기후에너지환경부 보도자료

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Shift to Renewables to Break Free from Fossil Fuel Dependence

- Ministry of Climate, Energy and Environment reports “Energy Transition Plan of the People’s Sovereignty Government” to the State Council
- Transition to a renewable energy–centered power supply system; promote electrification and decarbonization across all sectors
- Realize energy income participation by 10 million citizens; goal to rank among global top three in green manufacturing

On the morning of April 6, the Ministry of Climate, Energy and Environment (Minister Kim Sunghwan) announced that Minister Kim Sunghwan reported to the State Council the “Energy Transition Plan of the People’s Sovereignty Government,” which aims to comprehensively transform the energy system by reducing dependence on fossil fuels and advancing electrification centered on renewable energy.

Amid the recent Middle East conflict, existing energy security strategies, such as diversifying crude oil imports, are no longer effective, making it necessary to establish a new energy security framework that can drastically reduce dependence on energy imports by expanding domestically produced energy, including renewable energy. In addition, electricity demand is surging due to the spread of AI data centers, physical AI, and increased investment in advanced strategic industries, requiring proactive measures in response. Accordingly, the Ministry of Climate, Energy and Environment plans to pursue “three key policy directions and ten major tasks” to fundamentally transition the energy system toward a renewable energy–centered model.

1. Achieve at least 20% renewable energy by 2030

❶ The government plans to achieve ahead of schedule its target of deploying 100 GW of renewable energy by 2030, expanding its share of power generation to over 20%. To promote solar power, it will mobilize all available measures, including solar income villages, industrial complex rooftop installations, agrivoltaics, floating solar, border areas, and the "Renewable Energy 100% (RE100)" initiative for public institutions. For wind power, it will also pursue measures such as planned siting, streamlining permits to shorten overall project timelines through completion, and overhauling the safety inspection system for wind turbines.

❷ A roadmap will be developed to gradually phase out 60 currently operating coal-fired power plants by 2040. The government will enact a special law for affected regions, foster alternative industries, and establish support measures for a "just transition." For the 21 plants that will still have remaining operational lifespans beyond 2040, a phase-out plan will be prepared to minimize transition costs, including repurposing them as security backup power sources.

❸ Heat energy, currently centered on gas, will be transitioned to renewable heat. Although heat accounts for 48% of final energy consumption, it has so far lacked a national-level management framework. To manage heat energy systematically, a Heat Energy Management Act will be enacted, with priority given to deploying air-source and water-source heat pumps in areas not served by city gas, and district heating systems using liquefied natural gas (LNG) power generation will also be converted to renewable energy–based heating.

2. Rank among global top three in green manufacturing

❹ The government will build an energy industry ecosystem and fully foster green industries. To this end, it will promote core technology development,

demonstration, and tax incentives for solar cells and modules, wind turbines, battery energy storage systems (BESS), cables, transformers, and water electrolysis equipment. In addition, it will establish KEPCO Engineering Holdings and create “regional energy special cities” as hubs for energy venture startups and the growth of unicorn companies.

❺ The electrification of industrial processes and the decarbonization of fuels and feedstocks will also be promoted. A 300,000-ton hydrogen-based direct reduction ironmaking demonstration facility will be completed by 2028, with scale-up and commercialization after 2037 to lay the foundation for becoming a global leader in green steel. In the petrochemical sector, the transition to electric naphtha cracking centers (NCC) and improvements in process efficiency will support higher value-added products. In particular, emissions in hard-to-abate sectors will be reduced through technologies such as green hydrogen, pink hydrogen, and carbon capture, utilization, and storage (CCUS).

❻ The electrification of all moving power sources will be promoted. The government aims to achieve ahead of schedule its target of having 40% of new vehicle sales by 2030 be electric or hydrogen-powered, with an accelerated transition to electric vehicles for police cars, LPG taxis, rental cars, and corporate fleets in particular. In addition, it will seek to enhance industrial competitiveness by advancing the electrification and AI integration of construction machinery, agricultural equipment, vessels, and two-wheelers.

❼ Financial and fiscal support will also be strengthened to underpin the growth of the energy industry. By activating green finance, such as loans, interest subsidies, and guarantees, the government will encourage corporate investment, and it will expand the funding base of the climate response fund, including revenues from paid allocations of carbon emission allowances, to further support corporate decarbonization investments and the growth of green industries.

A transition plan will also be developed to gradually shift subsidies previously allocated to fossil fuels in sectors such as transportation and heating toward renewable energy subsidies.

3. Balanced regional development through energy transition

❽ The national power grid will be fully transformed into a decentralized, bidirectional system. Flexibility resources—such as energy storage systems (ESS) and pumped-storage hydropower—will be significantly expanded, and the grid will shift to a decentralized model that optimizes local generation, storage, and consumption. Inevitable regional imbalances in power supply and demand will be addressed through measures such as constructing interconnection lines, including the West Coast subsea transmission network (HVDC), and enabling flexible grid connections. In addition, a model for "energy self-sufficient distributed zones," utilizing resources such as biogas, wood chips, and solar power at the village level, will be fully piloted and expanded starting in the second half of this year.

❾ The electricity pricing system and power market framework will be comprehensively reformed to align with a renewable energy–centered transition. The government will pursue the introduction of regionally differentiated tariffs that take into account transmission costs, energy self-sufficiency, and balanced national development, and will begin phasing in time-of-use pricing reforms from April to help distribute electricity demand. In addition, the Renewable Portfolio Standard (RPS) will be restructured into a long-term fixed-price contract market to encourage reductions in generation costs.

❿ The government will realize energy income participation by 10 million citizens. It will develop "solar and wind income villages" and expand them nationwide, and will support increased public acceptance and income

generation by enabling nearby residents to invest in high-voltage transmission projects. In addition, it will strengthen the leading role of local governments in the energy transition process.

Minister Kim Sunghwan of the Ministry of Climate, Energy and Environment stated, “We will swiftly implement the Energy Transition Plan of the People’s Sovereignty Government to ensure that our country remains resilient against external shocks such as the Middle East conflict.” He added, “Through this, we will not only achieve energy independence but also secure carbon neutrality and future industrial competitiveness, enabling us to leap into the world’s top three in green manufacturing, while allowing more citizens to participate in solar, wind, and grid income villages and realize energy income.” End.