Nuclear Energy Policy of New Administration

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Nuclear Energy in Korea

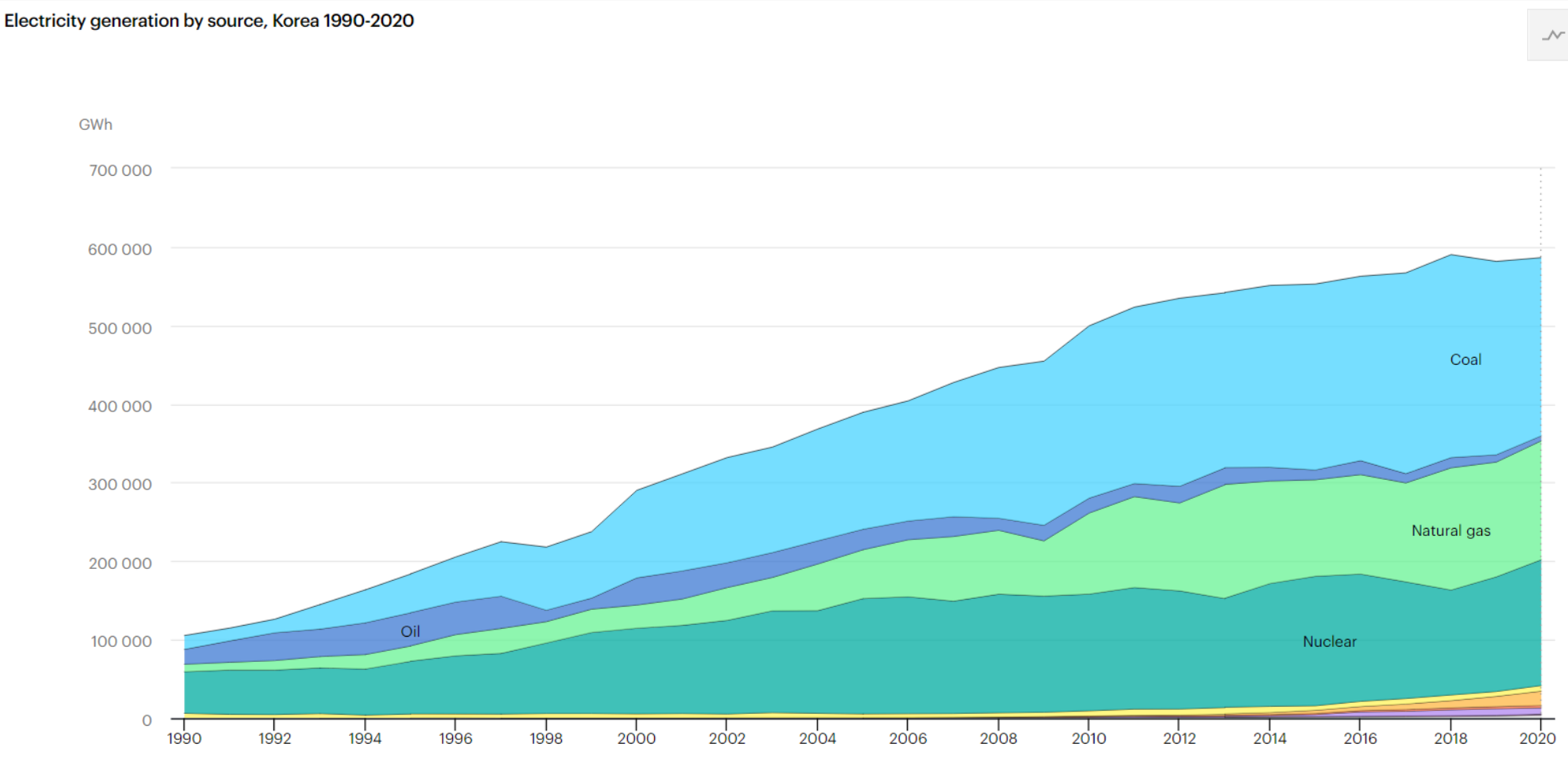
- 24 reactors provide about one-third of South Korea's electricity from 23 GWe of plant.
- South Korea is among the world's most prominent nuclear energy countries, and exports its technology widely. It is currently involved in the building of the UAE's first nuclear power plant, under a $20 billion contract.
- Nuclear energy has been a strategic priority for South Korea, but the president elected in 2017 introduced a policy to phase out nuclear energy over some 45 years.
- The new president, Yoon Suk-yeol, elected March 2022, has pledged to scrap this policy.

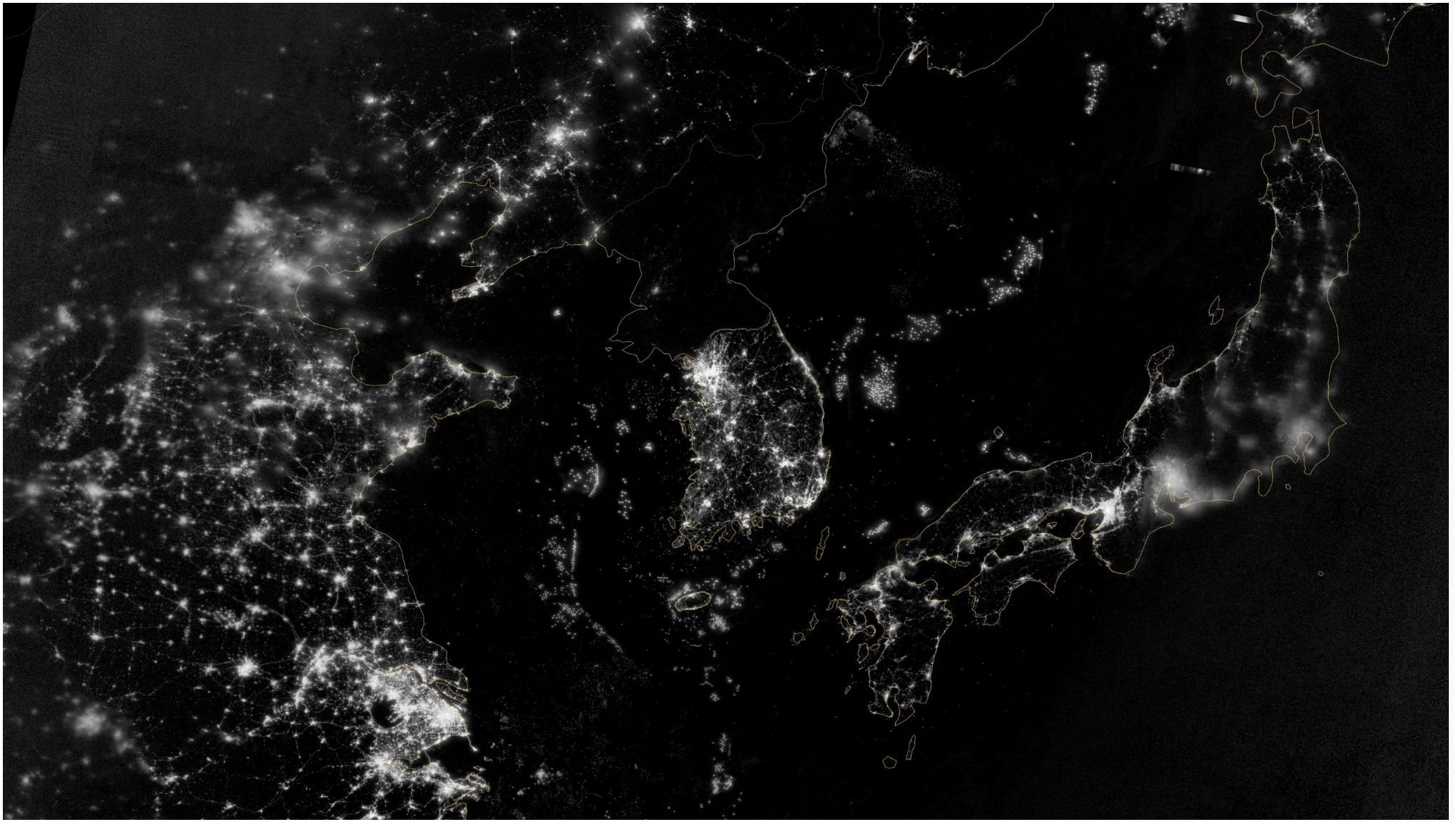
Operable Reactors	Reactors Under Construction	Reactors Shutdown
		
23,091 MWe	5,360 MWe	1,237 MWe

Nuclear Phaseout Policy of Outgoing Administration

- Prohibition of license renewal of operating fleet
- Abolition of new construction projects including Shin-Hanul 3&4 for which power generation business license had been issued and under construction
- Premature shutdown of Wolsong #1 (PHWR)
- Zero nuclear after shutting down Shin-Kori #6 as the last nuclear power plant

Electricity Generation by Source - Korea





Flexible, Stable, Economical and Clean Electricity by Nuclear

Nuclear Policy of Incoming Administration

- Net zero with a significant contribution of nuclear in energy mix
- License renewal of operating fleet
- Construction restart of Shin-Hanul 3&4
- Development of innovative SMR
- Promotion of nuclear power plant export
- Legislation and process start to secure waste disposal site along with pyro-process research for waste partitioning and disposal

Abolition of the nuclear phase-out policy, strengthening the nuclear industry ecosystem

- The role of nuclear power as a means of energy security and carbon neutrality is re-examined.

- Growing domestic and international interest in nuclear power as a representative energy source with a high degree of self-reliance in the global energy supply chain crisis

Goal of Nuclear Energy Policy

- Promptly resume construction of Shin-Hanul Units 3 and 4 and promote continuous operation of nuclear power plants whose operating licenses have expired on the premise of ensuring safety.
- Secure next-generation nuclear power plant technology such as SMR, promote competitiveness in the nuclear power plant ecosystem, and create nuclear power plant export capability through the establishment of a government-wide export system
- Promoting seamless implementation of high-level radioactive waste management policies
- Secure the expertise and independence of the Nuclear Safety and Security Commission at the level recommended by the International Atomic Energy Agency

#1 Active use of nuclear power as a base power source

- Increase the share of nuclear power in 2030 by promptly restarting the construction of Shin-Hanul Units 3 and 4 and continuing operation of nuclear power plants whose operating licenses have expired on the premise of safety

- By changing the application deadline for continuous operation from 2-5 years before the end of life to 5-10 years before the end of life, the period of downtime is minimized

#2 Strengthening the competitiveness of the nuclear power plant ecosystem

- As it takes time to build Shin-Hanul 3&4 and to license continued operation, create work in the industry as early as we can

- Detailed analysis of the value chain of the nuclear power plant industry, localization of core equipment, R&D to secure future high-tech technologies, and promotion of strengthening the competitiveness of diverse ecosystems such as human resource training

#3 Making nuclear power an export industry

- Actively carrying out biding activities with the goal of exporting 10 units by 2030

- Export diversification through ① export of furnace, ② export of equipment, ③ export of operation and maintenance service

- In order to provide support packages for nuclear power plants, defense industry, economic cooperation, etc., government ministries, KEPCO, KHNP, financial institutions, nuclear power companies, etc. have all participated in the establishment of the "(tentative name) Bureau of Nuclear Power Plant Export Strategy" and immediately started operation.

#4 Strengthening nuclear cooperation diplomacy

❖ Strengthen the Korea-US nuclear power plant alliance

- materialize ROK-US cooperation in the SMR field,
- finalize the Korea-US joint research on pyro-processing (JFCS), and
- discuss future plans with the US

#5 Securing next-generation nuclear power technology

❖ Intensive R&D promotion to secure future nuclear power technology

- development of innovative SMR and 4th generation nuclear reactors,
- nuclear fusion, and
- nuclear hydrogen production

#6 Radioactive waste management

- Prepare a special law that
  - stipulates related procedures, methods, and schedules for the disposal of high-level radioactive waste and
  - promote the establishment of a dedicated organization under the Prime Minister as a control tower

#7 Securing nuclear safety

- Promote the NSSC's professionalism and independence by restructuring.

Energy Policy: Establishment of energy security and creation of new energy industries and new markets

- (Energy mix) Considering the harmony between nuclear power and renewable energy, rationally adjust the energy mix and revise the plan to achieve NDC in the energy, industry, and transportation sectors

- (Energy supply chain) Expand the scope of resource security to hydrogen and core minerals, expand stockpiles, diversify importing countries, and enhance stability of supply and demand by recycling resources and market principles

Energy Policy: Establishment of energy security and creation of new energy industries and new markets

- (New energy industry) Advance the solar and wind power industries, innovate high-efficiency and low-consumption based energy demand management, and promote new industries in connection with the 4th industrial revolution technology

- (Grid/Market) Strengthen the independence and professionalism of the power market/rate and regulatory governance, and build a power market based on competition and market principles