |
| LNG | 1,000m ³ | 803.0 | 832.2 | 943.8 |
| LPG | ton | 0.9 | 0 | 6.6 |

Sludge Discharge from Water Purification Plants

| Category | 2018 | 2019 | 2020 | |
|--------------------------------------|---|---------|---------|---------|
| Sludge from water purification plant | Discharge volume (tons) | 141,441 | 132,858 | 156,297 |
| | Basic unit of discharge (g/m ³) | 62.1 | 58.6 | 69.5 |
| | Recycling rate (%) | 100 | 100 | 100 |
| | Raw material of cement (%) | 24 | 28 | 48 |
| | Molding material, mounding material (%) | 73 | 71 | 51 |
| | Green soil (%) | 0 | 0 | 1 |
| | Ash (%) | 0 | 0 | 0 |

Project Area Environmental Improvement

| Category | | 2018 | 2019 | 2020 | |
|--|---------------------|------------------------------------|------|------|---------------------|
| Follow-up environmental impact survey on water quality | Hantangang Dam | BOD (mg/l) | 0.7 | 1.5 | 1.0 |
| | | COD (mg/l) | 2.0 | 3.7 | 2.0 |
| | Gimcheon Buhang Dam | BOD (mg/l) | 2.0 | 2.1 | - |
| | | COD (mg/l) | 3.3 | 3.6 | - |
| | Seongdeok Dam | BOD (mg/l) | 1.8 | 1.6 | 1.3 |
| | | COD (mg/l) | 2.9 | 3.0 | 2.3 |
| | Yeongju Dam | BOD (mg/l) | 2.2 | 1.7 | 2.3 |
| | | COD (mg/l) | 3.6 | 3.5 | 4.8 |
| | Bohyeonsan Dam | BOD (mg/l) | 2.7 | 2.9 | 2.3 |
| | | COD (mg/l) | 5.3 | 4.7 | 4.9 |
| Follow-up environmental impact survey on air quality | Hantangang Dam | PM10 (µg) | - | - | - |
| | | NO2 (ppb) | - | - | - |
| | Gimcheon Buhang Dam | PM10 (µg) | 70 | - | - |
| | | NO2 (ppb) | 12 | - | - |
| | Seongdeok Dam | PM10 (µg) | - | - | - |
| | | NO2 (ppb) | - | - | - |
| | Yeongju Dam | PM10 (µg) | 47 | 45 | - |
| | | NO2 (ppb) | 12 | 15 | - |
| | Bohyeonsan Dam | PM10 (µg) | 42 | 35 | 24 |
| | | NO2 (ppb) | 11 | 13 | 15 |
| Follow-up environmental impact survey on noise/vibration | Hantangang Dam | Noise (dBA) | - | - | - |
| | | Vibration (dBV) | - | - | - |
| | Gimcheon Buhang Dam | Noise (dBA) | 44 | - | - |
| | | Vibration (dBV) | 25 | - | - |
| | Seongdeok Dam | Noise (dBA) | - | - | - |
| | | Vibration (dBV) | - | - | - |
| | Yeongju Dam | Noise (dBA) | 43 | 42 | - |
| | | Vibration (dBV) | 21 | 15 | - |
| | Bohyeonsan Dam | Noise (dBA) | 51 | 44 | 45 |
| | | Vibration (dBV) | 28 | 27 | 28 |
| Follow-up environmental impact survey on mammals | Hantangang Dam | Total species number (species) | 15 | 13 | 9 |
| | | Legal protective species (species) | 2 | 1 | 2 |
| | Gimcheon Buhang Dam | Total species number (species) | 13 | 12 | - |
| | | Legal protective species (species) | 2 | 2 | - |
| | Seongdeok Dam | Total species number (species) | 14 | 13 | 12 |
| | | Legal protective species (species) | 2 | 2 | 2 |
| | Yeongju Dam | Total species number (species) | 12 | 11 | 13 |
| | | Legal protective species (species) | 2 | 2 | 2 |
| | Bohyeonsan Dam | Total species number (species) | 13 | 14 | 14 |
| | | Legal protective species (species) | 2 | 2 | 2 |
| Follow-up environmental impact survey on fish | Hantangang Dam | Total species number (species) | 23 | 21 | 19 |
| | | Legal protective species (species) | 0 | 0 | 1 |
| | Gimcheon Buhang Dam | Total species number (species) | 14 | 14 | - |
| | | Legal protective species (species) | 0 | 0 | - |
| Follow-up environmental impact survey on fish | Seongdeok Dam | Total species number (species) | 17 | 19 | 21 |
| | | Legal protective species (species) | 0 | 0 | 1 (Culter alburnus) |
| | Yeongju Dam | Total species number (species) | 24 | 20 | 18 |
| | | Legal protective species (species) | 0 | 0 | 0 |

| Category | | 2018 | 2019 | 2020 | |
|--|------------------------------------|------------------------------------|------|------|----|
| Follow-up environmental impact survey on fish | Bohyeonsan Dam | Total species number (species) | 13 | 15 | 12 |
| | | Legal protective species (species) | 0 | 0 | 0 |
| | Hantangang Dam | Total species number (species) | 12 | 11 | 9 |
| | | Legal protective species (species) | 0 | 0 | 0 |
| | Gimcheon Buhang Dam | Total species number (species) | 12 | 13 | - |
| | | Legal protective species (species) | 0 | 0 | - |
| | Seongdeok Dam | Total species number (species) | 14 | 12 | 11 |
| | | Legal protective species (species) | 0 | 0 | 0 |
| | Yeongju Dam | Total species number (species) | 13 | 16 | 14 |
| | | Legal protective species (species) | 0 | 0 | 1 |
| Bohyeonsan Dam | Total species number (species) | 12 | 14 | 13 | |
| | Legal protective species (species) | 0 | 0 | 0 | |
| Follow-up environmental impact survey on birds | Hantangang Dam | Total species number (species) | 45 | 49 | 47 |
| | | Legal protective species (species) | 3 | 4 | 2 |
| | Gimcheon Buhang Dam | Total species number (species) | 51 | 50 | - |
| | | Legal protective species (species) | 5 | 2 | - |
| | Seongdeok Dam | Total species number (species) | 55 | 50 | 46 |
| | | Legal protective species (species) | 3 | 2 | 1 |
| | Yeongju Dam | Total species number (species) | 66 | 67 | 56 |
| | | Legal protective species (species) | 6 | 7 | 7 |
| | Bohyeonsan Dam | Total species number (species) | 48 | 46 | 46 |
| | | Legal protective species (species) | 2 | 2 | 3 |

Project Area Ecosystem Restoration

| Category | | 2018 | 2019 | 2020 |
|----------------|--------------------------------|------|------|------|
| Total | Alternative habitat (habitats) | 53 | 53 | 46 |
| | Fish spawning ground (grounds) | 13 | 13 | 11 |
| | Eco-corridor (corridors) | 116 | 116 | 107 |
| | Artificial wetland (wetlands) | 20 | 20 | 20 |
| | Fishways | 5 | 5 | 5 |
| Gunwi Dam | Alternative habitat (habitats) | 5 | 5 | 5 |
| | Fish spawning ground (grounds) | 5 | 5 | 5 |
| | Eco-corridor (corridors) | 3 | 5 | 3 |
| | Artificial wetland (wetlands) | 3 | 6 | 5 |
| | Fishways | 0 | 0 | 0 |
| Gunnam Dam | Alternative habitat (habitats) | 3 | 3 | 3 |
| | Fish spawning ground (grounds) | 0 | 0 | 0 |
| | Eco-corridor (corridors) | 0 | 0 | 0 |
| | Artificial wetland (wetlands) | 2 | 2 | 2 |
| | Fishways | 1 | 1 | 1 |
| Hantangang Dam | Alternative habitat (habitats) | 0 | 0 | 0 |
| | Fish spawning ground (grounds) | 0 | 0 | 0 |
| | Eco-corridor (corridors) | 7 | 7 | 7 |
| | Artificial wetland (wetlands) | 0 | 0 | 0 |
| | Fishways | 0 | 0 | 0 |

| Category | | 2018 | 2019 | 2020 |
|---------------------|--------------------------------|------|------|------|
| Gimcheon Buhang Dam | Alternative habitat (habitats) | 12 | 12 | 10 |
| | Fish spawning ground (grounds) | 3 | 3 | 1 |
| | Eco-corridor (corridors) | 46 | 46 | 46 |
| | Artificial wetland (wetlands) | 4 | 4 | 4 |
| | Fishways | 3 | 3 | 3 |
| Seongdeok Dam | Alternative habitat (habitats) | 24 | 24 | 24 |
| | Fish spawning ground (grounds) | 3 | 3 | 3 |
| | Eco-corridor (corridors) | 45 | 45 | 45 |
| | Artificial wetland (wetlands) | 2 | 2 | 2 |
| | Fishways | 0 | 0 | 0 |
| Yeongju Dam | Alternative habitat (habitats) | 0 | 0 | 0 |
| | Fish spawning ground (grounds) | 1 | 1 | 1 |
| | Eco-corridor (corridors) | 1 | 1 | 1 |
| | Artificial wetland (wetlands) | 3 | 3 | 3 |
| | Fishways | 1 | 1 | 1 |
| Bohyeonsan Dam | Alternative habitat (habitats) | 4 | 4 | 4 |
| | Fish spawning ground (grounds) | 1 | 1 | 1 |
| | Eco-corridor (corridors) | 5 | 5 | 5 |
| | Artificial wetland (wetlands) | 4 | 4 | 4 |
| | Fishways | 0 | 0 | 0 |

Social Performance

Customer Satisfaction

| Category | 2018 | | 2019 | | 2020 | |
|--|-----------------------------|---------|-----------------------------|---------|-----------------------------|---------|
| | Average of Evaluated Groups | K-water | Average of Evaluated Groups | K-water | Average of Evaluated Groups | K-water |
| Customer satisfaction (points) | 88.7 | 91.74 | 88.8 | 94.95 | 85.4 | 94.21 |
| Customer satisfaction (points) with local waterworks | 76.0 | 81.82 | 78.0 | 82.21 | 78.0 | 82.29 |

Customer Communication

| Category | | 2018 | 2019 | 2020 |
|--|------------|-------|-------|-------|
| No. of civil complaints (cases) | In writing | 268 | 205 | 205 |
| | Electronic | 1,721 | 3,011 | 3,801 |
| Timely handling rate of civil complaints (%) | | 100.0 | 99.9 | 98.6 |

Assurance of Customers' Right to Know

| Category | 2018 | 2019 | 2020 |
|---------------------------------|------|------|------|
| Information disclosure rate (%) | 87.6 | 75.8 | 71.9 |

Irregular Workers Status

| Category | 2018 | | 2019 | | 2020 | |
|----------------------|-------------------|-----------|-------------------|-----------|-------------------|-----------|
| | Workers (persons) | Ratio (%) | Workers (persons) | Ratio (%) | Workers (persons) | Ratio (%) |
| Total No. of workers | 221.75 | 3.49 | 313 | 4.66 | 564.25 | 7.87 |
| Type | Temporary workers | 220 | 312 | 4.64 | 559 | 7.81 |
| | Part-time workers | 1.75 | 1 | 0.02 | 5.25 | 0.08 |

*Ratio (%) = Interim workers / (Interim workers + temporary workers on ongoing basis + full-time workers)

Small No. of Workforce Employment Status

| Category | 2018 | | 2019 | | 2020 | |
|---|--|-----------|-------------------|-----------|-------------------|-----------|
| | Workers (persons) | Ratio (%) | Workers (persons) | Ratio (%) | Workers (persons) | Ratio (%) |
| Total number of new employment | 365.5 | 6.91 | 478 | 8.60 | 377 | 6.96 |
| Type | Time selection system (No. of persons) | 9 | 0 | 0.00 | 0 | 0.00 |
| | Women | 90.5 | 168 | 3.02 | 123 | 2.27 |
| | With disabilities | 1 | 4 | 0.07 | 0 | 0.00 |
| Local talent in outer Seoul Metropolitan Area | 197 | 3.72 | 252 | 4.54 | 195 | 3.60 |
| High school graduates | 148.5 | 2.81 | 68 | 1.22 | 29 | 0.54 |

*Ratio (%): We calculated based on the current number of those workers. For employment of those with disabilities, we strive in earnest increase employment through employment consulting for those with disabilities along with Korea Employment Agency for Persons with Disabilities. With their employment as full-time workers through general position placement in the second half of 2021, we employed 29 of them in 2021.

Grievances Handling Result

| Category | 2018 | 2019 | 2020 |
|--|------|------|------|
| Total number of grievances (cases) | 73 | 39 | 56 |
| No. of handled grievances (cases) | 69 | 39 | 56 |
| No. of handled cases after the year grievances were received | 0 | 0 | 0 |
| Handling ratio (%) | 94.5 | 100 | 100 |

Maternity Leave & Ratio of Return-to-Work Status

| Category | 2018 | 2019 | 2020 | |
|----------|--------------------------------------|------|------|-----|
| Total | Recipients (persons) | 125 | 150 | 172 |
| | Persons on maternity leave (persons) | 125 | 150 | 172 |
| | Ratio of return-to-work (%) | 100 | 100 | 100 |
| | Retention ratio (%) | 100 | 100 | 100 |
| Men | Subjects (persons) | 21 | 26 | 38 |
| | Persons on maternity leave (persons) | 21 | 26 | 38 |
| | Ratio of return-to-work (%) | 100 | 100 | 100 |
| | Retention ratio (%) | 100 | 100 | 100 |
| Women | Subjects (persons) | 104 | 124 | 134 |
| | Persons on maternity leave (persons) | 104 | 124 | 134 |
| | Ratio of return-to-work (%) | 100 | 100 | 100 |
| | Retention ratio (%) | 100 | 100 | 100 |

Turnover Status

| Category | 2018 | | 2019 | | 2020 | | | |
|---------------------|---------|-----------|---------|-----------|---------|-----------|-----|-----|
| | Persons | Ratio (%) | Persons | Ratio (%) | Persons | Ratio (%) | | |
| Total | Total | 164 | 3.10 | 221 | 4.0 | 221 | 3.9 | |
| | Gender | Men | 137 | 2.59 | 193 | 3.5 | 202 | 3.5 |
| | | Women | 27 | 0.51 | 28 | 0.5 | 19 | 0.3 |
| Executives | Total | 1 | 0.02 | 3 | 0.1 | 6 | 0.1 | |
| | Gender | Men | 1 | 0.02 | 3 | 0.1 | 6 | 0.1 |
| | | Women | 0 | 0.00 | 0 | 0.0 | 0 | 0.0 |
| General positions | Total | 106 | 2.00 | 113 | 2.0 | 110 | 1.9 | |
| | Gender | Men | 85 | 1.61 | 91 | 1.6 | 95 | 1.7 |
| | | Women | 21 | 0.40 | 22 | 0.4 | 15 | 0.3 |
| Operation positions | Total | 15 | 0.28 | 17 | 0.3 | 17 | 0.3 | |
| | Gender | Men | 10 | 0.19 | 13 | 0.2 | 14 | 0.2 |
| | | Women | 5 | 0.09 | 4 | 0.1 | 3 | 0.1 |
| Experts | Total | 6 | 0.11 | 4 | 0.1 | 6 | 0.1 | |
| | Gender | Men | 5 | 0.09 | 2 | 0.0 | 5 | 0.1 |
| | | Women | 1 | 0.02 | 2 | 0.0 | 1 | 0.0 |
| Specific positions | Total | 36 | 0.68 | 84 | 1.5 | 82 | 1.4 | |
| | Gender | Men | 36 | 0.68 | 84 | 1.5 | 82 | 1.4 |
| | | Women | 0 | 0.00 | 0 | 0.0 | 0 | 0.0 |

*Ratio (%): Calculated based on the present number of people.

Employee Status

| Category | 2018 | | 2019 | | 2020 | | | |
|---------------------------|---------|----------------|---------|-----------|---------|-----------|-------|-------|
| | Persons | Ratio (%) | Persons | Ratio (%) | Persons | Ratio (%) | | |
| Prescribed number | 4,959 | | 5,197 | | 5,419 | | | |
| Total | 5,293 | - | 5,556 | | 5,732 | | | |
| Total | Gender | Men | 4,472 | 84.5 | 4,599 | 82.8 | 4,670 | 81.5 |
| | | Women | 821 | 15.5 | 957 | 17.2 | 1,062 | 18.5 |
| Age | Age | 20s or younger | 930 | 17.6 | 1,097 | 19.7 | 1,241 | 21.7 |
| | | 30s~40s | 2,898 | 54.8 | 2,952 | 53.1 | 2,971 | 51.8 |
| | | 50s or over | 1,465 | 27.7 | 1,507 | 27.1 | 1,520 | 26.5 |
| Executives | Age | Total | 6 | - | 3 | - | 6 | |
| | | 20s or younger | - | 0.0 | - | 0.0 | - | 0.0 |
| | | 30s~40s | - | 0.0 | - | 0.0 | - | 0.0 |
| | Gender | 50s or over | 6 | 100.0 | 3 | 100.0 | 6 | 100.0 |
| | | Men | 6 | 100.0 | 3 | 100.0 | 6 | 100.0 |
| | | Women | - | 0.0 | - | 0.0 | - | 0.0 |
| General positions | Age | Total | 3,953 | - | 4,138 | | 4,275 | |
| | | 20s or younger | 590 | 14.9 | 756 | 18.3 | 889 | 20.8 |
| | | 30s~40s | 2,359 | 59.7 | 2,369 | 57.2 | 2,367 | 55.4 |
| | Gender | 50s or over | 1,004 | 25.4 | 1,013 | 24.5 | 1,019 | 23.8 |
| | | Men | 3,340 | 84.5 | 3,403 | 82.2 | 3,442 | 80.5 |
| | | Women | 613 | 15.5 | 735 | 17.8 | 833 | 19.5 |
| Operation positions | Age | Total | 820 | - | 841 | | 909 | |
| | | 20s or younger | 333 | 40.6 | 321 | 38.2 | 340 | 37.4 |
| | | 30s~40s | 382 | 46.6 | 410 | 48.8 | 438 | 48.2 |
| | Gender | 50s or over | 105 | 12.8 | 110 | 13.1 | 131 | 14.4 |
| | | Men | 645 | 78.7 | 666 | 79.2 | 727 | 80.0 |
| | | Women | 175 | 21.3 | 175 | 20.8 | 182 | 20.0 |
| Experts | Age | Total | 207 | - | 237 | | 235 | |
| | | 20s or younger | 7 | 3.4 | 20 | 8.4 | 12 | 5.1 |
| | | 30s~40s | 150 | 72.5 | 169 | 71.3 | 166 | 70.6 |
| | Gender | 50s or over | 50 | 24.2 | 48 | 20.3 | 57 | 24.3 |
| | | Men | 176 | 85.0 | 194 | 81.9 | 192 | 81.7 |
| | | Women | 31 | 15.0 | 43 | 18.1 | 43 | 18.3 |
| Specific positions | Age | Total | 307 | - | 337 | | 307 | |
| | | 20s or younger | - | 0.0 | - | 0.0 | - | 0.0 |
| | | 30s~40s | 7 | 2.3 | 4 | 1.2 | - | 0.0 |
| | Gender | 50s or over | 300 | 97.7 | 333 | 98.8 | 307 | 100.0 |
| | | Men | 305 | 99.3 | 333 | 98.8 | 303 | 98.7 |
| | | Women | 2 | 0.7 | 4 | 1.2 | 4 | 1.3 |
| Prescribed number | 912 | - | 908 | - | 911 | - | | |
| Current number of people* | Age | Total | 846 | - | 849 | - | 871 | - |
| | | 20s or younger | 70 | 8.3 | 74 | 8.7 | 79 | 9.1 |
| | | 30s~40s | 488 | 57.7 | 501 | 59.0 | 568 | 65.2 |
| | Gender | 50s or over | 288 | 34.0 | 274 | 32.3 | 224 | 25.7 |
| | | Men | 697 | 82.4 | 697 | 82.1 | 712 | 81.7 |
| | | Women | 149 | 17.6 | 152 | 17.9 | 159 | 18.3 |

*Current number of people: based on full-time workers. Includes entrusted business employees, employees on maternity leave and military service leave who are excluded from "ALIO" notification.

Flexible Work Set-up Status

| Category | 2018 | 2019 | 2020 | |
|-----------------------------|-----------------------------|-------|-------|-------|
| Time selective system | Recruitment (persons) | 9 | 0 | 6 |
| | Conversion (persons) | 16 | 32 | 39 |
| Flexible work set-up system | Staggered office hours | 2,427 | 2,656 | - |
| | Flexible work hours | 595 | 2,156 | 3,591 |
| | Intensive work | 10 | 7 | 4 |
| | Discretionary work schedule | 0 | 0 | 0 |
| Remote work system | Work from home | 8 | 15 | 3,532 |
| | Smart work | 3 | 1 | 0 |

*Ratio (%): Calculated based on the current number of people

Education/Training Status

| Category | 2018 | 2019 | 2020 | |
|--|--------------------|--------|--------|------|
| No. of trainees (persons) | 21,131 | 21,700 | 33,686 | |
| Total | 79 | 80 | 75 | |
| Gender | Men | 79 | 80 | 74 |
| | Women | 79 | 80 | 75 |
| Education/ training hours per person (hours) | Executives | 55 | 58 | 28.5 |
| | General positions | 83 | 85 | 90 |
| | Specific positions | 39 | 11 | 7 |
| Educational vestment per person (KRW 1,000) | 1,950 | 1,534 | 685 | |

R&D Achievements

| Category | 2018 | 2019 | 2020 | |
|--------------------------------|-------------------------|------|------|-----|
| Research project (cases) | 101 | 93 | 123 | |
| R&D costs (KRW 100 million) | 128 | 120 | 162 | |
| No. of paper presented (cases) | 363 | 300 | 212 | |
| Total | 250 | 235 | 196 | |
| Research | Bachelor | 29% | 29% | 30% |
| | Master | 36% | 31% | 26% |
| | Ph. D. | 35% | 40% | 44% |
| | General position | 34% | 39% | 37% |
| | Commissioned researcher | 29% | 23% | 25% |
| | Researchers | 37% | 38% | 38% |

Construction Safety Management

| Category | 2018 | 2019 | 2020 |
|---|------|------|------|
| Level of risk management effort (points) | 97.0 | 97.0 | 98.0 |
| Level of efforts to reduce accidents (number of deaths) | 3 | 2 | 0 |

Employee Satisfaction

| Category | 2018 | 2019 | 2020 |
|--|------|------|------|
| Satisfaction with remuneration & welfare (point) | 3.3 | 3.5 | 3.7 |

Labor-Management Relations

| Category | 2018 | 2019 | 2020 |
|--|------|------|------|
| Labor union membership rate (%) | 83 | 83 | 82 |
| No. of labor union disputes (cases) | 0 | 0 | 0 |
| Satisfaction with labor-management relations (%) | 93 | 93.1 | 93.7 |

Workplace Safety

| Category | 2018 | | 2019 | | 2020 | |
|------------------------------|---------|-----------|---------|-----------|---------|-----------|
| | Persons | Ratio (%) | Persons | Ratio (%) | Persons | Ratio (%) |
| Injury | 12 | 0.00 | 9 | 0.00 | 14 | 0.00 |
| Occupational disease/illness | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Industrial accident ratio | 12 | 0.23 | 9 | 0.17 | 14 | 0.08 |
| Prevalence | 588 | 0.1 | 621 | 0.1 | 609 | 0.1 |

※ Ratio (%): Current number of employees vs. total number of employees

Detailed Status of Safety & Health

| Category | | 2018 | 2019 | 2020 |
|---------------------|---------------------------------|------|------|------|
| Industrial accident | Industrial accident rate | 0.23 | 0.17 | 0.22 |
| | No. of accident victims | 12 | 9 | 14 |
| No. of deaths | Employees | 0 | 0 | 0 |
| | Directed managed | 0 | 0 | 0 |
| | Subcontracting | 0 | 0 | 0 |
| | Construction ordered | 3 | 2 | 0 |
| Prevalence | Prevalence | 11.1 | 10.1 | 9.5 |
| | No. of cases of disease/illness | 588 | 621 | 609 |

Win-Win Cooperation Technology Development

| Category | | 2018 | 2019 | 2020 |
|----------|--------------------|------|------|------|
| Patent | Applied (cases) | 31 | 29 | 42 |
| | Registered (cases) | 25 | 35 | 20 |

Social Contribution

| Category | | 2018 | 2019 | 2020 |
|---------------------------------------|--|--------|--------|--------|
| Social contribution activity index | (points) | 87 | 89.7 | 82.65 |
| | No. of participants (persons) | 3,364 | 3,358 | 2,495 |
| | No. of participants (persons, revised) | 3,364 | 3,358 | 2,495 |
| Social contribution(participation) | Ratio compared to current No. of employees (%) | 63.6 | 66.4 | 43.5 |
| | Total participation tally | 33,481 | 32,248 | 20,436 |
| | Participation time per person (initially) | 9.9 | 9.6 | 8.2 |
| | Amount (KRW 100 million) | 658.6 | 696.6 | 738 |
| Social contribution investment volume | Ratio vs. sales (%) | | | |

Purchase Result of SMEs Products

| Category | 2018 | 2019 | 2020 |
|---|---------|-----------|-----------|
| Total purchase amount (KRW million) | 744,371 | 1,517,079 | 1,683,203 |
| Purchase amount of SMEs products (KRW million) | 466,627 | 949,691 | 1,077,890 |
| Ratio (% , purchasing amount of SMEs' products/total purchase amount) | 62.7 | 62.6 | 64.0 |

Purchase Result of Female Enterprises Products

| Category | 2018 | 2019 | 2020 |
|--|---------|-----------|-----------|
| Total purchase amount (KRW million) | 744,371 | 1,517,079 | 1,683,203 |
| Purchase amount of female enterprises products (KRW million) | 35,076 | 64,470 | 100,961 |
| Ratio (% , Purchase amount of female enterprises products/total purchase amount) | 4.7 | 4.3 | 6.0 |

Purchase Result of Social Enterprises Products

| Category | 2018 | 2019 | 2020 |
|--|---------|-----------|-----------|
| Total purchase amount (KRW million) | 744,371 | 1,517,079 | 1,683,203 |
| Purchase amount of social enterprises products (KRW million) | 14,945 | 21,227 | 23,464 |
| Ratio (% , purchase amount of social enterprises products/total purchase amount) | 2.0 | 1.4 | 1.4 |

Purchase Result of Products Made by Seriously Disabled People

| Category | 2018 | 2019 | 2020 |
|--|---------|-----------|-----------|
| Total purchases amount (KRW million) | 744,371 | 1,517,079 | 1,683,203 |
| Purchase amount of products linked to serious disabilities (KRW million) | 4,123 | 9,460 | 11,551 |
| Ratio (% , Purchase amount of products linked to serious disabilities/total purchase amount) | 0.5 | 0.6 | 0.7 |

Welfare Benefit System Status including Flexible Work Set-up System

| 2020 | |
|--|---|
| Expansion of flexible work set-up | - Expanded non-contact remote work transcending time and place due to environmental change including COVID-19 (14 cases in 2019 → 53,058 cases in 2020) - Increase in use due to improvement in level of autonomy of work hours selection system (2,156 people in 2019 → 3,591 people in 2020) |
| Improvement of work-related practices | - Instating total work hours management connected to individual work schedule and PC use time ensures employees' right to rest is guaranteed by granting 1.5 times of compensatory leave. |
| Following childbirth support policy | - (Preparation for pregnancy): Established leave use regulations for challenges of pregnancy and support for any surgeries/medical treatment. - (During pregnancy) Reduced work hours for pregnant women, improvement in fetus examination leave, adjustment of the number of leave due to miscarriage and permission of paternity leave |
| Support for work-family life balance | - Recognized leave of absence from work from the date of leave when an employee uses maternity leave for over one year. - Established family care leave - Enhanced child care leave |
| 2019 | |
| Shaping corporate culture of work-life balance | Instated flexible work set-up system based on tasks |
| Work practices improvement | Labor-management agreement on the adoption of a total work hours management system linked to the work hour selection system, removing tasks with low added value for efficient change in work method, simplification and efficacy of company regulations, standards, and general work through all employees' official duties. |
| Following childbirth support policy | Child delivery leave and maternity leave notice system, workplace daycare center operation (increase prescribed number by converting idle facilities into nursery facilities) |
| Support for work-life balance | Revamped the work hours selection system for work-life balance, implementing a quality of life improvement TF, including improvement in the family-oriented welfare benefit system |

Economic Performance

Summary of Balance Sheet (KRW million)

| Category | 2018 | 2019 | 2020 | |
|-------------|---|------------|------------|------------|
| Assets | Current Assets | 8,208,278 | 8,505,568 | 9,353,516 |
| | Non-current assets | 13,588,480 | 13,749,182 | 13,550,588 |
| | Total | 21,796,758 | 22,254,750 | 22,904,104 |
| Liabilities | Current assets | 2,901,471 | 3,202,178 | 4,109,364 |
| | Non-current assets | 11,108,159 | 10,717,151 | 9,725,574 |
| | Total | 14,009,630 | 13,919,329 | 13,834,938 |
| Capital | Capital | 8,486,338 | 8,900,966 | 9,349,188 |
| | Others | △740,756 | △614,136 | △314,209 |
| | Equity attributable to owners of the parent company | 7,745,582 | 8,286,830 | 9,034,979 |
| | Non-controlling interest | 41,546 | 48,591 | 34,187 |
| | Total | 7,787,128 | 8,335,421 | 9,069,166 |

Summary of Consolidated Income Statement (KRW million)

| Category | 2018 | 2019 | 2020 |
|--|-----------|-----------|-----------|
| Revenue (sales) | 3,391,568 | 2,971,690 | 3,751,754 |
| Cost of sales | 2,745,361 | 2,436,367 | 2,990,048 |
| Selling and administrative expenses | 170,185 | 206,574 | 212,278 |
| Operating profit | 476,022 | 328,749 | 549,428 |
| Other income | 140,705 | 40,729 | 45,143 |
| Other expenses | 20,146 | 75,336 | 42,565 |
| Other gains (losses) | 441 | 289 | 1,880 |
| Financial income | 64,617 | 149,240 | 123,720 |
| Financial cost | 380,958 | 333,777 | 303,803 |
| Profits (loss) related to equity method-targeted affiliates | △7,141 | △6,197 | △7,558 |
| Net profit before corporate tax deduction | 273,540 | 103,697 | 366,245 |
| Corporate tax expenses | 33,366 | △26,877 | 47,604 |
| Net profit | 240,174 | 130,574 | 318,641 |
| Other comprehensive income | △31,259 | 646 | △30,957 |
| Total comprehensive income | 208,915 | 131,220 | 287,684 |
| Net profit attributable to owners of the parent company | 240,449 | 128,240 | 321,634 |
| Net profit (loss) during the term attributable to non-controlling interest | △275 | 2,334 | △2,993 |

Board Operation Status

| Category | Unit | 2017 | 2018 | 2019 | 2020 |
|--|------------------------------|------|-------|------|-------|
| No. of held board meeting | Times | 15 | 16 | 13 | 17 |
| Total No. of agendas | Cases | 47 | 53 | 38 | 44 |
| No. of agendas | No. of resolutions/reporting | 30/9 | 32/12 | 21/8 | 32/12 |
| | No. of special reporting | 8 | 9 | 9 | 5 |
| Pre-deliberation ratio | % | 97.1 | 100 | 100 | 100 |
| Non-executive directors' proposal for management | Cases | 68 | 76 | 49 | 68 |
| Attendance rate to the Board | % | 90.2 | 92.4 | 89.1 | 95 |
| Non-executive directors' participation rate | % | 87.5 | 90.4 | 88.5 | 93 |

Directors' Remuneration Status (data as of March 2021)

| Category | Unit | 2017 | 2018 | 2019 | 2020 |
|-------------------------------------|-------------|-------|-------|-------|-------|
| Executive auditor | KRW million | 153.4 | 165.3 | 173.9 | 167.6 |
| Executive director | KRW million | 147.3 | 159.1 | 172.7 | 157.8 |
| Non-executive director | KRW million | 29.1 | 29.2 | 29.7 | 30.0 |
| Max. remuneration (A) | KRW million | 197.9 | 214.4 | 234.7 | 211.9 |
| Employee's average remuneration (B) | KRW million | 73 | 76 | 78.8 | 81.6 |
| Compensation rate (A/B) | % | 2.71 | 2.82 | 2.98 | 2.59 |

Sales by Business

| Sector | 2018 | 2019 | 2020 |
|--|-----------|-----------|-----------|
| Water resource management (IWRM, water resource) | 715,607 | 869,312 | 509,514 |
| Tap water production (healthy water) | 1,327,239 | 1,338,603 | 1,345,043 |
| Waterside city development | 572,864 | 265,562 | 757,146 |
| Clean energy production | 270,073 | 246,942 | 244,927 |
| Overseas business | 9,064 | 7,887 | 7,825 |

Third-Party Assurance Statement

To the Readers of the K-water 2021 Sustainability Report

Foreword

The Korea Management Register (KMR) was asked to provide independent assurance of the K-water 2021 Sustainability Report (the "Report") by K-water. The responsibility to draw up this report lies with K-water's top management. The responsibility of KMR is to issue an assurance statement on the specific data and information in the scope specified below.

Assurance Scope and Standards

K-water describes performance and activities related to sustainability in this report. The Assurance Team has applied AA1000AS (2008), an international assurance standard, and KMR Global Management Committee's SRV1000 Sustainability Report assurance standards and has performed type 2 moderate level assurance. Our Assurance Team has evaluated the status of compliance with inclusivity, materiality, and responsiveness as well as reliability of the data and information on the GRI indicators below in the report. For materiality standards, the professional judgment of the Assurance Team has been applied.

- GRI Standards Reporting Principle
- Universal Standards
- Topic-Specific Standards

- Management Approach
- Economic Performance: 201-1, 201-2, 201-3
- Market Presence: 202-2
- Indirect Economic Impacts: 203-1, 203-2
- Procurement Practices: 204-1
- Anti-Corruption: 205-1, 205-2, 205-3
- Anti-Competitive Behavior: 206-1
- Materials: 301-1
- Energy: 302-1, 302-4, 302-5
- Water and Effluents: 303-1

- GHG Emissions: 305-1, 305-2
- Environmental Compliance: 307-1
- Employment: 401-1, 401-2, 401-3
- Labor-Management Relations: 402-1
- Occupational Health and Safety: 403-2
- Training and Education: 404-1, 404-2, 404-3
- Diversity and Equal Opportunity: 405-1, 405-2
- Non-discrimination: 406-1
- Child Labor: 408-1
- Forced or Compulsory Labor: 409-1
- Human Rights Assessment: 412-1, 412-2
- Local Communities: 413-1, 413-2
- Public Policy: 415-1
- Marketing and Labeling: 417-1, 417-2, 417-3
- Customer Privacy: 418-1
- Socioeconomic Compliance: 419-1

We have excluded external organizations, namely K-water's partnering firms and contractors, in the reporting boundaries.

Assurance Procedures

The Assurance Team of KMR has set the following procedures to assure the agreed-upon assurance scope under the aforesaid assurance standards:

- Overall review of the details of the report
- Review of importance assessment procedures and methods
- Review of sustainability management strategies and goals
- Review of stakeholders' participation activities
- Interviews with responsible persons in drawing up the report

Assurance Results and Opinions

The Assurance Team discussed the report revision several times based on document reviews and interview results and reviewed the final judgment of the report to check the reflection of revisions and recommended improvements. As a result of the assurance, we did not find any inadequate part in relation to compliance with the principles presented below in K-water's Sustainability Report. Neither have we found any evidence that the aforementioned data included in the assurance scope is not properly described.

- Inclusivity

Inclusivity refers to making stakeholders participate in the process of developing and achieving responsible and strategic response measures for sustainability. K-water is developing and maintaining stakeholder communication channels of various types and levels to pledge and practice responsibility for stakeholders' organizations. The Assurance Team did not find any important stakeholder group omitted in the process.

- Materiality

Materiality is to judge the relevance and importance of an issue to organizations and stakeholders. In this context, material issues refer to those that can affect the decision making, behaviors, and performance of organizations and stakeholders. K-water decides the materiality of the issues identified through the stakeholder communication channels with its unique importance assessment process. The Assurance Team has not found any material issue omitted in the process.

- Responsiveness

Responsiveness means the organizational response to stakeholder issues affecting the organization's sustainable performance, and it is realized through organizational decision making, activities, and performance as well as communication with stakeholders. Our Assurance Team did not find any evidence that K-water's response activities have not been properly written in the report.

The Assurance Team did not find any evidence that K-water did not comply with the requirements of core options in the GRI standards in the report.

Suggestions for Improvement

KMR recommends the following for continuous improvement, expecting that the report can be actively used as a means of stakeholder communication:

K-water has reconstituted topics drawn through importance assessment into four categories and has reported these in Q&A format for easy understanding by the readers, which stands out. We recommend establishing key performance indicators depending on mid- and long-term strategies to systematically propel the sustainability management and enhancing organizational sustainability with continuous efforts.

Independence of Assurance

KMR neither has interest in nor profits from K-water's business activities, maintaining independence as a business providing third-party assurance service.

November 17, 2021



CEO

황인규

GRI Standards Index

| Topic | Disclosure | | ISO 26000 | Verification | |
|------------------------|--------------------|---|--|-------------------|--------------------|
| | | | | Page | Omissions/Comments |
| Organizational Profile | 102-1 | Name of the organization | 6.3.10/ 6.4.1-6.4.2/ 6.4.3/ 6.4.4/ 6.4.5/ 6.8.5/ 7.8 | 12 | v |
| | 102-2 | Activities, brands, products, and services | | 12 | v |
| | 102-3 | Location of headquarters | | 12 | v |
| | 102-4 | Location of operations | | 16-17 | v |
| | 102-5 | Ownership and legal form | | 12 | v |
| | 102-6 | Markets served | | 12 | v |
| | 102-7 | Scale of the organization | | 12 | v |
| | 102-8 | Information on employees and other workers | | 97-98 | v |
| | 102-9 | Supply chain | | 68-69 | v |
| | 102-10 | Significant changes to the organization and its supply chain | | 68-69 | v |
| | 102-11 | Precautionary principle or approach | | 86-87 | v |
| | 102-12 | External initiatives | | 110-111, 118 | v |
| | 102-13 | Memberships in associations | | 118 | v |
| Strategy | 102-14 | Statement from a senior decision maker | 4.7/6.2/7.4.2 | 4-5 | v |
| Ethics and Integrity | 102-16 | Values, principles, standards, and norms of behavior | 4.4/6.6.3 | 112-113 | v |
| Governance | 102-18 | Governance structure | 6.2/7.4.3/7.7.5 | 24-26 | v |
| Stakeholder Engagement | 102-40 | List of stakeholder groups | 5.3 | 27-29 | v |
| | 102-41 | Collective bargaining agreements | | 99-100 | v |
| | 102-42 | Identifying and selecting stakeholders | | 28-31 | v |
| | 102-43 | Approach to stakeholder engagement | | 28-31 | v |
| | 102-44 | Key topics and concerns raised | | 28-31 | v |
| Reporting Practices | 102-45 | Entities included in the consolidated financial statements | 5.2/7.3.2/ 7.3.3/7.3.4 | 12 | v |
| | 102-46 | Defining the report content and topic boundaries | | 32-33 | v |
| | 102-47 | List of material topics | | 32-33 | v |
| | 102-48 | Restatements of information | | - | No major change |
| | 102-49 | Changes in reporting | | About This Report | v |
| | 102-50 | Reporting period | | About This Report | v |
| | 102-51 | Date of the most recent report | | About This Report | v |
| | 102-52 | Reporting cycle | | About This Report | v |
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| Anti-corruption | 103 | Management approach | 6.6.1-6.6.2/6.6.3 | 32-33 | v |
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| Supplier Network Management | 103 | Management approach | 6.4.3/6.6.6/ 6.8.1-6.8.2/6.8.7 | 32-33 | v |
| | 414-1 | New partner firms screened through social impact evaluation | | 67-69 | v |
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| | 416-1 | Evaluation of health and safety impacts of products and services | | 81-86 | v |
| Marketing and Labeling | 103 | Management approach | 6.7.1-6.7.2/ 6.7.3/6.7.4/ 6.7.5/6.7.9 | 32-33 | v |
| | 417-2 | Cases of violating laws, regulations, self-regulations on product and service information and labeling | | - | No violations |
| | 417-3 | Violations of regulations on marketing communication | | - | No violations |

ISO 26000 Implementation Level Diagnosis

Diagnosis Results of Level of K-water's ISO 26000 Implementation

To K-water management and stakeholders

Diagnosis Standards

iMSR performed "ISO 26000 Implementation Level Diagnosis under ISO 26000, an international standard of social responsibility. The ISO 26000 implementation level diagnosis includes performance diagnosis on the social responsibility implementation process and seven core topics (organizational governance, human rights, environment, labor practices, fair operation practices, consumer issues, local communities' participation and development). iMSR has diagnosed the level of K-water's social responsibility implementation in accordance with the ISO 26000 checklist.

Diagnosis Scope

iMSR has performed diagnosis on the overall internal and external activities, mid- and long-term strategies, social responsibility activities, and sustainable management strategy implementation process of K-water. The diagnosis results have been evaluated through review on the internal documents on the relevant policy and activities, performance data, and calculation system.

Diagnosis Method

iMSR carried out the following activities for the collection of related grounds and diagnosis based on objective diagnosis standards, centered on each department in relation to the publication of the Sustainability Report:

- Review of internal data/materials on K-water's sustainability activities and achievements
- Interviews with the staff in charge on K-water's sustainability management issue

Diagnosis Result

K-water scored 930 points out of the highest possible score of 1,000 as the diagnosis result, so we have confirmed that K-water corresponds to the ISO 26000 social responsibility implementation IV stage. This means that the organizational members' recognition level with regard to social responsibility implementation is high, and that the operation systems, policies, and practices of the organization are organized and maintained.

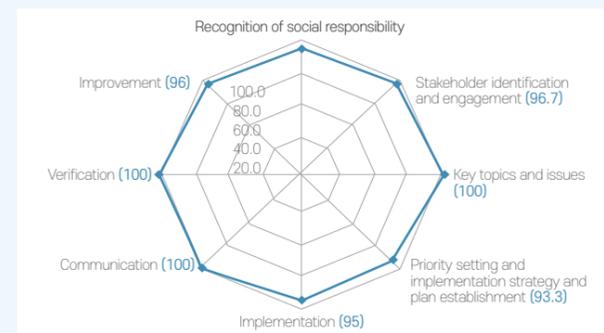
| Key Topic | Allocated Score | Diagnosed Score |
|-------------|-----------------|-----------------|
| Process | 360 | 348 |
| Performance | 640 | 579 |
| Total | 1,000 | 927 |

I. Social responsibility process diagnosis: 348 out of 360 points

K-water is realizing its organizational commitment to sustainability management through its mission of "Future opened by water, happiness shared by water" and its vision of "World's top comprehensive water platform company." Centered on the Management & Innovation Services Dept., a department in charge of sustainability management, K-water has reinforced implementation capabilities for social responsibility through 10 sustainability management promotion subcommittees and operations of various committees.

We recommend that K-water equip itself with a system integrating sustainability and social responsibility with the management strategy system and process and establish a sustainability management performance management system including the seven key topics of ISO 26000.

Process Diagnosis Results



II. Diagnosis of seven key topics: 579 out of 640 points

K-water's implementation of expectations of the seven key topics of ISO 26000 is at the excellent level. Specifically, K-water's implementation of human rights, labor practices, and fair operation practices was assessed to be at the excellent level.

Diagnosis Results by Key Topic



III. Recommended Improvements by Sector

The recommended improvements according to diagnosis result by topic are as follows:

① Organizational Governance

K-water is supporting decision making on the key issues by operating subcommittees within the board of directors, and it has been strengthening competencies by appointing experts in various fields as non-executive directors. We recommend externally disclosing the resolutions of the ESG Management Committee within the board so that decisions on social responsibility can be made by the top decision-making body.

② Human Rights

K-water stipulated respect for human rights, equal employment, and prohibition of discrimination in its HR regulations and code of ethics, and its human rights-related grievances handling system was assessed to be systematized. We recommend constructing a company-wide human rights management system and expanding the due diligence of human rights of partner firms and affiliates.

③ Labor Practices

K-water's efforts to establish safe working conditions and balance work and life for employees appear to be outstanding, with K-water having achieved the adoption of labor director system with active communication between labor and management. We recommend shaping a stable working environment and enhancing the professionalism of employees to overcome their instability and anxiety due to frequent HR system change.

④ Environment

K-water is contributing to climate change response and GHG emissions reduction through comprehensive water platform operations. Its efforts to improve public safety through dam management and adopt renewable energy are assessed to be excellent. From the long-term perspective, K-water needs to strengthen its environmental management including soil, waste, noise, and vibration beyond mere compliance with laws and regulations.

⑤ Fair operation practices

K-water has reinforced efforts for SMEs support and win-win cooperation by expanding win-win management, and its anti-corruption policy and system are systematically established. We recommend activating the anonymous reporting channel wherein the identification of the reporting person (whistleblower) is fundamentally blocked and consolidating punishment standards on negligence of duties and irregular activities.

⑥ Consumer Issues

K-water has achieved an unprecedented level of customer satisfaction by continuously promoting customer service innovation, enhancing user convenience, and considering the underprivileged people through the expansion of disclosure of data to the public and resolving blind spots in water welfare. However, there is a need to prepare fully for the construction of a thorough safety system, centered on preventive measures against accidents that occur often, even with the continuous reinforcement of safety management.

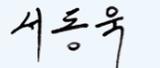
⑦ Local Community Participation and Development

K-water is conducting diverse activities for local communities including tap water price unification without discriminating by region and social safety net construction using smart metering. K-water's active practice of social contribution such as shaping eco-villages along with local residents and expansion of waterside healing spaces nationwide has been evaluated as excellent. We recommend intensifying co-social contribution activities of labor-management and continuously consolidating professional and systematic social contribution using a nationwide network.

Conclusion of Diagnosis

K-water was evaluated as falling under the SR IV stage by scoring 927 out of 1,000 points as the diagnosis result of response to ISO 26000. K-water is in the stage wherein social responsibility activities are expanded to all stages of the organization, and its implementation of human rights and labor practices was outstanding. We expect K-water to increase people's tap water use convenience persistently as a comprehensive water platform company, ensure top-level water resource safety, and position itself as a corporation that is trusted and influenced by stakeholders.

November 26, 2021

iMSR CEO Seo Dong-Wook 

SASB Index

Sustainability Disclosure Topics & Accounting Metrics

| Category | Metrics | Unit | |
|--|--------------|--|------------------------|
| Energy Management | Quantitative | Total energy consumed, percentage grid electricity, percentage renewable | TJ, % |
| | Quantitative | Number of incidents of noncompliance with water effluent quality permits, standards, and regulations | Cases |
| Effluent Quality Management | Qualitative | Discussion of strategies to manage effluents of emerging concern | - |
| | Quantitative | Development amount of alternative water resources (seawater desalination, groundwater reservoir, etc.) | People, m ³ |
| Water Scarcity | Quantitative | Amount of sewage reuse (reproduction of sewage into industrial water) | m ³ |
| | Qualitative | Discussion of management of risks associated with the quality and availability of water resources | - |
| Quality of Drinking Water | Quantitative | Achievement rate of global water quality standard | % |
| | Qualitative | Discussion of strategies to manage drinking water contaminants of emerging concern | - |
| Fair Pricing and Access | Quantitative | Customer satisfaction (large-area waterworks, local waterworks) | Points |
| | Qualitative | Discussion of how considerations of fair pricing and access are integrated into determinations of rate structures | - |
| End-use Efficiency | Quantitative | Implementation of services to improve market confidence | Cases |
| Distribution Network Efficiency | Quantitative | Water pipe replacement | km |
| | Quantitative | Volume of non-revenue real water losses | % |
| Network Resiliency & Impacts of Climate Change | Quantitative | Water purification capacity located in FEMA Special Flood Hazard Areas or other equivalent areas (per day) | People |
| | Quantitative | Volume of sanitary sewer overflows (SSO), percentage recovered | - |
| | Quantitative | (1) Pipeline accident rate (2) Affected population (3) Affected time | Cases, People |
| | Qualitative | Discussion of efforts to identify and manage risks and opportunities related to the impact of climate change on the distribution network | - |

| K-water Response Performance |
|--|
| (1) 15,069TJ (2) K-water renewable energy generation facilities account for 7% of national renewable energy generation facilities (Ratio of renewable energy generation facilities compared to the nation's total electric power facilities: 12.8%) (3) Renewable energy ratio: 100% |
| Zero case |
| Managing pollutants is an ongoing business challenge, and pollutants today are seen as a potential risk factor to be addressed in order to communicate well with customers. K-water is striving to comply with the effluent water quality standards and minimize pollutant emissions in accordance with enhanced water quality standards by establishing and implementing a comprehensive improvement plan for the operation and management of discharged water treatment facilities and preemptively respond to government policy while securing the stability of its operations. In addition, we are contributing to the establishment of a virtuous cycle of resources by recycling 100% of the sludge generated by the water treatment process. |
| Improved the living conditions of residents by providing stable water supply (1,310m ³ /day) to 9,026 residents of three islands. |
| 42 million m ³ |
| For the better quality of water resources and efficient use of customers, K-water is enhancing quality through the improvement of water purification plants by automating the operation of the water treatment process using the technologies of the fourth industrial revolution. In addition, we aim to secure advanced smart technologies for effective water management including tap water quality and safety by replacing aged pipelines throughout the entire water supply process. In addition, we have been making efforts to establish a sanitary tap water production base and improve tap water reliability by establishing a hygiene and safety management system for the production and supply of tap water and pursuing a food safety management (ISO 22000) certification to transform the paradigm of water quality management. |
| Achievement rate of global water quality standards: 99.99% * Global water quality standards: the most difficult to achieve among the drinking water quality standards of major WHO, EU, and OECD countries |
| K-water has established a crisis response system and a risk phase-specific emergency operation facility for water quality abnormalities and pollution caused by any threats or input of harmful substances into the water supply source, contamination of water intake source via the introduction of pollutants, or natural phenomena such as floods, abnormal algae, and red green algae. Through this, we are aiming to minimize damage and inconvenience to residents through prompt and accurate response and recovery in accordance with the establishment of a pre-service system in case of pollution outbreak in the water supply sources. Although the red water crisis in Incheon in 2019 was outside of its jurisdiction, K-water tried to lead the normalization of water quality by mobilizing water experts and investing heavily in technical equipment and materials in consideration of the health and safety of the public. |
| Customer satisfaction with Large-area Waterworks 94.2 points, customer satisfaction with local waterworks 82.3 points |
| K-water supplies raw water to local governments, tap water to costumers, industrial water, and in some cases, ultra-pure water for manufacturing. K-water has set up a rate structure in accordance with the 「Public Utilities Tariff Standard」 and 「Guidelines for Tap Water Tariff Calculation」, and it has been undergoing deliberation by the "Water Price Deliberation Committee," which includes local government consumers and industry representatives, to determine fair charges. Large-area waterworks has a two-sided fee structure consisting of basic and usage fee, and the ratio of the basic to the usage fee is 3:7. K-water recovers the investment costs for continuous water supply through the basic fee, manages water demand with the usage fee, and induces customers to use water fairly. |
| Tap water safety checking service - 398,000 cases executed |
| Replacement of worn-out pipelines (13.2km, cumulative 318.0km) and installation of multiple water supply networks (27.7km, cumulative 167.6km) |
| Large-area waterworks pipeline flow rate: 100%, local waterworks pipeline flow rate: 84.3% |
| Direct supply of large-area waterworks to 110,000 people in unserved areas where it is difficult to connect to local water supply (17 cities and counties) |
| Not applicable |
| (1) Pipeline accident rate 0.45 / 100km (25 cases in all)_No outage (2) Affected population: 0 (3) Affected time: 0 |
| K-water aims to manage risks systematically by actively responding to disasters caused by climate change such as floods and droughts. We plan to establish and upgrade the flood response system to implement a preemptive flood response system and to build an integrated flood management system for nationwide expansion. In addition, we will reinforce prevention-centered drought management through region-specific measures such as establishing people-centered drought response system and strategies. |

Code of Ethics; Quality, Environmental, and Green Management Policy; Customer Charter Statement; Human Rights-Centered Management Statement

Code of Ethics

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

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

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

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

As part of the local community, we respect the traditions and cultures of the community and enrich the lives of local residents by contributing to the development of the local community.

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

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

We develop partnerships between labor and management based on mutual trust and harmony, promoting mutual prosperity.

Quality, Environmental, and Green Management Policy

We fully understand that it is high time to make all-out efforts for the promotion of sustainable development harmonized with the environment to create and maintain a pleasant, livable environment for all. Therefore, in order to enhance the public values of K-water so that all citizens lead a happy life thanks to water, and to solve global water problems in the era of climate change, we declare our Quality, Environmental, and Green Management Policy as follows, based on the strong will of all the executives and employees to put it into action:

We all take the initiative in preserving clean water and air as well as a livable natural environment.

In establishing and implementing plans related to quality, environmental, and green management, we enhance the reliability of K-water and the transparency of our business by collecting extensive opinions from the public and disclosing information and data.

We take the lead in pollution prevention, climate change mitigation and adaptation, and biodiversity and ecosystem protection throughout the entire process of our businesses including water resources development and management and water supply.

We faithfully fulfill our obligations as required in the practice of quality, environmental, and green management and achieve continuous improvements by enhancing our performance.

In implementing this policy, we, the executives and employees of K-water, will assume responsibility for the water welfare of the people by pursuing mutual prosperity and do our utmost to achieve sustainable growth.

Customer Charter Statement

K-water will make its best efforts to put customer value first, communicate with customers, and reinvent services together to realize national happiness and become a trusted public corporation.

We will provide the world's best water management services safely and equally.

We will provide a pleasant environment and contribute to the preservation of ecosystems by practicing environmental management.

We will practice ethical management to secure management transparency and contribute to establishing fair competition.

We will expand mutual prosperity & cooperation to foster the water industry and contribute to the vitalization of local communities.

Human Rights-Centered Management Statement of K-water

In order to fulfill our goal of "Opening the Future and Providing Happiness by Sharing Water," we will actively practice human rights-centered management emphasizing and protecting human dignity and values in all our business activities and pursue the actualization of social values and achievement of sustainable development. For this, we support and resolve to practice human rights-centered management in accordance with the following criteria for our actions and value judgment that all executives and employees should abide by:

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

We do not discriminate against any stakeholder including executives and employees on the basis of race, religion, disability, sexual orientation, place of birth, educational attainment, age, or political beliefs.

We are committed to the protection and promotion of human rights of executives and employees, and we guarantee the freedom of association and collective bargaining.

We neither use any form of forced labor in employment nor allow child labor.

We guarantee workers' safety and health rights by providing a safe, hygienic working environment.

We respect and protect the human rights of local residents in areas where we carry out our businesses.

We comply with domestic and international environmental laws and regulations and practice environmental justice to prevent any environmental problems from occurring.

We strive for mutual growth with our partner companies, support their practice of human rights-centered management, and cooperate with them in such.

We do our best to provide our customers with the best water services and to protect their human rights.

We take prompt and appropriate actions on any human rights violations that arise from our business activities and actively work to prevent such violations in advance.

* The Code of Ethics, Quality, Environmental, and Green Management Policy, Customer Charter Statement, and Human Rights-Centered Management Statement of K-water can be found on its website (www.kwater.or.kr).

Climate Crisis Management Declaration



Climate Crisis Management Declaration

K-water recognizes that climate change is a crisis that can no longer be ignored; thus, it will lead by example in overcoming the crisis. We will lead the green transformation in the public sector, starting with small habits in our daily lives such as using temperature controls and minimizing disposable items.

K-water will intelligently adapt itself to the climate crisis. We will increase our response capabilities to ensure public safety from water disasters such as droughts and floods. In addition, we will create a water system that people can use with confidence through the improvement of both aquatic ecology and water quality.

K-water will work with local communities to overcome the climate crisis. We will become a reliable partner in the green transformation of our society by integrating climate crisis management activities such as green remodeling, with social contributions.

K-water will mitigate the climate crisis through carbon-neutral water management and clean water energy. We will establish a low-energy tap water supply system, achieve carbon neutrality for multi-region water purification plants in 2030, expand eco-friendly water energy such as floating solar power and hydrothermal power, and participate in the RE100 for the first time as a public institution.

As Korea's leading water management organization, K-water will actively respond to the climate crisis. With the climate crisis as a top priority, we will strive to create climate change response results that can be more practical for and felt by the public.

K-water will turn the climate crisis into a new opportunity. We will establish a water cycle city model that is resilient to the climate crisis and supportive of our water companies' growth with technology to respond to the climate crisis. In addition, we will actively seek the overseas expansion of climate crisis solutions based on our global network in connection with AWC.

K-water will focus its capabilities to protect the public from climate crisis, facilitate a sustainable water environment, and create new growth engines.

Through this, K-water will lead Korean society's green transformation to national carbon neutrality by 2050. Furthermore, we will become a steppingstone for people all over the world to escape the climate crisis as well as coexist and co-prosper with nature.

Going forward, K-water declares that it actively promotes climate crisis management with the unified mind of its employees.

November 16, 2020

November 16, 2020

K-water
CEO Park Jae-Hyeon

K-water Labor Union
Chairperson Noh Cheol-Min




ESG Management Declaration

ESG Management Declaration of K-water

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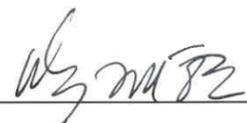
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November 16, 2020

November 16, 2020

K-water
CEO Park Jae-Hyeon

K-water Labor Union
Chairperson Noh Cheol-Min




Support for the UN Global Compact's 10 Principles



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

- Universal Declaration of Human Rights
- International Labor Organization's Declaration on the Fundamental Principles and Rights at Work
- Rio Declaration on Environment and Development
- 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, environment, and anti-corruption.

Human Right

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

Labor

- Principle 3. Businesses should uphold the freedom of association and effective recognition of the right to collective bargaining.
- Principle 4. Elimination of all forms of forced and compulsory labor.
- Principle 5. Effective abolition of child labor.
- Principle 6. Elimination of discrimination with respect to employment and occupation.

Environment

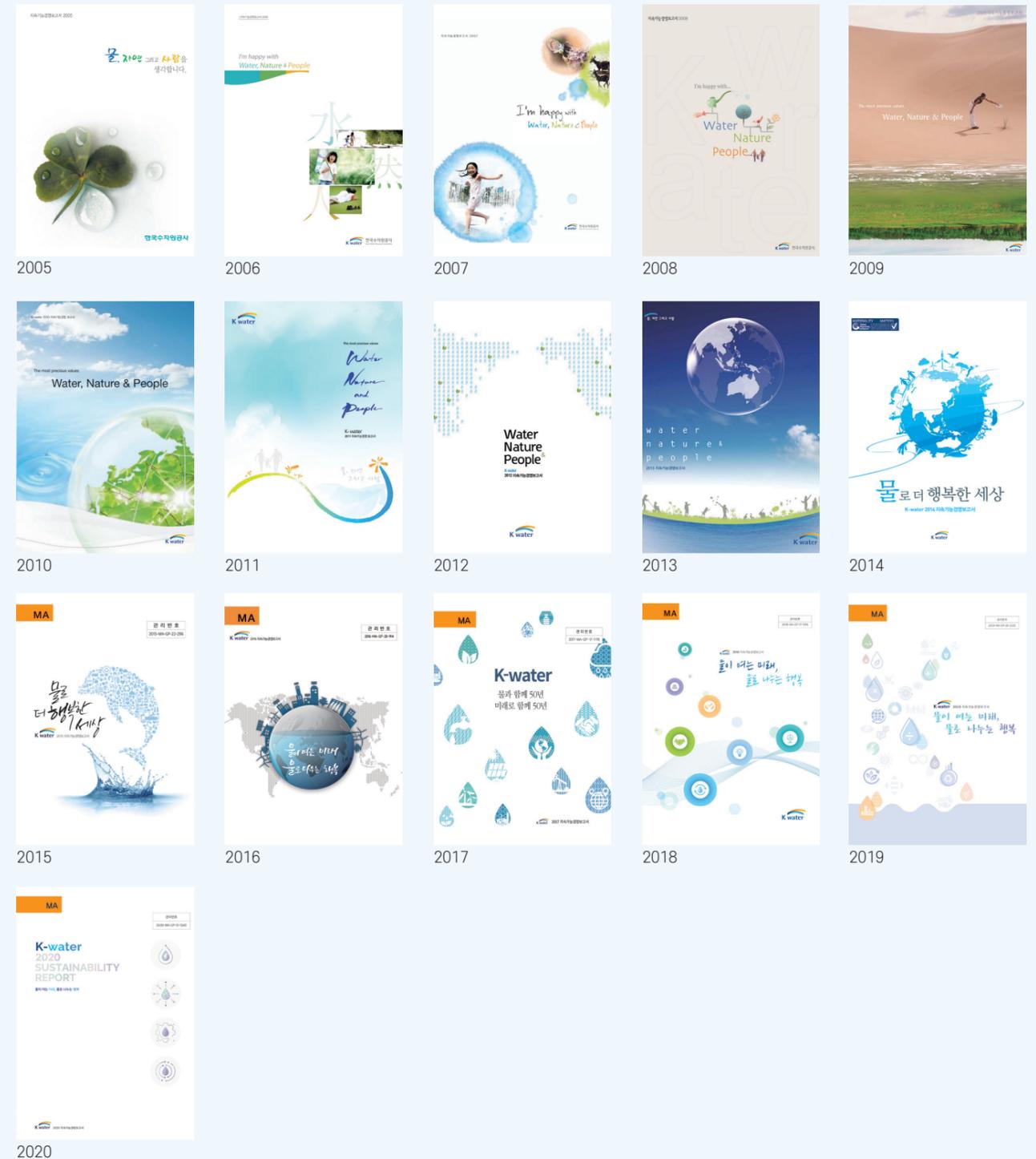
- Principle 7. Businesses should support a precautionary approach to environmental challenges.
- Principle 8. Undertake initiatives to promote greater environmental responsibility.
- Principle 9. Encourage the development and dissemination of environment-friendly technologies.

Anti-corruption

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

K-water practices and complies with the 10 principles of the UN Global Compact.

Previous Sustainable Reports



Memberships and Awards

Memberships

| | |
|------|---|
| 1971 | Association of Great Dams |
| 1974 | Korean Society of Civil Engineers |
| 1976 | Korea Electric Association, International Contractors Association of Korea |
| 1993 | Korea Water Resources Association |
| 1995 | Korean Society Of Environmental Impact Assessment |
| 1996 | Korean Federation of Water Science and Engineering Societies, Korean Institute of Landscape Architecture |
| 1997 | Korea Electric Engineers Association |
| 1999 | Korea Disaster Prevention Association |
| 2001 | Korea New & Renewable Energy Association |
| 2002 | Korea Water and Wastewater Works Association |
| 2003 | Korean Society on Water Environment |
| 2005 | Korea Engineering & Consulting Association |
| 2006 | Ethical Management Forum, River Association, Korea Society for Environmental Analysis |
| 2007 | Korea Society of Environmental Restoration Technology, American Water Works Association, International Water Association, UN Global Compact |
| 2008 | Korean Society of Environmental Engineers, Membrane Society of Korea, Korean Society of Environment and Ecology |
| 2010 | Korean National Committee on Irrigation and Drainage, Korean Society for Fluid Machinery |
| 2011 | Society of Air-conditioning Refrigerating Engineers of Korea |
| 2012 | Korea Environmental Policy and Administration Society |
| 2013 | Architectural Institute of Korea |
| 2014 | Korea Society of Mechanical Engineers, Korean Society of Climate Change Research, Korea Photovoltaic Industry Association, Korea Society of Quality Management, International Hydropower Association, Korea Association of Conflict Studies |
| 2015 | Korean Society of Ecology and Infrastructure, Korea Society of Hazard Mitigation |
| 2016 | Asia Water Council, International Water Resources Association |
| 2017 | Society of Korea Industrial and Systems Engineering, Korean Society of Public Enterprise |
| 2019 | Korean Solar Energy Society, Korean Society of Safety |
| 2020 | Korean Society For Quality Management, Korean Association For Public Administration, Korean Society of Civil Engineers, Korean Society Of Soil and Groundwater Environment |

Awards

| | |
|----------|--|
| 2008. 04 | Korea Management Innovation Grand Prize (Awarded by Ministry of Knowledge Economy and Maeil Business Newspaper) |
| 2008. 10 | Korea Social Contribution Grand Award (Korea Journalist Forum), Sustainable Management Top Award (Ministry of Knowledge Economy and Korea Chamber of Commerce and Industry), Korea co-Friendly Company Grand Award (Ministry of Environment), Asian Most Admired Knowledge Enterprise (UK Teleos) |
| 2009. 01 | Continuity & Creation Management Award in Environmental Management (Korean Ministry of Knowledge Economy and UN Global Compact) |
| 2009. 10 | Low Carbon Green Growth Commendation (Green Growth Association and Korean Ministry of Environment), New Regeneration Energy Awards Prime Minister Commendation (Ministry of Knowledge National Green Technology Grand Award (Korean Ministry of Knowledge Economy and Korean Ministry of Education) |
| 2010. 12 | Korea Green Management Award (Ministry of Knowledge Economy and Korean Ministry of Environment), Eco-Star Eco-Technology Award in Water Pipeline (Korean Ministry of Environment) |
| 2011. 06 | First Korean public company to be awarded the Excellent Smart Work Agency Award (Ministry of Public Administration and Security) |
| 2012. 01 | Korea Social Contribution Grand Award (Korea Journalist Forum), Sustainable Management Top Award (Ministry of Knowledge Economy and Korea Chamber of Commerce and Industry), Korea co-Friendly Company Grand Award (Ministry of Environment), Asian Most Admired Knowledge Enterprise (UK Teleos) |
| 2012. 02 | Most Admired Company in Korea (KMAC) |
| 2012. 06 | Environmental Impact Management Grand Prize (Korean Ministry of Environment), Excellent Global Social Contribution Agency Commendation (Ministry of Health and Welfare), Selected as an excellent company with outstanding performance in Labor and Management Relations (Korean Ministry of Employment and Labor) |
| 2012. 07 | Korea Digital Innovation Award Grand Prize in the Public Sector (Ministry of Knowledge Economy) |
| 2012. 09 | Presidential citation for outstanding performance in purchasing goods from SMEs (Small and Medium Business Administration of Korea) |
| 2012. 10 | Family-Friendly Enterprise (Korean Ministry of Gender Equality and Family), Selected as one of the Best Companies to Work For (GWP Korea), Asian Most Admired Knowledge Enterprise (UK Teleos) |
| 2012. 11 | Sustainability Grand Awards Innovation Management Award (Ministry of Knowledge Economy) |
| 2012. 12 | Public Company Management Award Grand Prize (Sisa Journal) |
| 2013. 07 | Korean Digital Green Management Award (Ministry of Science, ICT and Future Planning) |

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| 2013. 10 | Korea Green Architecture Competition Award of Excellence (Presidential Committee on Architecture Policy), Commendation in recognition of contribution to renewable energy supply obligation system (Korean Ministry of Trade, Industry and Energy) |
| 2013. 11 | Natural Environment Grand Award (Korean Ministry of Environment), Asian Most Admired Knowledge Enterprise (UK Teleos) |
| 2013. 12 | Global Most Admired Knowledge Enterprise (UK Teleos) |
| 2014. 02 | Most Admired Company in Korea (KMAC) |
| 2014. 06 | Top Prize in Water Business Assessment (Ministry of Environment) |
| 2014. 08 | Korean Digital Award (Ministry of Science, ICT and Future Planning), Achieved Carbon Trust Standard (UK Carbon Trust) |
| 2014. 11 | Ranked as one of the top Best Korean Companies to Work For (GWP Korea), Outstanding Agency in Anti-Disaster Drilling Assessment (National Emergency Management Agency), Korea Quality Management Enterprise Presidential Citation (Ministry of Trade, Industry & Energy), Advanced Public Enterprise in Shared Growth Prime Minister Award (Ministry of Public Administration and Security) |
| 2014. 12 | Sustainable Science Award in Environment (Society of Sustainable Science), Korea Volunteer Work Grand Prize (Ministry of Public Administration and Security), Global Most Admired Knowledge Enterprise (UK Teleos) |
| 2015. 06 | National Sustainability Management Award in Social Contribution (Ministry of Health and Welfare) |
| 2015. 11 | Most Admired Company in Korea (Ministry of Trade, Industry & Energy) |
| 2015. 12 | Minister's Award in recognition of support for youth outside the school system (Ministry of Gender Equality and Family), Educational Donation Grand Prize for Public Enterprises (Ministry of Education), Asian Most Admired Knowledge Enterprise (UK Teleos) |
| 2016. 05 | Minister's Commendation in the Selection of Excellent Institutions at the Unification Expo (Ministry of Unification) |
| 2016. 09 | Minister's Commendation at the National Sharing Awards (Ministry of Health and Welfare) |
| 2017. 04 | Korea Social Contribution Grand Award in CSV, Public Agency Innovation Example Contest Grand Award (Ministry of Economy and Finance), Public Agency Innovation Example Contest Grand Award (Ministry of Economy and Finance), Leading Utilities of the World Trophy (Global Water Summit) |
| 2017. 07 | Safety and Health Activity Case Presentation Contest Excellency Prize in Service Sector (Ministry of Employment and Labor) |
| 2017. 10 | The 5th Applied Ecologic Technology Contest Excellency Prize for the 5th consecutive year (Korea Society of Ecology and Infrastructure Engineering), Asian MAKE Award and Global MAKE Award for the 10th consecutive year (Hall of Fame, UK Teleos) |
| 2018. 01 | Selected as an excellent family-friendly organization for consecutive years (of Gender Equality and Fa), Selected as an excellent organization for evaluation of anti-corruption measures (Anti-Corruption & Civil Rights Commission) |
| 2018. 06 | Minister's Commendation in Collaboration Best Practices (Ministry of Public Administration and Security) |
| 2018. 09 | Selected as the best agency for public agency disaster management (Ministry of Public Administration and Security) |
| 2018. 11 | Minister of Strategy and Finance Award for Social Responsibility (Ministry of Strategy and Finance) |
| 2019. 05 | Korea's Best Companies to Work for consecutive years (GPTW Korea) |
| 2019. 07 | Data Quality Award Excellence Award (Ministry of Science and Technology Information and Communication) |
| 2019. 08 | Participation Award for Active Cases of Best Practices (Human Innovation Division) |
| 2019. 11 | National "Big Data Platform and Center" organization selected (Ministry of Science and Technology) and the Minister of Environment for the Development of the Water Industry (Ministry of Environment) |
| 2019. 12 | Human Resources Innovation Champion (Ministry of Personnel Management) based on Innovation Performance in Personnel Management, and Best Organization for Mutual Cooperation for Small and Medium Enterprises (National Assembly Forum) |
| 2020. 01 | Selection of the best post-management site for the Environmental Impact Assessment (Ministry of Environment) |
| 2020. 04 | SMEs and Startups Minister's Prize for Startups Ecosystem Activation of Mutual Cooperation Internal Venture Technology |
| 2020. 07 | Science & ICT Minister's Award for Major Information and Communication Infrastructure Information Protection |
| 2020. 09 | Presidential Prize for Management Efficiency in the 9th Korea Knowledge Awards (Ministry of the Interior and Safety) |
| 2020. 09 | HR development (Best HRD) excellent institution in 2020 (Ministry of Education) |
| 2020. 10 | Public offices innovation plan excellent institution (Ministry of Economy and Finance) |
| 2020. 11 | Grand Prize in the 2020 Korean Environment and Energy Awards (Ministry of Trade, Industry and Energy) |
| 2020. 11 | Appreciation Plaque from the 2020 Korean Society of Climate Change Research |
| 2020. 11 | Grade A for national core infrastructure management assessment (Ministry of the Interior and Safety) |
| 2020. 11 | Grand Prize in the Design Sector at the 2020 Natural Environmental Awards (Ministry of Environment) |
| 2020. 11 | Interior and Safety Minister's Prize for Meritoriousness in Digital Government's Entry into Abroad |
| 2020. 11 | Presidential Award for Large and SMEs Win-Win Growth (Ministry of the Interior and Safety) |
| 2020. 11 | Active administration. Selected as active administrative best practice in the second half of 2020 (Ministry of Personnel Management) |
| 2020. 11 | Best grade in record control institutions evaluation (National Archives of Korea) |
| 2020. 12 | Selected as an excellent institution in water supply facilities operation and management (Ministry of Environment) |
| 2020. 12 | Selected as an excellent institution for routine training to cope with accidents/disasters in 2020 (Ministry of the Interior and Safety) |
| 2020. 12 | Environment Minister's Award in the Social Economy Best Practice |
| 2020. 12 | SMEs and Startups Minister's Prize for Startups Ecosystem Activation |
| 2020. 12 | Agriculture, Food and Rural Affairs Minister's Award for Mutual Cooperation between Companies and Agricultural and Fishing Villages |
| 2020. 12 | SMEs and Startups Minister's Prize for Regulation Innovation and Solution to Difficulties for SMEs |
| 2020. 12 | Selected as a preferential project for innovation collaboration participated with citizens in 2021 |
| 2020. 12 | Family-friendly excellent company certification (Ministry of Gender Equality and Family) |
| 2020. 12 | Grand Prize for Educational Donation in Korea (inducted into the Hall of Fame) (Ministry of Education) |
| 2021. 01 | Excellent company in the public companies sector for comprehensive evaluation of information disclosure (Ministry of the Interior and Safety) |

Questionnaire for Readers

We welcome your valuable opinions.

K-water wants to know the valuable opinions of various stakeholders including readers of the 2021 Sustainability Report for the publication of better sustainability reports. Please fill out the following form and send it to the following contact point via mail or fax:

1. In which group do you belong?

- Customer Government Business partner Employee Local resident NGO and civic organization Expert institution Others ()

2. How did you find out about this report?

- Website of K-water Seminar/Lecture K-water employee Web surfing Press/Media including newspaper Others ()

3. For what purpose do you use this report? (Multiple answers allowed.)

- To obtain information on K-water To identify the sustainability management activities of K-water
 To analyze comparatively the features of the industry where K-water belongs For research and education
 Others ()

4. Which of the following are you most interested in? (Multiple answers allowed.)

- Safe water service Water sharing service
 Water Convergence Service Future made with happiness
 Others ()

5. What do you think is necessary in this report? (Multiple answers allowed.)

- Safe water service Water sharing service
 Water Convergence Service Future made with happiness
 Others ()

6. Did this report help you understand K-water's sustainability management activities?

- Very helpful Helpful Moderate Not that helpful Not helpful at all

7. What is your assessment of this report?

- Understanding of information Very satisfied Satisfied Moderate Dissatisfied Very dissatisfied
 • Accuracy of information Very satisfied Satisfied Moderate Dissatisfied Very dissatisfied
 • Volume of information Very satisfied Satisfied Moderate Dissatisfied Very dissatisfied
 • Composition of design Very satisfied Satisfied Moderate Dissatisfied Very dissatisfied

8. Please give your opinion on K-water's sustainability management activities or the overall composition and content of the report.

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