NOTE

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NEW INDUSTRIAL POLICIES: LESSONS FOR THE EU AND THE CLEAN INDUSTRIAL DEAL

# *Case study*: New industrial policy in the Republic of Korea

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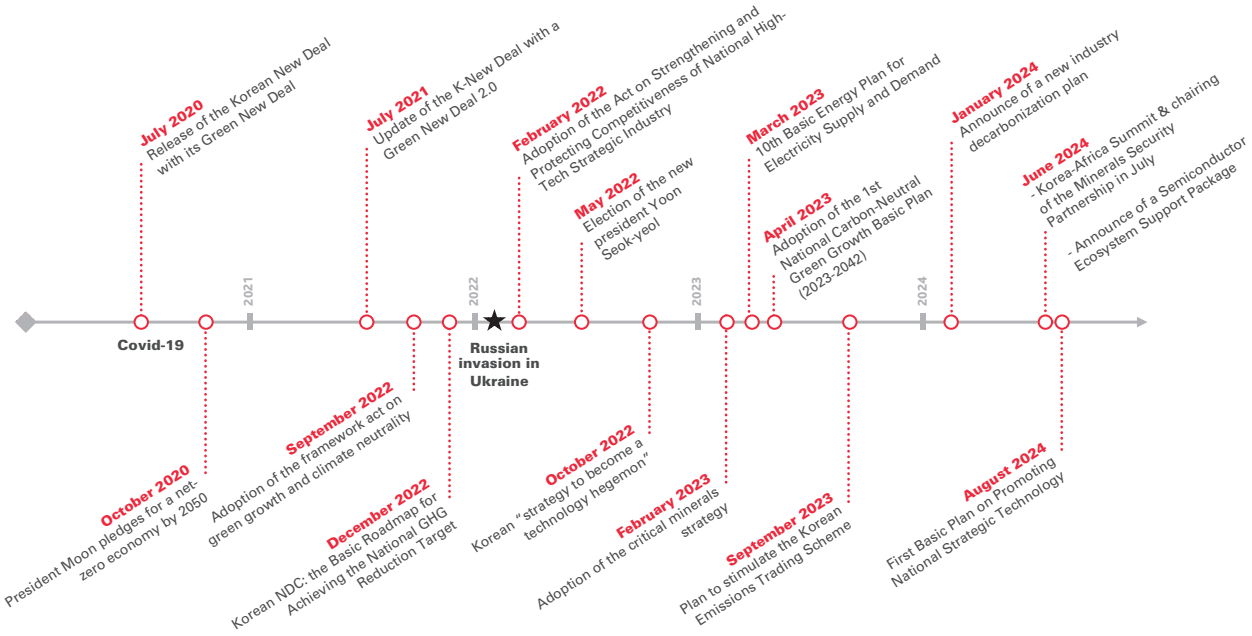
The Republic of Korea (RoK) has since the 1970s a long history of industrial policy and has never really ceased its economic interventionism to orient industries. This strong embeddedness of the government with strong industrial actors (most notably the Chaebols) enables a consistency and continuity of Korean industrial policies despite political changes, especially with stable institutions responsible for defining strategic sectors to invest in. In 2022, the government defined 12 strategic sectors, including some green technologies (batteries, clean vehicles, hydrogen) which are supported at the R&D and deployment stages through different instruments. Despite ambitious climate targets, it is clear that the main focus of this industrial strategy is not on decarbonizing industrial production units but rather on fostering innovation and technological leadership. The limited ambition to decarbonize the Korean power system, largely relying on coal and gas, limits private initiative to decarbonize. The reinforcement of the Korean ETS market may further incentivize the decarbonization of industrial sectors but the carbon price remains very low for now. The international economic relations are a defining factor in RoK industrial orientations. In 2023, RoK was the 8th world exporter with exports of goods and services representing 44% of national GDP.[1] In the current context, RoK tries to navigate between pragmatic alignments with the USA to guarantee its national security and its dependence towards Chinese supply, especially for critical materials.

[1] Hua Chai and Hyeryoun Kim (Mar. 2025): Korea in a Changing Global Trade Landscape, International Monetary Fund




This case study is related to the *Study* New industrial policies: Lessons for the EU and the Clean industrial Deal

**Figure A.1** South Korea timeline




# 1. INDUSTRIAL STRATEGY – DIRECTION, PLANNING & GOVERNANCE

## 1.1. Political directionality of the national industrial strategy

The Republic of Korea (RoK) has known two distinct industrial strategy moments with the political transition and the victory of the People's Power Party over the Democratic party in May 2022. The former president Moon Jan-In had developed a Korean Green New Deal strategy in 2020, updated in July 2021 with the New Deal 2.0, clearly oriented towards the development of green industries and the deployment of renewable energy resources. This strategy was abandoned by the conservative party in power since 2022.

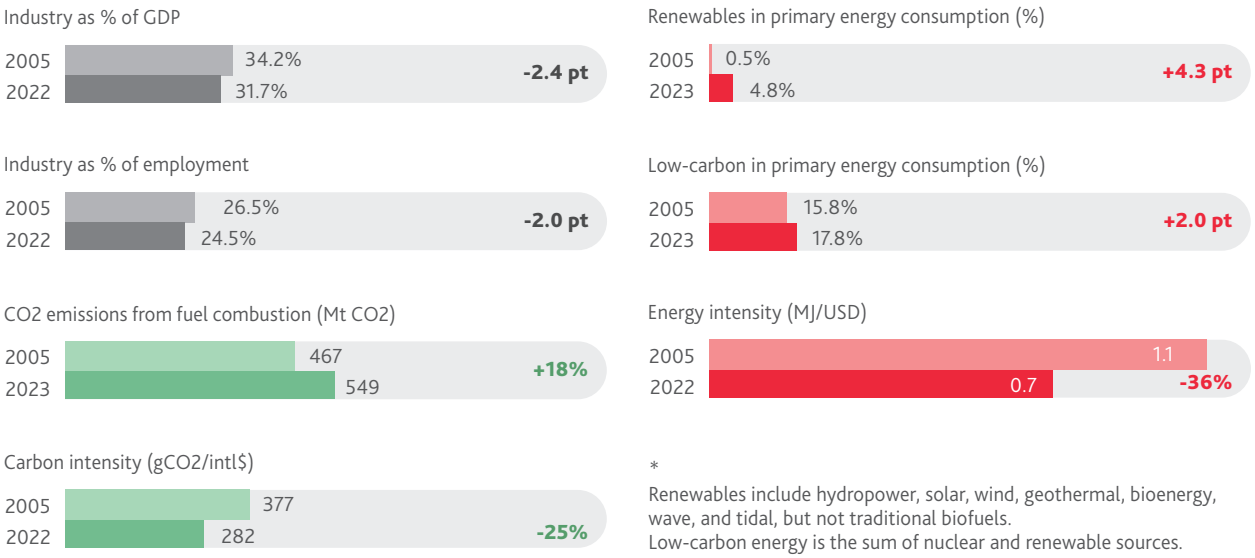
The president Yoon Suk Yeol was strongly against the development of renewable energy facilities and rather emphasized on the development of new nuclear power plants. In May 2023 the "*First Basic Plan for Nurturing National Strategic Industries*" was announced. These 12 strategic technologies, initially identified in October 2022 in the "Strategy to Become a Technology Hegemon" are still largely relevant for the green transition with 4 of them related to green technologies (secondary cells, leading-edge mobility, next generation nuclear energy, hydrogen). Moreover, the persistence of industrial strategy, which is a feature of economic policy in RoK, and strong industrial interests of the Chaebols ensure a form of continuity despite the political transition. In terms of energy policy, there was also a change with a renewed focus towards nuclear energy, while the Moon Jae-In government pursued a policy that did not extend the lifetime of existing reactors and pause new builds, resulting in decommissioned nuclear plants.

The difference between the Moon Jan-In and the Yoon Seok-Yeol eras must however not be exaggerated; there is a strong institutional and policy continuity around key industries (AI, semiconductors, hydrogen and smart cities) with the only exception of a U turn regarding the nuclear policy.

## 1.2. Technological and environmental objectives of industrial policy

The National Basic Plan for Carbon Neutrality and Green Growth adopted in April 2023 sets mid- to long-term reduction targets by sector with the aim of reducing GHG emissions by 45.9% in 2030 compared to 2018. The industry sector specific target is to reduce emissions by 11.4% by 2030 compared to 2018 levels: improvements to the K-ETS and support to technological development are the two levers mentioned to achieve this. This target is less ambitious than the previous version of the 2050 Climate Neutrality Roadmap for Korea adopted in December 2021 which aimed for a reduction by 15% of industrial emissions by 2030 compared to the 2018 level. These wide-range environmental strategies are complemented by sectoral plans which provide

**Figure A.2** South Korea indicators

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Renewables include hydropower, solar, wind, geothermal, bioenergy, wave, and tidal, but not traditional biofuels.
Low-carbon energy is the sum of nuclear and renewable sources.

specific targets for key technologies. For example, the Hydrogen Economy Roadmap[2] adopted in January 2019 outlines a goal of producing 6.2 million fuel cell electric vehicles and rolling out at least 1,200 refilling stations by 2040. However, according to the IEA, only 3,000 fuel cell vehicles were sold in Korea in 2024.[3]The energy mix is dealt with in another document of which the latest version, the 10th Basic Electricity Plan was adopted in January 2023. This version has significantly changed national targets, (the 2030 renewable target was lowered from 30% to 21% of total electricity, while the share of nuclear power increased in similar proportion, up to 32% in 2030; targeted share of coal and LNG remained unchanged (20% for coal and 23% for LNG in 2030).

## 1.3. Institutional setup supporting the implementation of the industrial policy

The main ministry involved in the definition of the industrial strategy is the Ministry of Trade, Industry and Energy (MOTIE) and plays a key guidance role for industrial policy. To illustrate, the Ministry of the Environment criticized the low renewable energy target in the 10th Basic Electricity Plan (developed by the MOTIE) and asked to raise that target[4] but the MOTIE had the final word on the definition of the target.

Multiple organizations are however involved in the definition of technological guidance. The strategy is mostly determined with the expertise of the Korea Institute of Science & Technology Evaluation and Planning (KISTEP),[5] a research institute under the Ministry of Science and ICT (MIST) which supports the government in forecasting scientific and technological future outlook, establishing national science & technology strategies and evaluating them. The political impulse of industrial strategy comes from Presidential Advisory Council on Science and Technology Act (PACST), a small committee (less than 30 members with government and civil society representatives) advising the President on the innovation of national science and technology and deliberating on innovations in science and technology and industrialization related policy.

These different institutional bodies persist in time and ensure a form of stability in a long history of industrial policy in RoK. In general, the pervasiveness of industrial policy in Korea, since the 1970s, and a strong embeddedness with strong industrial actors (the Chaebols) is a key feature in RoK.

[2] See an English translation of the roadmap (the original in Korean). For another example see the Net-Zero strategy by 2050 for the shipbuilding industry: Toward Green Shipping by 2050 – 2023 National Action Plan, published by the Ministry of Oceans and Fisheries.

[3] IEA (2025): Global Hydrogen Review

[4] Energy Tracker Asia, (2024), South Korea's Energy Mix and Its 10th Basic Energy Plan, June 12th, 2024

[5] https://www.kistep.re.kr/eng/

## 2. DEVELOPMENT OF A CARBON PRICING MECHANISM

In 2015, South Korea was the first country in North-East Asia to adopt a nationwide mandatory ETS (the K-ETS). The ETS applies to 6 sectors (heat and power, industry, buildings, transportation, waste, public sector), covering 73.5% of South Korea's national GHG emissions. However, emission allowances are mostly allocated for free and there has been an oversupply of allowances since 2021. As a result, the price of emissions allowances fell from $30/tCO_2$ in February 2022 to $8/tCO_2$ at the end of June 2023. South Korea's ETS is currently in its third implementation phase (2021-2025). 90% of emissions allowances for the power sector are freely allocated and 10% paid for in auctions.

In September 2023, the Ministry of Environment unveiled a plan to stimulate the Korean Emissions Trading Scheme. These new rules are part of a larger reform process aimed at increasing liquidity in the K-ETS. These include raising holding limits of Korean Allowance Units (KAUs) and allowing consignment trading for third parties; relaxing the banking restrictions on unused allowances; introducing new rules on adjustment of auction volumes: revising guidelines for verifying offset credits to reduce the burden on businesses; and measures to facilitate low-carbon investment. In addition, the ministry of Environment has begun developing the basic plan and allocation plan for phase 4 (2026-2030), which will align the K-ETS cap with Korea's more ambitious 2030 GHG emission reduction target from Korea's most recent 2021 NDC, of a 40% reduction by 2030 compared to 2018 levels.

## 3. SUPPLY-SIDE SUPPORT TO INDUSTRIES

### 3.1. Support mechanisms for R&D&I focused on new green technologies

The "Strategy to become a Technology Hegemon" (October 2022) was accompanied by the revision of the Restriction on Special Taxation Act (March 2023)[6] which approved an increase of the R&D tax credit specifically for the 12 national strategic technologies mentioned above. This measure was further reinforced in January 2024 by increasing this tax credit by an additional 10 percentage points (from 50 to 60% for SMEs, from 40 to 50% for middle market enterprises, and from 25 to 35% for major companies, with higher rates of up to 40 to 50% for national strategic technologies).[7] In August 2024, the Ministry of Science and ICT announced a comprehensive plan for all ministries (the "First Basic Plan on Promoting National Strategic Technology") for investing 30 trillion won (approx. $23 billion) over the next 5 years to accelerate R&D in these areas.

In July 2024, the Ministry of Environment also announced a comprehensive plan aimed at supporting the growth of new startups and expansion of export opportunities in a range of climate, environmental, and green industries with diverse measures of support (equity, public-private fund, green export fund)

### 3.2. Support mechanisms for the development of new green technologies production units

With the revision of the Restriction on Special Taxation Act (March 2023), the tax credit rate for investments in national strategic technologies by large enterprises was raised from 8% to 15%. Additionally, grants and subsidies are available through the development of public-private partnerships. For example, in April 2023, four PPP projects were selected by the Ministry of Science and ICT to receive substantial financial support by the government, among which one for the development of secondary high-performance batteries ($5.3 bn) and one for advanced mobility.[8] Selection criteria did not only include price, but also domestic industrial contribution and a job creation criterion, as exemplified in May 2025, the Ministry of Trade, Industry and Energy in another nationwide tender to install 540 megawatts of battery energy storage systems.[9]This direct support towards strategic technologies is complemented by a significant infrastructure policy. For example, the government is making significant investments in EV infrastructure. The number of charging stations is set to increase from 240,000 to 1.23 million units by 2030. In April 2022, the South Korean government announced a $318 million investment to bolster EV charging and hydrogen refueling networks. Moreover, the government is actively promoting the development and adoption of fast-charging technologies, which are incentivized through a subsidy program. Large investments are also scheduled in offshore wind capacity (14.3 GW installed by 2030) with 2 mega projects: the 8.2 GW "South Korea Government Project" and the 6.1 GW "Offshore Wind Projects in Ulsan". These projects have the potential to make Korea one of the global leaders in offshore energy generation, but have faced hurdles, leading to the implementation of a Special Act on Offshore Wind in March 2025.

### 3.3. Support mechanisms for the decarbonization of existing industrial production units

We found very limited evidence of support programmes for the decarbonization of industries. We noted that in January 2024, the government announced a $140 million fund for decarbonizing

[6] See the summary of the IEA on the revised Act on restriction on special taxation.

[7] Information on R&D Tax Credit in the Amended Enforcement Decree of the 2023 Tax Revision Bill (23 Jan, 2024) Ministry of Economy and Finance.

[8] South Korea to provide battery industry more support, (10 April, 2023), Argus Media.

[9] South Korea launches $29 billion battery storage initiative (26 March, 2025), AJP news agency.

companies subject to the Korea ETS. The initiative seems to be confirmed in December 2024 with a $77 million subsidy for greenhouse gas removal. In 2025, a "Plan for Establishing a High-Tech Strategic Industry Fund to Enhance Future Industrial Competitiveness" was announced, setting up a 50 trillion KRW fund in the Korea Development Bank. The fund will aim to provide support across high-tech strategic industries, such as semiconductors, secondary batteries, biotechnology, both for large companies but also for SMEs.[10]One of the reasons stressed during our interviews for this limited investment in decarbonization is the lack of green energy and infrastructures. The industrial strategy is failing to provide the necessary assets to decarbonize the production and industrial actors. For instance, POSCO the main steel manufacturer in RoK, which is considering the production of green hydrogen to decarbonize its steel production is slowing down its investments due to the absence of renewable energy infrastructure (only 5% of renewable sources in the share of primary energy consumption in 2023).[11] This failure of investing in new green energy infrastructure is partly related to the structure of the energy market: KEPCO, the monopolistic energy utility is a vertically integrated company and maintains energy prices at an artificially low level, with energy prices heavily subsidized to benefit industrial stakeholders. Consequently, the company is heavily indebted and cannot make the necessary investments for developing new assets.

# 4. DEMAND-SIDE SUPPORT TO INDUSTRIES

## 4.1. Support mechanisms incentivizing private demand in green markets

An EV subsidy for consumers has been revised in February 2024 and set at 6.5 million won (about €3,800): a 4.2 million won (about €2,500) subsidy is earmarked for performance and safety, a 1.4 million won (about €850) execution subsidy is reserved for only 10 pre-determined locations.[12] An additional 500,000 won (about €300) is determined based on the application of innovative technologies such as fast charging, while 400,000 won (about €240) is allocated based on factors like the installation of charging infrastructure. The key factor in new subsidy payment conditions is the energy density of batteries. This new formula tends to favor Korean EV against foreign manufacturing: for example, Tesla vehicles are ineligible to the subsidy.

## 4.2. Public procurement strategy favoring green products and local content requirements

South Korea has been a pioneer of green public procurement (GPP) since 2005 when the Environment Ministry enacted legislation mandating government agencies to buy "green products" whenever possible. The Act was last revised in 2021. To attain net-zero emissions, Korea has adopted the Framework Act on Carbon Neutrality and Green Growth to cope with the climate crisis in September 2021. According to Article 5, public institutions are required to purchase green products first in order to transition to a carbon-neutral society and refer to the GPP policy. Article 2-2 of the Act on the promotion of purchase of green products specifically stipulates the scope of green products subject to priority purchase by public institutions.

The functioning of green public procurement relies on diverse incentives and certification processes. The main tools are two-fold:

- On the one hand there are different labelling processes. There are 9 types of labels amongst which 3 relate to green labels: the eco-label, the low-carbon label and the excellent recycling product label;
- On the other hand, there are certifications and minimum product standards that must be taken into consideration when public entities buy products. The public procurement service has provided minimum-requirement guidelines of green products for 100 product categories.

The Korea Environmental Industry & Technology Institute (KEITI) is responsible for setting the standards, labelling of products and minimum requirements. The main enforcement system relies on reporting: each public entity has to evaluate its purchasing of green products through a score. This score is then aggregated in a report that is then shared with the President of the Committee.

## 4.3. Regulation and norms favoring green industries

There is evidence that RoK may use some sectoral regulation tools to enhance national industry. For example, the Korean government has defined sales quota in 2020 by which all Korean car-manufacturers must sale at least 15% of low-emissions vehicles (which in the national taxonomy include hydrogen and hybrid vehicles).

Concerning the deployment of green energy, renewable portfolio standards (RPS) were introduced in 2012, and mandate that power generators with installed capacity over 500 MW (25 companies accounting for 72% of total energy generation in 2021) need to increase the share of RE in their electricity mix to 25% by 2030. The RPS requirement for 2022 has been revised upward in April 2021, from 10% to 12.5% to accelerate the installation of renewable energy. The obligation set by the RPS can be met either by generating RE electricity or buying renewable energy certificates, a tradable commodity created by generating 1 MWh of RE electricity.

[10] A 50 Trillion KRW High-Tech Strategic Industry Fund to be Established (5 March, 2025), Ministry of Economy and Finance.

[11] Our World in Data, Share of primary energy consumption from renewable sources, Energy Institute.

[12] The exact details on how the sites were selected is not however defined (see the Fleet Europe article explaining the technical requirements for this subsidy).

Originating from the RPS, the production of renewable energy credits REC is incentivized through the voluntary K-RE100 framework, an initiative launched in January 2021 to incentivize large companies to procure 100% of their energy needs with renewable sources, through generating renewable energy or purchasing RECs.[13] Both the RPS and RECs systems have faced criticism. The MOTIE has started to implement measures to reduce reliance on RECs.[14]

# 5. LABOR AND SOCIAL POLICIES FOR A JUST INDUSTRIAL TRANSITION

If RoK has deployed multiple education and training policies for encouraging education in science, technology and mathematics (such as the Talent Innovation Act adopted in January 2024 that supports life-long training, high tech industry academies & corporations that specialize in talent innovation in high-tech industries), no evidence significant initiatives related to the just transition was available.

# 6. TRADE AND INTERNATIONAL POLICIES SUPPORTING INDUSTRIAL POLICIES

## 6.1. Policies aiming at improving resilience and de-risk global supply chains

With its "Strategy for a Free, Peaceful and Prosperous Indo-Pacific Region" released in December 2022, the Yoon Suk Yeol administration reinforced its alignment with the USA (an "ally") against China (a "key partner for achieving prosperity") for national security reasons. However, the Korean industry is mostly oriented towards exports, and imports more than 90% of its supply in critical minerals for key industries in the EV, batteries and semiconductors sector from China. RoK therefore has to find a subtle equilibrium between economic and national security against economic dependency.

A new Critical Mineral Strategy was adopted in February 2023 for 33 critical minerals and 10 strategic critical minerals (which are under "intensive management").[15] Since then, Korea has incentivized stockpiling of certain critical minerals through the Korea Mine Rehabilitation and Mineral Resources Corporation (KOMIR) agreement to build Critical Mineral Stockpiling Facility (in December 2023). A state-backed fund expected to exceed 5 trillion won ($3.79 billion) is also being set up to "secure stockpiles of critical supplies and support investment in relevant businesses and facilities". Korea also announced a goal of increasing the recycling rate of ten critical raw materials to 20% by 2030 (including lithium and several rare earth elements) in 2023.

A key element of Korea and the Chaebols' strategy for de-risking and hedging strategies supply chains is centered around investments both upstream and downstream, and international presence. For instance, Korean battery manufacturers have the largest overseas battery production capacity: in 2024, Korean companies [...] owned almost 85% of battery production capacity in the European Union and 40% in the United States.[16]

## 6.2. Policies supporting internationalization of national industries

Korea has engaged into an intense raw material diplomacy to derisk, diversify and secure supply chains with South-East Asian countries through the ASEAN – Korea Collaborative Initiative, developing its relation with Central Asian Republics (CAR) through the K-Silk Road Initiative, intensifying its relation with Africa with a Korea-Africa summit in June 2024 and at the international level by chairing the Minerals Security Partnership (MSP) since July 2024 during one year, and as Chair of the Indo-Pacific Economic Framework (IPEF) Supply Chain Crisis Response.

[13] Access to K-RECs: Navigating South Korea's Renewable Energy Market (30 December 2024), CnerG.

[14] Institute for Energy Economics and Financial Analysis (2025): Bottlenecks to Renewable Energy Integration in South Korea.

[15] IEA (2025): The strategy for securing reliable critical minerals supply

[16] IEA (2025): Global Critical Minerals Outlook 2025

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