기후에너지환경부 보도자료

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Full-Scale Artificial Intelligence Transformation in Energy Systems

- Launch of the “Climate and Energy Digital Transformation (DX) and Artificial Intelligence Transformation (AX) Strategy Task Force (TF)”
- Discussion of concrete implementation measures, including the establishment of data centers to promote the use of energy data

The Ministry of Climate, Energy and Environment (MCEE, Minister Kim Sunghwan) announced that it will hold the first meeting of the “Climate and Energy DX·AX (Digital Transformation · AI Transformation) Strategy Task Force,” involving 18 public enterprises and public institutions in the climate and energy sector, including Korea Electric Power Corporation, Korea Power Exchange, and the Korea Energy Agency, at the Koreana Hotel (Jung-gu, Seoul) on the afternoon of December 22.

As the response to the climate crisis has emerged as an urgent global challenge, digital technologies (such as big data, the Internet of Things, and cloud computing) and artificial intelligence are drawing attention as key tools to maximize energy efficiency and accelerate the deployment of renewable energy.

In particular, international organizations such as the International Energy Agency (IEA)* and the International Renewable Energy Agency (IRENA)** are also recommending the active adoption of artificial intelligence to address the climate crisis and optimize the management of energy systems.

* Energy and AI (Energy for AI & AI for Energy, Apr. 2025)

** Digitalization and Artificial Intelligence for Power System Innovation: Perspectives for the G7 (Oct. 2025)

Accordingly, to “accelerate carbon neutrality through artificial intelligence transformation (AX),” the Ministry of Climate, Energy and Environment plans to conduct an in-depth assessment of the current state of digital and AI capabilities in Korea’s climate and energy industries and to fully launch a task force with broad participation from key public institutions as well as private-sector experts from industry and academia, aimed at advancing power grid and generation systems and fostering new energy industries.

At this first meeting, energy public enterprises and public institutions will discuss ways to mutually share and utilize data among participating entities to advance energy systems, including intelligent power grids, enhanced renewable energy generation forecasting, virtual power plants (VPPs), and automated safety monitoring and maintenance.

To implement these measures, the participants plan to engage in in-depth discussions on data standardization and sharing; the establishment of energy-AI–dedicated data centers; and the development of energy–AI convergence technologies and the cultivation of specialized talent.

Park Deok-yeol, Director General for Hydrogen and Heat Industry Policy Bureau at the MCEE and head of the task force, stated, “To accelerate the transition to a decarbonized green civilization, the adoption of artificial intelligence is no longer an option but a necessity.” He added, “We will devote our full efforts to establishing policies that can be tangibly felt on the ground, including building a secure foundation for the use of energy data, developing infrastructure, and nurturing talent.”