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Implementing an ambitious net-zero roadmap in Korea

Political implications

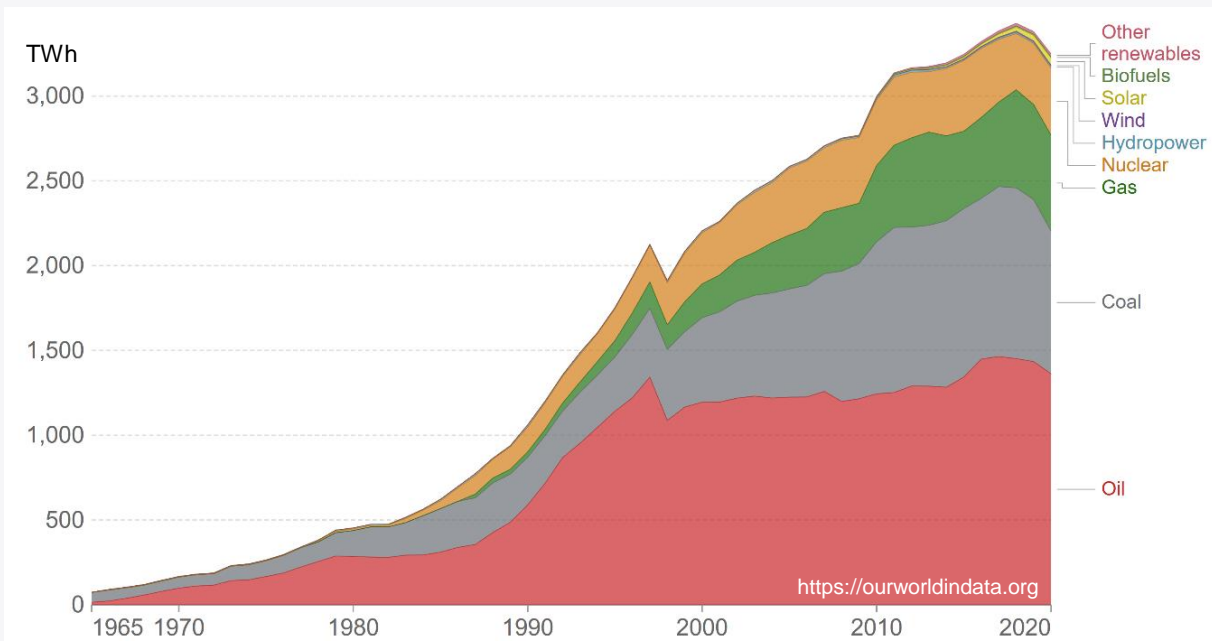
Kwanghee Yeom

BERLIN, 17 FEBRUARY 2022



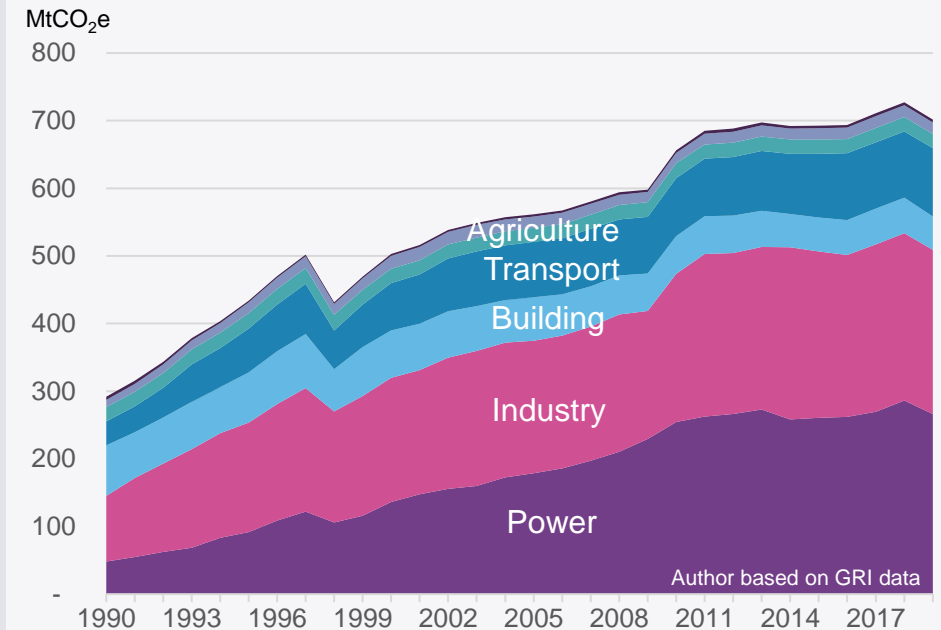
An ambitious net-zero roadmap in Korea implies a radical U-turn away from *carbon-intensive* path dependency

Energy consumption by source in Korea



- More than 90% of the energy consumption in Korea is covered by *imported* fossil fuels such as coal, oil and LNG

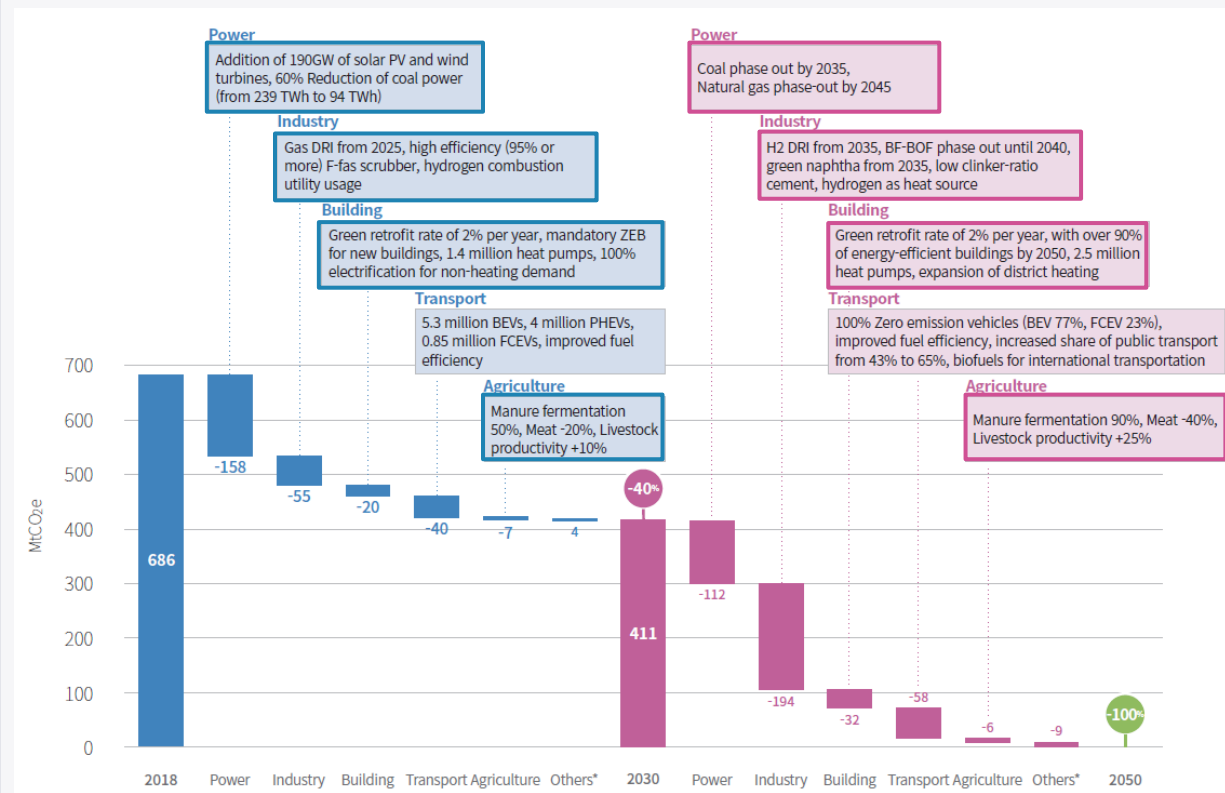
GHGs emissions development by sector in Korea



- The energy intensity in Korea (0.141 koe/\$ in 2020) is two times higher than in other developed economies (FR 0.081, JP 0.076, DE 0.07 koe/\$)

Current climate measures must be *significantly accelerated* in order to reach climate neutrality.

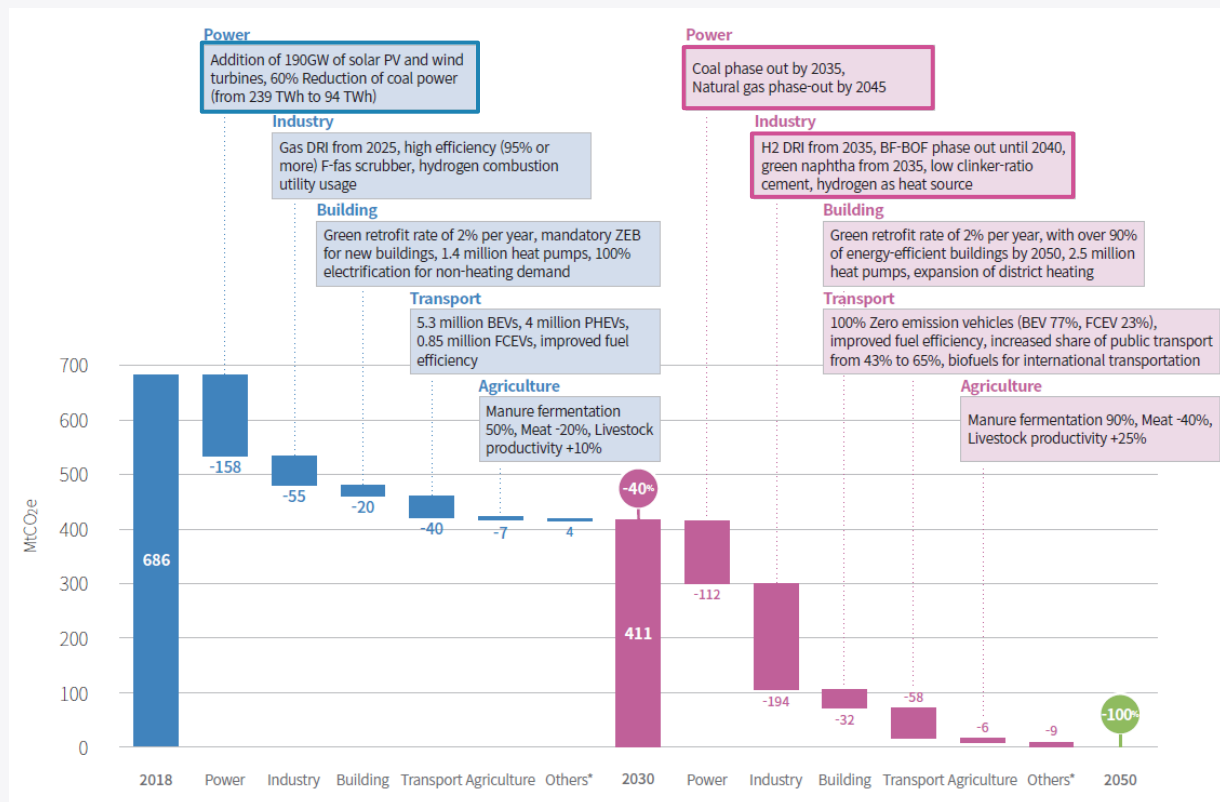
K-Map Scenario



- ❑ Most climate protection measures needed to reach net-zero are already in place, but their scope and speed is limited:
 - a) Renewables Portfolio Standard established in 2011 does not guarantee investment stability
 - b) K-ETS is negligible to reduce emissions in power and industry sectors
 - c) Zero Energy Building announced in 2014, but mandatory for private buildings in 2025
 - d) Manure fermentation is still optional
- ❑ Renewables have not been given yet political predominance, since wide technology options are still under discussion (role of SMR, CCUS, blue hydrogen)
- K-Map strongly request to establish *climate protection* as the country's top priority

An ambitious net-zero plan presents important opportunities for the *manufacturing-based export-oriented* Korean business

K-Map Scenario



- ❑ Most carbon-free technologies are still immature in Korea
 - a) Floating offshore wind turbines
 - b) Energy storage
 - c) Green electrolyzer
 - d) Hydrogen based DRI
 - e) Green naphtha with CCU
 - ❑ The road to carbon neutrality represent a major opportunity for technological leadership
- Our roadmap shows a clear direction for Korean manufacturers

The *Next Korean Presidency* will be key to implement an ambitious and coherent net-zero policy

- ❑ Election is the biggest *window of opportunity* for policy action in representative democratic states
 - New German government (Dec 2021): successfully strengthened climate protection ambitions with higher RES promotion target and earlier coal phase-out

- ❑ Korean Presidential Election on 9th March 2022
 - Minor interest in climate protection: economical and social equality as the main topic during the campaign
 - All candidates promising *economic growth* and *job creations*, but propose different solutions: energy transition and climate protection for the liberals, advanced scientific technologies for the conservatives

- 2022 and 2023 as critical years for climate actions in Korea
 - **Power to change only in the first two years** given the Korean presidential system with a single five-year term
 - The framework condition for an ambitious net-zero roadmap should be implemented by the next presidency in Korea

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Thank you for your attention!

Questions or Comments? Feel free to contact me:

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