

< Introduction >

Thank you, Mr. Chairman.

I would like to take this opportunity to say a few words on the future of energy and the role of technological innovation with my fellow Ministers and international organization leaders.

< Korea's Energy Transition Policy >

Korea has been implementing the Energy Transition Policy to join the global efforts on climate change and to meet the public's strong demand for cleaner and safer energy.

First of all, considering Korea's high energy intensity with manufacturing sector accounting for 28% of our GDP, we will substantially reduce energy consumption after 2028 through an ambitious energy efficiency policy.

To do so, we have made it mandatory for businesses to improve energy efficiency through the Energy Efficiency Resources Standard (EERS) for energy companies and the Energy Efficiency Target System for manufacturing companies.

Furthermore, we are improving our energy consumption structure by applying the 4th Industrial Revolution technologies, such as AI, Big Data, Cloud and IoT.

In particular, we are establishing more micro-industrial complex to improve energy efficiency in the industrial sector. Within this micro-industrial complex, energy consumption is efficiently managed by distributed generation, EMS as well as integrated management centers.

Second, on energy supply, we are reducing coal and nuclear power while significantly increasing renewable energy.

To increase the ratio of renewable energy to 20% by 2030 from 7.6% in 2017, we are embarking upon the world's largest offshore solar PV project of 2.1GW. At the same time, we are developing a 5MW floating offshore wind power and a 10MW-plus wind turbine technology.

In addition, we are utilizing innovative technologies to address the volatility of renewable energy. For instance, we have established an integrated management system to reduce the margin of error, installed renewable-connected ESS and expanded smart grids.

Third, we spare no efforts in developing the hydrogen economy with hydrogen mobility and fuel cells.

We plan to lower the price of hydrogen vehicles to that of internal combustion engine vehicles by creating a mass production system of 100,000 units a year by 2025. And to back up such efforts, we are building more hydrogen charging stations, aiming for over 310 by 2022.

In addition to hydrogen fuel cell vehicles, we will complete the demonstration of hydrogen vessels, trains and construction machineries by 2025.

< Energy Transition and Technology Innovation >

Likewise, regulations and systems are important components of a successful energy transition. However, I believe that technological innovation holds even greater value.

First, the government must provide continuous support to accelerate such technological innovation.

Understanding the importance of investment in technologies, Korea has boldly invested into energy efficiency and renewable. The size of public R&D in clean energy is set to increase by 150% to \$980 million by 2021.

Recently, the Korean government is implementing what we call an "alchemist projects." Under these alchemist projects, we are investing in areas that can make a huge social and economic impact, but are too risky for the private sector.

Some examples include electric vehicles that can drive up to 600km with only a one-minute charging time, super solar cells that overcome their marginal efficiency of 30%, and heat pumps that are close to the margin of Carnot efficiency.

Second, the government needs to introduce market mechanisms and provide the proper incentives to facilitate technological innovation in the private sector.

Korea introduced the Emissions Trading Scheme in 2015 for the first time in Asia, the Renewable Portfolio System in 2012 as well as the Renewable Energy Certificate (REC) trading markets.

These market mechanisms and systems offer policy credibility and predictability for renewable energy operators, investors and other stakeholders.

As a result, we are seeing a dramatic increase in renewable energy. For instance, in 2018, the new installments of renewable energy facilities were 2.99GW, up 45% from the previous year of 2.06GW.

Third, the benefits of technological innovation must be shared with more citizens and local communities, rather than only a few companies or selected people.

Recently in Korea, we are seeing more prosumers who both produce and consume renewable energy as well as renewable energy projects that are led by civic groups and cooperative societies.

Lastly, we must continue to develop CCUS technology to reduce GHG emissions.

Korea has set a target to annually reduce 10 million tons of GHG emissions from 2030 through CCUS technology. To do so, we are undertaking demonstration projects, and in March 2017, we succeeded in injecting CO₂ into the seabed for the 3rd time in the world.

< Closing >

My fellow Ministers and distinguished guests,

Energy accounts for more than two-third of global GHG emissions. And this means that both energy producers and consumers alike share the responsibility for climate change.

Therefore, I sincerely hope that we come together as one to support technological innovation to successfully overcome the challenges of climate change, make the world cleaner and safer, and achieve sustainable economic growth for all.

Thank you.