관계부처합동 보도자료

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# Beyond Carbon Reduction to a New Growth Engine: Government Launches K-GX with KRW 1,000 Trillion in Investment

- Government ministries and private-sector organizations jointly develop the "Korea-Green Transformation (K-GX) Strategy"
- KRW 1,000 trillion in government investment over 10 years, with KRW 220 trillion in private investment in K-GX Signature Projects
- 10-year (2026–2035) plan announced to achieve carbon neutrality and sustainable economic growth simultaneously

The government held the "National Briefing on the Korea-Green Transformation (K-GX) Strategy" on Wednesday, October 7 at the International Conference Room of the Korea Chamber of Commerce and Industry (KCCI) located in Jung-gu, Seoul. The event featured presentations by the Ministry of Finance and Economy (Deputy Prime Minister Lee Hyoung Il) on the "Key Elements of the K-GX Strategy" and by the Ministry of Climate, Energy and Environment (Minister Kim Sungwhan) on the "Direction for Implementing 10 K-GX Signature Projects." Four leading companies, namely, Hanwha Qcells, POSCO Holdings, LG Electronics, and Samsung Electronics, also presented their respective Signature Projects.

This strategy was developed based on discussions held by the public-privat e K-GX Task Force, comprising relevant government ministries*, economic

organizations including the KCCI, and major industry associations and organizations.

* Ministry of Finance and Economy; Ministry of Climate, Energy and Environment; Ministry of Science and ICT; Ministry of Trade, Industry and Resources; Ministry of Land, Infrastructure and Transport; Ministry of Agriculture, Food and Rural Affairs; Ministry of Oceans and Fisheries; Ministry of Employment and Labor; Ministry of SMEs and Startups; Ministry of Planning and Budget; Office for Government Policy Coordination; Financial Services Commission; Korea Forest Service

The K-GX Strategy consists of three major directions: 1) K-GX as a New Growth Engine, which aims to strengthen industrial competitiveness through technological innovation and seize high-value-added global markets; 2) K-GX for All, which leverages regional capabilities and promotes shared growth without leaving any groups behind during the transition; and 3) Sustainable K-GX, which eliminates uncertainty and creates an ecosystem for private investment through government seed funding and reliable policies.

## 1. K-GX as a New Growth Engine

**<Accelerating the Decarbonization of All Industries>**

First, the government will transition key processes in Korea's five major greenhouse-gas-emitting industries, which are: steel, petrochemicals, cement, semiconductors and displays, and refining, to low-carbon processes while increasing the supply and use of eco-friendly fuels and raw materials. Through these efforts, the government plans to reduce greenhouse gas emissions, expand the production of eco-friendly and high-value-added products, and accelerate the green transformation.

In the steel industry, the government will pursue a demonstration project for 300,000-ton-scale hydrogen-reduced ironmaking by 2030, with the goal of becoming the first country in the world to mass-produce hydrogen-reduced steel and lead the emerging green steel market. To support this goal, the government

will develop measures to ensure a stable supply of affordable electricity, based on support for the construction of hydrogen production facilities and corporate investment. The petrochemical and refining industries will expand the production of eco-friendly and high-value-added products through the development of electric naphtha cracking center (NCC) technologies and greater use of eco-friendly fuels. The cement industry will secure key low-carbon technologies, including the development of multi-component blended cement to reduce emissions, while the semiconductor and display industries will pursue technologies to replace major process gases with low-global warming potential (GWP)* alternatives.

**<Achieving 100 GW of Renewable Energy by 2030 Ahead of Schedule>**

To strengthen energy security, the government aims to achieve 100 GW of renewable energy capacity by 2030 by comprehensively identifying suitable sites and project areas for solar and wind power generation, while developing detailed measures to reduce the cost of renewable energy generation.

The government will also build a power grid capable of supporting large-scale renewable energy generation facilities. By 2030, existing power lines will first be upgraded to higher-capacity lines to secure additional transmission capacity. The government also plans to foster the direct-current power transmission and distribution industry, enabling electricity generated at renewable energy complexes to be supplied directly to demand centers.

**<Electrification of All Modes of Transportation>**

In the transportation sector, the government will reduce greenhouse gas emissions while proactively securing a foothold in the next-generation mobility market. To raise the share of new vehicles powered by electricity or hydrogen to more than 70% by 2035, the government will establish a subsidy system for eco-friendly fuels and promote adoption by reforming electric vehicle subsidies to reflect regional renewable energy production. In addition, the government aims to achieve decarbonization across the entire transportation sector through broad-based electrification encompassing public transportation such as railways and buses, two-wheeled vehicles, construction equipment, and ports and ships.

**<Fostering 10 National Flagship Green Industries>**

The government will take a major step toward becoming a green manufacturing powerhouse by intensively fostering 10 key green industries* essential to achieving the green transformation. The goal is to strengthen Korea's domestic production base and secure global market leadership by setting targets for technological development and commercialization in each industry and providing support, including the introduction of domestic production tax credits.

* ①Electric vehicles, ②batteries, ③solar power, ④wind power, ⑤small modular reactors (SMRs), ⑥power equipment, ⑦power semiconductors, ⑧heat pumps, ⑨hydrogen, ⑩ carbon capture, utilization and storage (CCUS)

The government will support breakthrough technological innovation in each flagship green industry, including the development of technologies to stabilize the electric vehicle supply chain, such as rare-earth-free drive motors; the demonstration and commercialization of next-generation batteries, including all-solid-state batteries; and the world's first commercialization and mass production of next-generation solar cells in 2028. It will also lay the foundation for Korea to become a green manufacturing powerhouse by rebuilding domestic supply chains, including by designating key solar power equipment and components as economic security items.

**<Promoting the Growth of Climate Tech Innovators>**

The government will provide intensive support to climate tech startups that possess outstanding technologies but face difficulties commercializing them due to structural constraints. It will support their growth into unicorn companies by providing in-depth support for innovative R&D projects at each stage of growth — from early-stage startups to growth and expansion — expanding demonstration test beds, and offering package support of up to KRW 10 billion to promising climate tech companies. The government will also pursue legislation to establish a climate tech ecosystem. Detailed measures will be announced in October in the "Direction for Fostering Innovative Climate Tech Companies," jointly prepared by relevant ministries.

## 2. K-GX for All

**<GX that Benefits All Regions and Citizens>**

The government will identify regional GX flagship models based on local demand and industrial characteristics, centered on the five metropolitan regions and three special autonomous provinces, and foster regional GX hubs. As a representative example, the “Naju Energy Specialized City” project will establish an ecosystem centered on Korea Electric Power Corporation and Korea Institute of Energy Technology, linking technology development with investment and startup creation. In addition, through the “Jeju Carbon-Neutral Model,” all new vehicles on the island will be converted to electric vehicles by 2035, while leading decarbonization initiatives involving heat pumps, energy storage system (ESS)-based distribution grids, virtual power plants (VPPs), and other technologies will be demonstrated.

**<Green Transformation Across the Nation>**

The government will move away from structures that consume large amounts of fossil fuels and energy in land development and living spaces. It will create and expand carbon-neutral leading cities that support urban solar power, distributed energy resources, and the transition to electric mobility, while making “green remodeling” mandatory for public buildings with high energy consumption. Heating systems will also be reformed, including by replacing existing fossil-fuel-based heating support programs with heat pump deployment programs.

**<Proactive Response to Climate Risks>**

To address extreme weather events that can lead to declines in productivity, the government will establish a customized assessment system for companies that enables precise, proactive diagnosis of climate risks. It will also develop financial and fiscal support measures for facility improvements aimed at preventing climate disasters in aging industrial complexes vulnerable to the climate crisis and in industries such as shipbuilding and logistics, thereby encouraging investment

in climate adaptation.

**<A Just and Inclusive GX>**

The government plans to designate “Just Transition Special Zones” by the end of this year so that existing workers can make a smooth transition into green industries during the industrial transformation process. The designation of these zones will enable tailored support, including vocational training and incentives, for regions expected to undergo socioeconomic changes. The government also plans to establish relevant legislation alongside the “2040 Coal Power Transition Roadmap” for workers at coal-fired power plants scheduled for closure.

## 3. Sustainable K-GX

**<KRW 1,000 Trillion in Fiscal and Climate Finance over 10 Years>**

To reduce market uncertainty surrounding the green transformation and stimulate private investment, the government will provide a total of KRW 1,000 trillion in funding over 10 years (2026–2035), including KRW 200 trillion in fiscal resources and more than KRW 790 trillion in climate finance*. To this end, the government will significantly expand the Climate Response Fund and establish the institutional framework and detailed measures for green government bonds by the first half of 2027. The KRW 790 trillion in policy financing will be focused on regional areas (more than 50%) and small and medium-sized enterprises and mid-sized companies (more than 70%). The government also plans to fully launch transition finance and establish a financial framework to support the transition of high-emitting industries to eco-friendly operations.

* To be provided through the five major policy financial institutions: the Korea Development Bank, Industrial Bank of Korea, Export-Import Bank of Korea, Korea Credit Guarantee Fund, and Korea Technology Finance Corporation

**<Creating an Innovative Environment through Tax Benefits and Regulatory Reform>**

During the early stages of the green transformation, the government will combine bold tax incentives with regulatory reform. It plans to introduce

domestic production tax credits for key components and equipment used in solar power, wind power, and secondary batteries, while expanding tax support, including by pursuing the designation of SMRs as national strategic technologies. The government will also amend the Act on Promotion of Transition to Circular Economy and Society to establish special regulatory exemption zones and pursue institutional reforms to ease regulations, including fast-track permitting support for companies possessing core GX technologies.

Going forward, the government will establish a pan-government support system for implementing the K-GX Strategy through a public-private K-GX consultative body, headed by the Deputy Prime Minister, along with establishing the legal basis for providing full-scale support for K-GX. Through this system, the government will monitor progress on detailed tasks and continuously revise and supplement the strategy to achieve a comprehensive green transformation of Korea.

## 4. K-GX Signature Projects

Following the K-GX Strategy, the 10 K-GX Signature Projects, which serve as flagship initiatives linking national priorities with corporate green transformation efforts, comprise four major areas: ❶self-sufficiency in clean energy supply chains, ❷decarbonization of the nation's key industries, ❸electrification of all modes of transportation, and ❹GX for citizens' living spaces.

At the event, projects were presented on 1) the localization of technologies for key clean power generation materials and perovskite tandem solar cells (Hanwha Qcells), 2) the establishment of a decarbonized industrial ecosystem based on steel-sector GX (POSCO Holdings), and 3) the expansion of GX in residential spaces (jointly by LG Electronics and Samsung Electronics).

Through the K-GX Strategy, the government aims not only to respond to the climate crisis but also to fundamentally transform the Korean economy and establish the country as a green manufacturing powerhouse. To achieve this, the government and private sector will work together as "one team," concentrating all available capabilities to realize Korea's green future.