

Climate Vice Minister at IEA Governing Board... Spearheads Talks on Power Supply and Energy Security

- In the age of electrification, emphasized balanced power supply and demand management considering 24/7 grid flexibility and resilience
- Presented concrete solutions for the AI era, including data center decentralization policies, cooling technology innovation, and direct current (DC) grid advancements
- Discussed cooperation in energy and artificial intelligence with global companies such as NVIDIA, Google, and Microsoft

The Ministry of Climate, Energy and Environment (MCEE, Minister Kim Sunghwan) announced that Vice Minister Lee Hohyeon attended the “2026 International Energy Agency (IEA) Ministerial Meeting” held in Paris, France, from February 18 to 19 (local time).

At the ministerial meeting, Vice Minister Lee emphasized the need for a paradigm shift in power supply and demand in response to the era of electrification and artificial intelligence (AI), and presented Korea’s vision for strengthening power grid security and utilizing carbon-free energy sources such as renewable energy and nuclear power, garnering empathy and support from member countries.

This ministerial meeting was convened to discuss the impact of energy market uncertainties on the global economy and to maintain momentum toward a secure and clean energy transition.

A total of 55 countries participated, including 33 International Energy Agency member countries, 17 accession and associate countries, and 5 invited countries, with ministers and vice ministers in attendance, along with key figures from 14 international organizations and 49 energy companies.

In the high-level dialogue held under the theme “Energy Security in the Age of Electricity,” participants shared the view that ensuring flexibility and resilience in power systems has become a core task for energy security amid the expansion of renewable energy and the acceleration of electrification and digitalization.

In his keynote remarks, Vice Minister Lee Hohyeon stressed that “with the expansion of variable renewable energy such as solar power and the surge in electricity demand from AI data centers, there is a need to move beyond the traditional peak-hour-focused management approach and shift the paradigm of power security toward ensuring stable grid operation 24 hours a day, 365 days a year (24/7).”

He also emphasized the need to: expand the role of carbon-free baseload power sources, such as nuclear power plants and small modular reactors (SMRs), that provide stable output regardless of weather conditions while enabling load-following operation; secure flexibility and robustness of the power grid in an environment with large-scale renewable energy integration; redefine grid codes and grid operation standards; and strengthen cybersecurity response within the power system.

In the government-industry dialogue session under the theme “Energy and Artificial Intelligence (AI),” Vice Minister Lee emphasized the need for bold location policies and administrative and financial support to attract data centers to regions with surplus power supply, such as non-metropolitan areas, in order to address the concentration of data centers in the Seoul metropolitan area. He also proposed optimizing cooling systems through AI-based energy management solutions, introducing high-efficiency cooling technologies, and developing medium-voltage direct current (MVDC) distribution technology to maximize the energy efficiency of data center operations, and called for mid- to long-term technological cooperation at the International Energy Agency level.

* Medium-voltage direct current (MVDC) refers to a distribution network that distributes electricity using direct current voltages ranging from 1.5 kV to 100 kV.

At this IEA Ministerial Meeting, joint ministerial statements were adopted on “Critical Minerals Security” and “Energy Security of Ukraine.” In particular, member countries shared the view that strengthening critical mineral

supply chains constitutes a strategic pillar of energy security, and agreed to establish a “Critical Minerals and Materials Recovery Technology Collaboration Programme” to support the revitalization of the circular economy through the recycling and recovery of critical minerals and the development of alternative technologies.

During the meeting, Vice Minister Lee also held a series of bilateral meetings with senior executives in charge of energy and sustainability from leading global technology companies, including Google, Microsoft (MS), and NVIDIA. These companies expressed strong interest in Korea’s stable power grid and its potential to utilize carbon-free energy sources such as renewable energy and nuclear power, and conveyed their intention to pursue continued cooperation with Korea.

He also met with key international figures, including Fatih Birol, Executive Director of the International Energy Agency (IEA); Simon Stiell, Executive Secretary of the United Nations Framework Convention on Climate Change (UNFCCC); and Jean-François Gagné, Head of the Clean Energy Ministerial (CEM) Secretariat, to share Korea’s policy direction for a green grand transformation.

In addition, he requested active participation and support for “Korea Green Transformation (K-GX) Week” and the “2026 UNFCCC Climate Week,” both scheduled to be held in April in Yeosu, as well as for the International Climate Industry Expo to be held in September in Busan.

Vice Minister Lee Hohyeon of the MCEE stated, “This International Energy Agency Ministerial Meeting provided an opportunity to confirm that Korea’s energy policy, pursuing harmony between renewable energy and nuclear power in the age of electricity, is aligned with global trends.” He added, “Based on the agenda items discussed at this meeting, including securing grid flexibility and optimizing power systems to support the era of artificial intelligence, we will further strengthen the global standing of energy security.”