기후에너지환경부 보도자료

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AI at the Forefront of Solving Water Challenges Amid Climate Crisis – Korea International Water Week 2025 Kicks Off

- Presenting a blueprint for AI transformation in water management, including AI-based flood forecasting and water treatment plants
- From November 12 to 15, high-level officials and water management experts from more than 60 countries will participate

The Ministry of Climate, Energy and Environment (MCEE, Minister Kim Sungwhan) will hold the Korea International Water Week 2025 (KIWW) at EXCO in Buk-gu, Daegu, from November 12 to 15.

KIWW is the largest international water-related event in the country, held annually since 2016 to carry on the legacy of the 7th World Water Forum in 2015.

It is co-hosted by the MCEE, Daegu Metropolitan City, Korea Water Resources Corporation (K-water), and Korea Environment Corporation, and organized by the Korea Water Forum.

Water management officials from more than 60 countries around the world, including high-level representatives* from the Cambodia's Ministry of Water Resources and Meteorology, Kazakhstan's Ministry of Water Resources and Irrigation, Kenya's Ministry of Water, Sanitation and Irrigation, Oman's Ministry of Agriculture, Fisheries and Water Resources, Thailand's Royal Irrigation Department, the American Water Works Association, and the Vietnam Water Supply and Sewerage Association, are expected to gather in

one place.

* Thor Chetha, Minister of Water Resources and Meteorology of Cambodia; Abdraimov Aslan, Vice Minister of Water Resources and Irrigation of Kazakhstan; Julius Korir, Vice Minister of Water, Sanitation and Irrigation of Kenya; Ali Mohammed Zaher Al-Abri, Vice Minister of Agriculture, Fisheries and Water Resources of Oman; Suriyapong Nuchanon, Director-General of Thailand's Royal Irrigation Department; Heather Collins, President of the American Water Works Association; and Tran Anh Tuan, Vice President of the Vietnam Water Supply and Sewerage Association.

Marking its 10th anniversary, this year's event will be held under the theme "Smart Innovation: A Bridge to the Shared Water Future." Over the course of three days, a total of 51 programs, including high-level meetings, special sessions, forums, competitions, and exhibitions, will address solutions to water challenges in the era of climate crisis.

According to the World Meteorological Organization (WMO), 85% of climate-related disasters over the past 50 years have been water-related, such as floods, droughts, and heavy rainfall, showing that the climate crisis manifests most directly through water. In response, the government is presenting the "AI Transformation (AX) in Water Management" as a key solution to this year's theme, "Smart Innovation." This initiative aims to enhance safety and efficiency by utilizing artificial intelligence (AI) across all stages of the water cycle, including prediction, production, and supply.

First, in the prediction stage of water management, sessions such as the "Special Session on AI and Water Management" and the "Satellite Big Data Workshop" will showcase cases and outcomes of using AI and digital twins to advance flood forecasting and the management of dams and rivers. In particular, to promote the overseas expansion of related industries, the MCEE will sign a "Memorandum of Understanding on AI-Based Flood Forecasting Cooperation" with Kazakhstan on the first day of the event.

In the production stage of water management, the "Water Supply AI

Transformation Symposium" will not only discuss strategies for transitioning water supply systems to AI-based management but also celebrate a milestone achievement, K-water's "AI Water Treatment Plant" becoming the first in the world to receive international quality certification* (BDN) from the Organisation for Economic Co-operation and Development (OECD). This accomplishment follows its selection as a "Global Lighthouse" by the World Economic Forum (WEF) in 2023 and the approval** of an international standard draft by the International Organization for Standardization (ISO), demonstrating the excellence of Korea's AI-based water management technologies on the global stage.

* A key indicator referenced by global investors and multilateral development banks (MDBs) when assessing the reliability of infrastructure

** It is expected to be finalized as an international standard as early as 2026, following Technical Committee consensus and final approval voting.

The supply stage of water management is also being connected through AI. The "Special Session on Leakage Reduction" will discuss the effectiveness of smart pipeline network management technologies that apply AI, as well as strategies for overseas expansion, while also sharing local demand from Thailand, where there is a strong need for leakage reduction technologies. In addition, new technologies such as smart sewer and water pipeline inspection robots and smart flow measurement systems will be introduced, along with the vision of the Korea Water Cluster to support AI-based pilot projects in the water industry. Furthermore, the "Public-Private Partnership Conference on Digital and AI Water Industry" will be held on November 13, where cases of digital and AI-driven innovation will be shared.

In addition to AI, advanced technologies such as industrial wastewater reuse, hydropower generation, irrigation water systems, seawater desalination, and ultrapure water will be shared through special sessions to foster innovation. Furthermore, the Water EXPO held in the first-floor exhibition hall will feature innovative products and technologies from 71 companies and

institutions.

International cooperation programs have also been further strengthened to ensure that such innovations serve as a bridge for all.

Starting this year, the “Global Partnership Forum Development Cooperation for Water Security” will be held for the first time, building on the global network accumulated through past events. This program brings together governments, development banks, and innovative companies to connect emerging project needs in water management with corresponding solutions. It is expected to evolve into a global platform where water-related challenges and solutions from around the world converge.

The MCEE will sign an MOU with Kenya’s Ministry of Water, Sanitation and Irrigation on November 12 to promote cooperation for sustainable water management and will further elaborate on specific collaboration measures through the “Kenya Water Security Cooperation Seminar” to be held on November 13. In addition, nine cities, including Mikkeli in Finland and Kumamoto in Japan, will participate in the “World Water Cities Forum” to share exemplary cases of urban water management solutions.

A variety of events will also be held to bring the international community together in shaping a shared water future.

At various events such as the “Water Leaders’ Round Table” and “Global Youth Bridge Builder,” leading figures and experts in the global water industry will share their professional insights for the benefit of future generations. In addition, discussions will be held on expanding the global initiative “Nationally Prepared Water Science Report*,” which Korea presented to the international community at the 2023 UN Water Conference, the first such conference held in 46 years.

* It provides a scientific foundation for presenting comprehensive and fundamental

solutions to water-related issues.

In addition, the “TechXchange,” which supports the overseas expansion of Korean water companies, will operate throughout the event period. The Korea Water Cluster plans to sign water industry cooperation MOUs with major institutions in Kazakhstan and Vietnam. Export consultation sessions will also be held, inviting 12 organizations from countries such as Vietnam, Uzbekistan, and the Dominican Republic. Furthermore, side events will be organized to share Korea’s experiences and achievements with domestic and international visitors, including the screening of a video highlighting the 60-year history of Korea’s water management.

MCEE Vice Minister Kum Hanseung stated, “Marking its 10th anniversary, the KIWW will serve as a platform to demonstrate to the world how AI-based water management can provide concrete and powerful solutions to the global challenge of the climate crisis.” He added, “We hope this event will become the starting point of a new decade toward a sustainable water future, with Korea’s smart innovation in the water sector serving as a bridge.”