Post COVID-19: 2022 Green Fiscal Policies in South Korea

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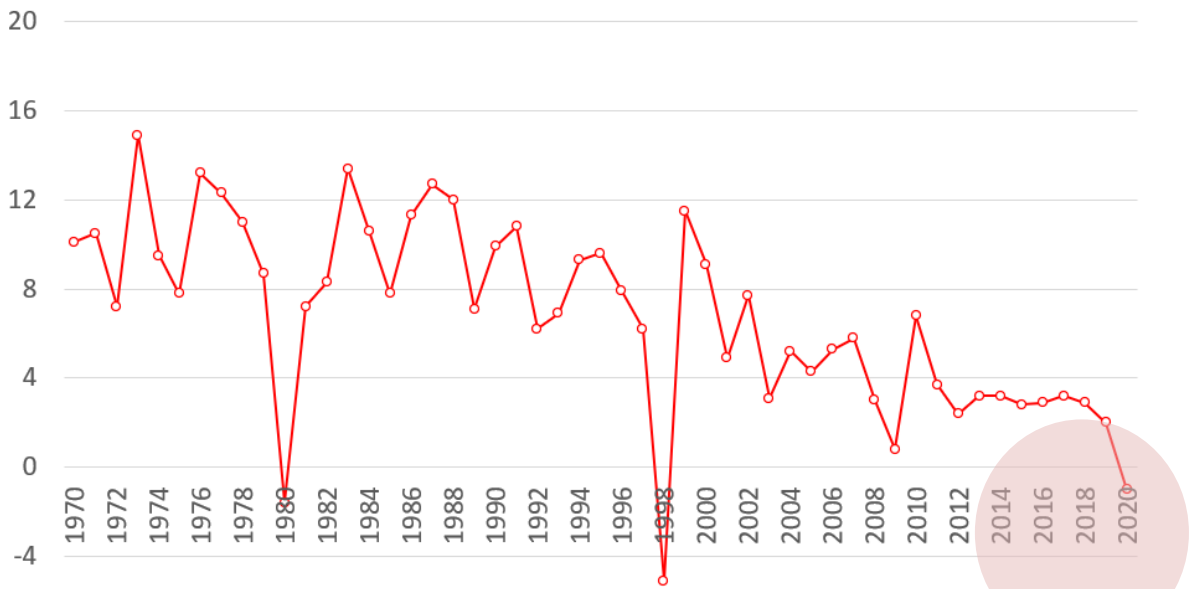
1. The Background of Korea's Green Fiscal Policy

The COVID-19 Pandemic

- **Green fiscal policy in 2010s**
- **Economic downturn exacerbated by the COVID-19**

- Lack of private investment → delayed economic recovery
- The global COVID 19 outbreak has exacerbated concerns on the recent slowdown in GDP growth, job losses and inequality.

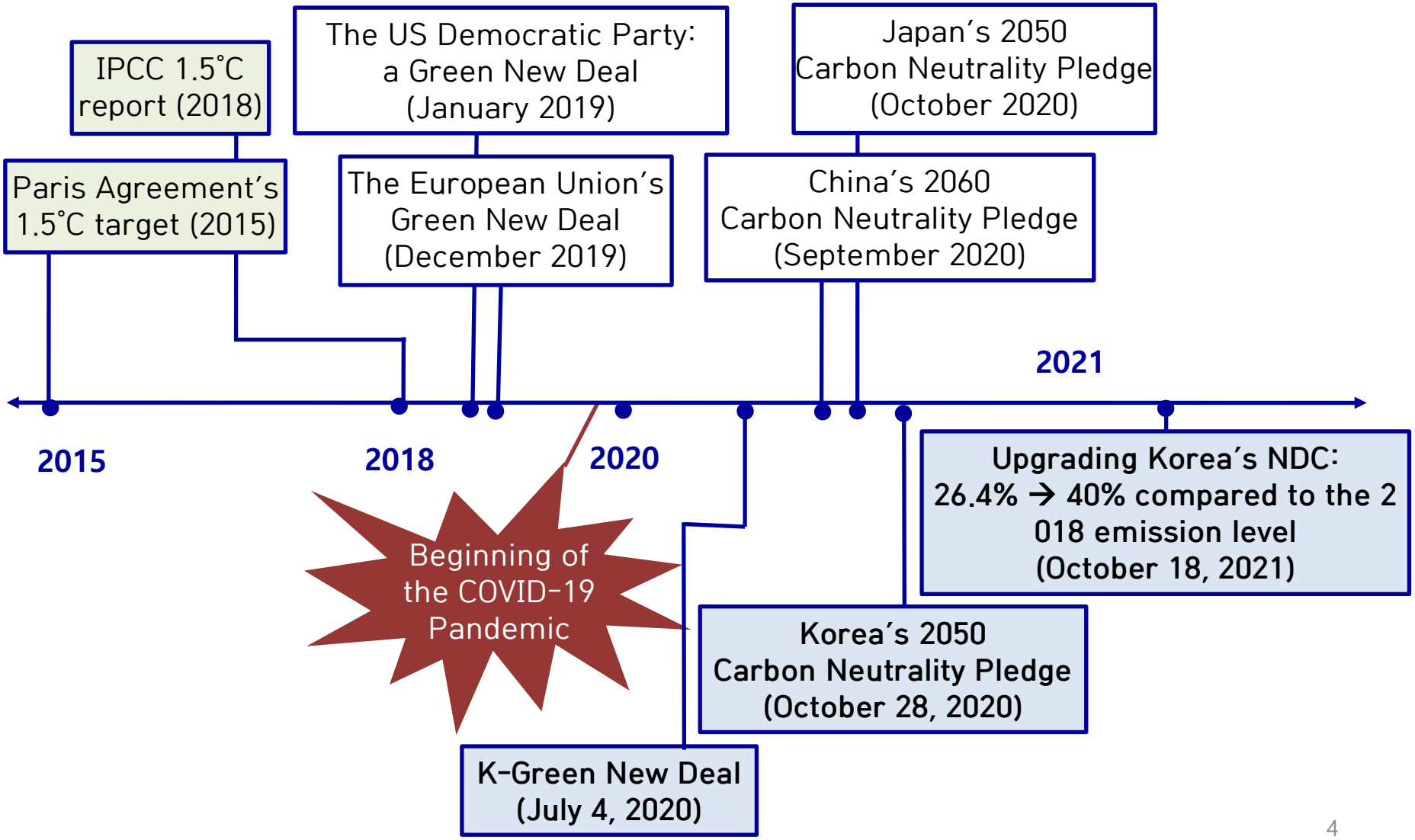
Korea's Real GDP Growth Rate (1970-2020)



→ **The Korean New Deal was adopted as a stimulus policy package over the course of the COVID-19 pandemic.**

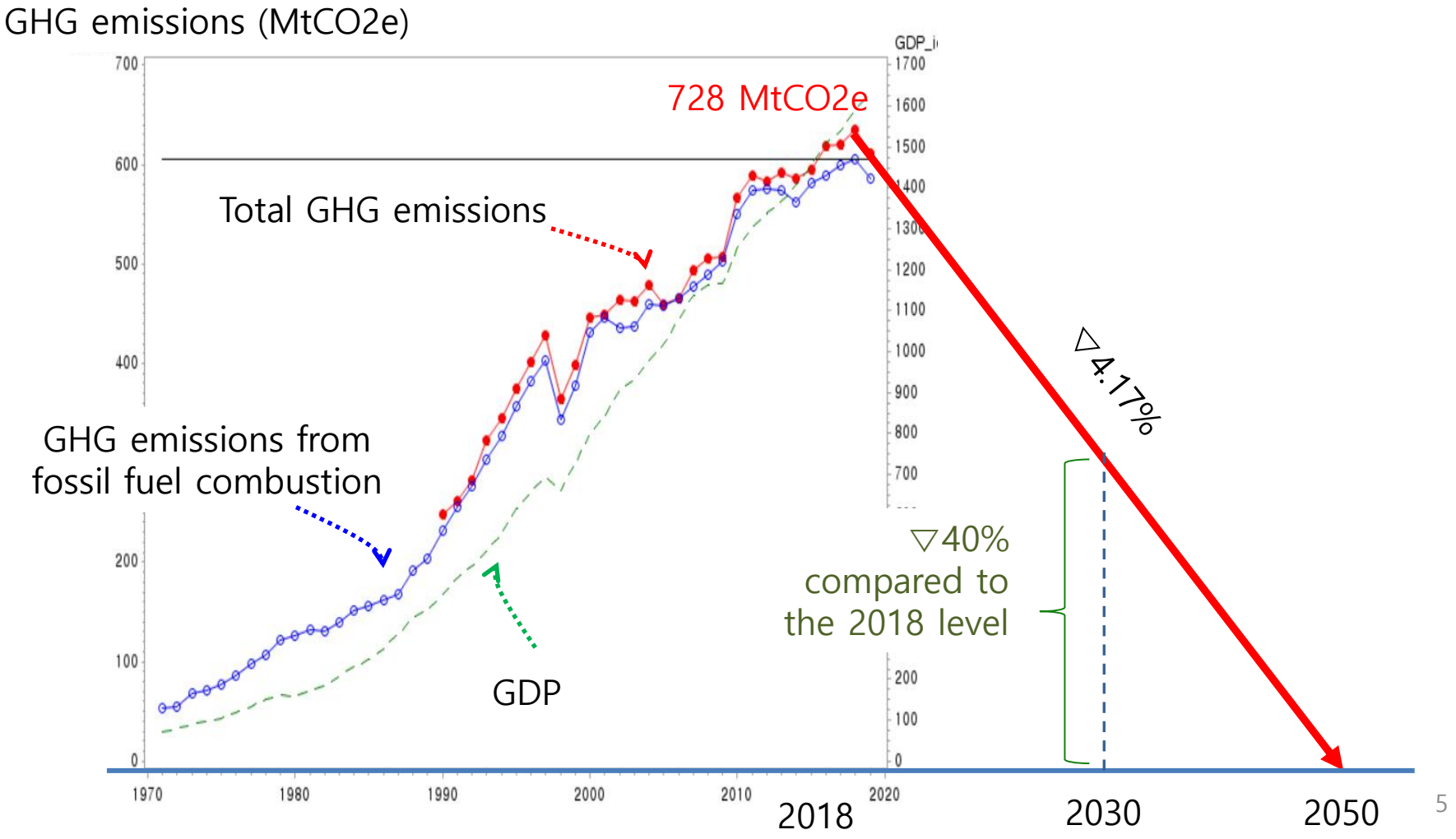
consisting of a Digital New Deal & Green New Deal

The K-Green New Deal and its Climate Goals



The K- Climate Goals

- **To achieve the '2050 Carbon neutrality target' → needs to reduce 4.17% annually**

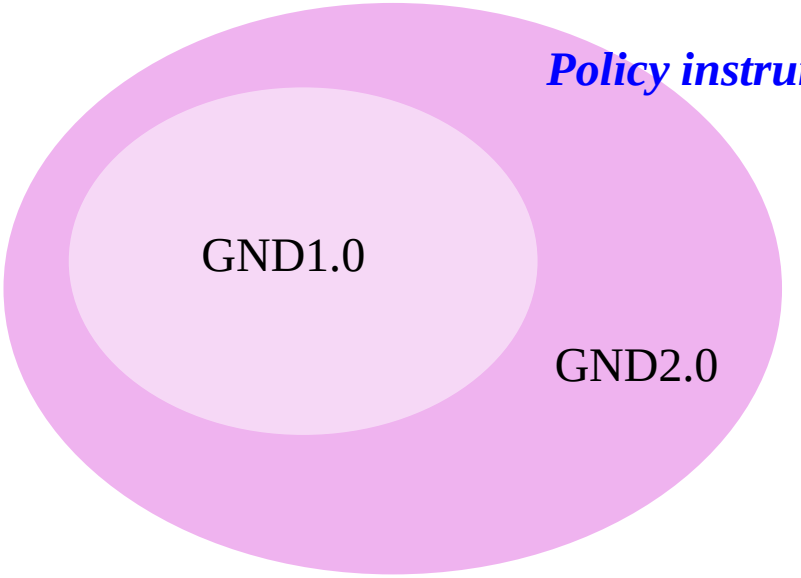


Other Goals of the K-Green Fiscal Policy

■ The K-New Deal

- Along with the digital sector, the low-carbon sector is one of the fastest growing parts of the global economy → A stimulus package

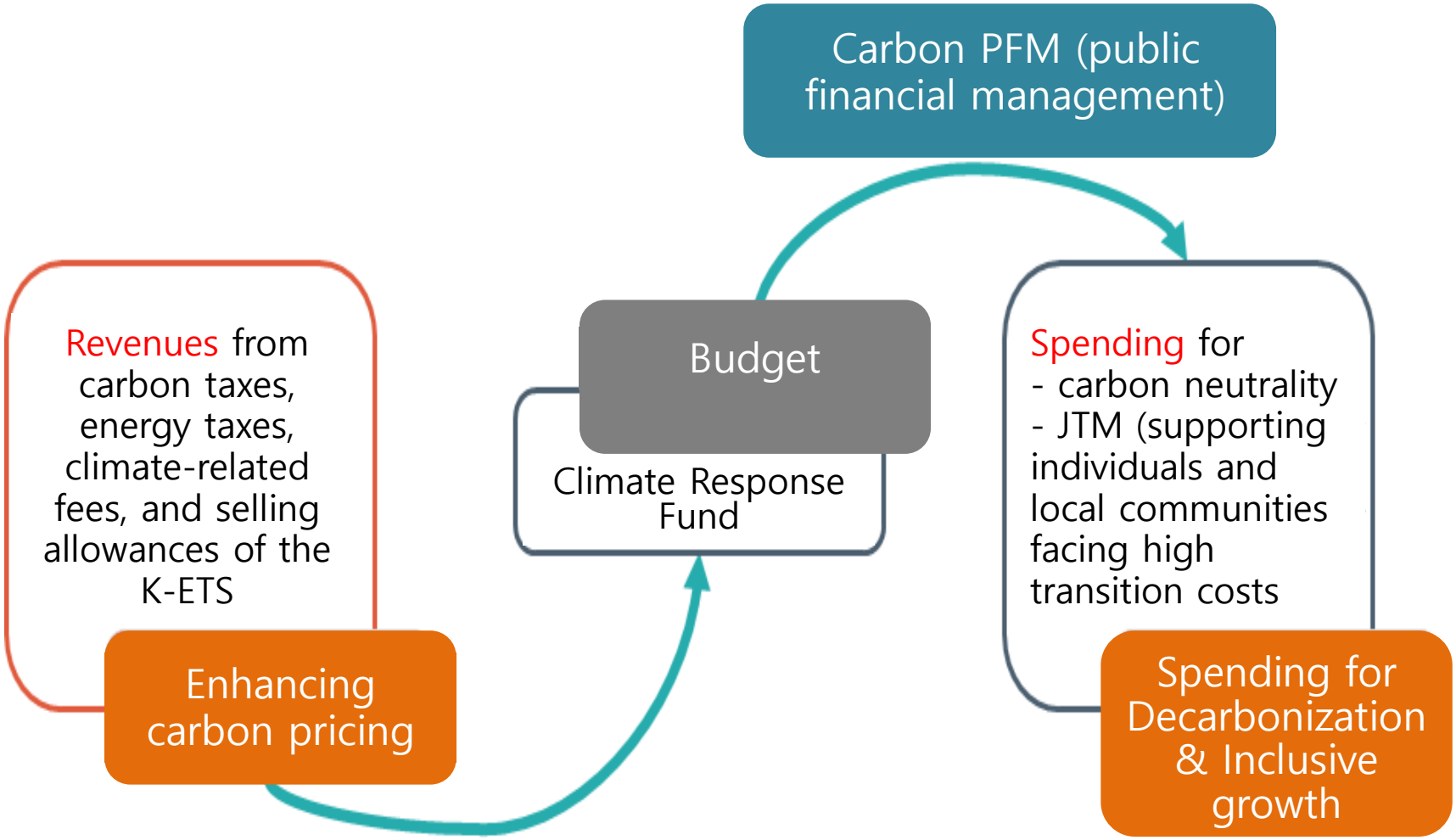
Goals: Decarbonization
Recovering from the economic downturn
High-quality jobs
Inequality
Affordable housing
Social and climate justice issues



Policy instruments: Carbon pricing (carbon tax, ETS)
C&C
Emphasis on public investment and investment
→ An intervention approach with large-scale fiscal spending

2. 2020 Green Fiscal Plan in South Korea

Green Fiscal Policy Framework



Source: Ministry of Environment

2022 Green Expenditure Plans

- 13.3 trillion won is allocated to '3+1 sectors' of GND.
- Compared to 2021 expenditure plan:
  - Total budget: +8.3%
  - K-New Deal budget: +3.7%
  - Green New Deal budget: +29.1%
    Establishing a new fund, Climate Response Fund

→ Moving toward "Green Fiscal Policy"

(unit: trillion won, %)	2021	2022 (plan)
Total budget (A)	558.0	604.4
K-ND budget (B)	32.5	33.7
Green New Deal Budget (G)	10.3	13.3
G/A	1.9%	2.2%
G/B	31.7%	39.5%
G/GDP	0.5%	0.7%
K-ND public investment during 2020-2025 (L)	114.1	160.0
Green New Deal (M)	42.7	61.0
M/L	37.4%	38.1%

자료: 국회예산처,「2021년도 예산안 총괄 분석 II」, 2020.10. p.106.「2022년도 예산안 총괄 분석 II」, 2021.10. p.56.

Climate Response Fund

■ Planed to establish with the initial fund size of 2.7 trillion won
- K-ETS: 0.7 trillion won
- 7% of energy tax revenue: 1.2 trillion won
- Transfer from existing funds and public accounts: 0.8 trillion won

■ Support the following actions
- GHG reduction: 0.9 trillion won
- Fostering an industrial system with new promising low-carbon industries: 0.8 trillion
- Just transition: 0.2 trillion
- Institutional framework of carbon-neutrality: MRV system, carbon footprint, ESG disclosure, green taxonomy, etc.

3. Issues

Green Budget Size

■ While Korea's annual reduction target (▽4.17%) is pretty high, the proportion of green spending plan to GDP (0.5~0.7%) is smaller than those of Germany and the UK (1%).

	2021	2022 (plan)
Green New Deal Budget (G)	10.3	13.3
G/GDP	0.5%	0.7%

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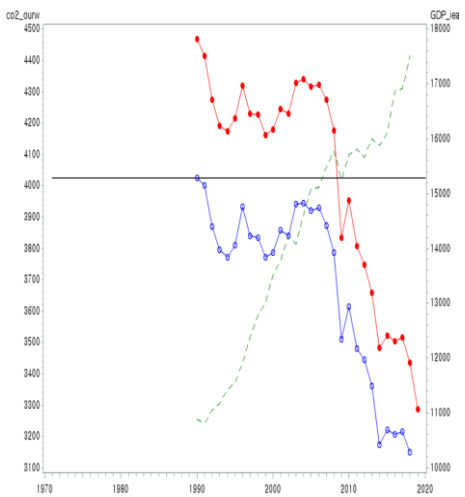
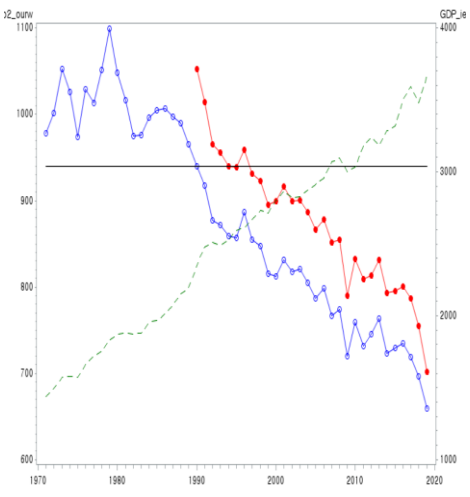
< Comparison: GHG emissions and 2030 NDCs >

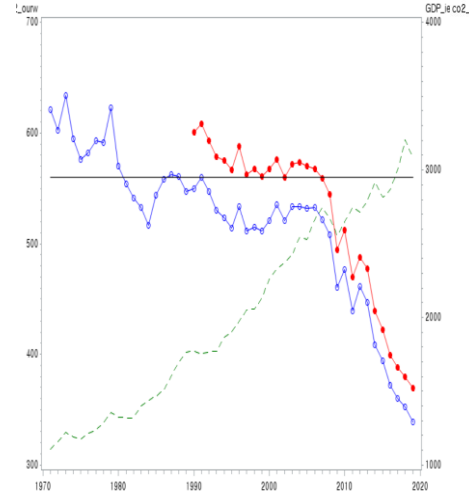
EU : at least 55%



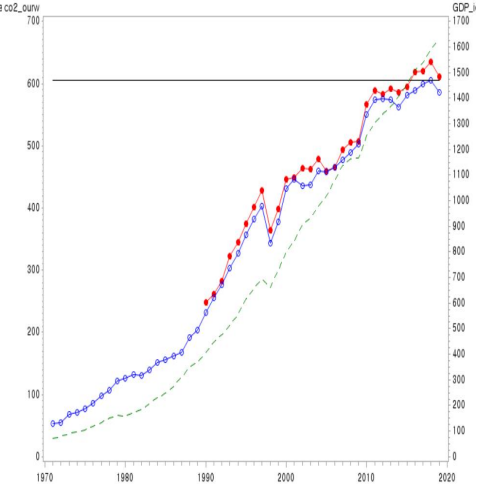
Germany: at least 65%



UK: at least 68%



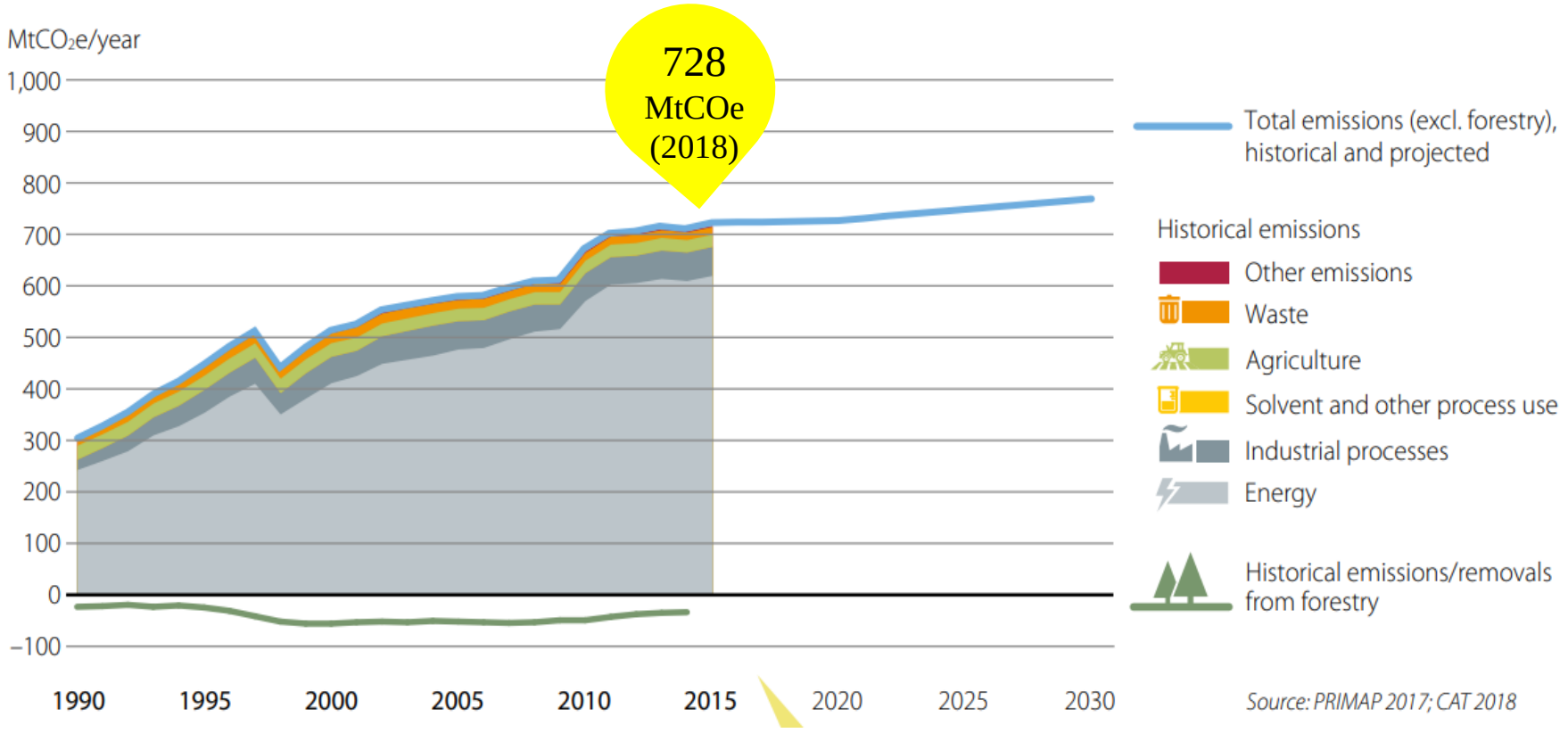
Korea : 40%



Allocation: Energy transition

- Energy production and use contribute by far most to overall emissions
  → Decarbonizing energy supply is critical.

< GHG emissions by Sectors >

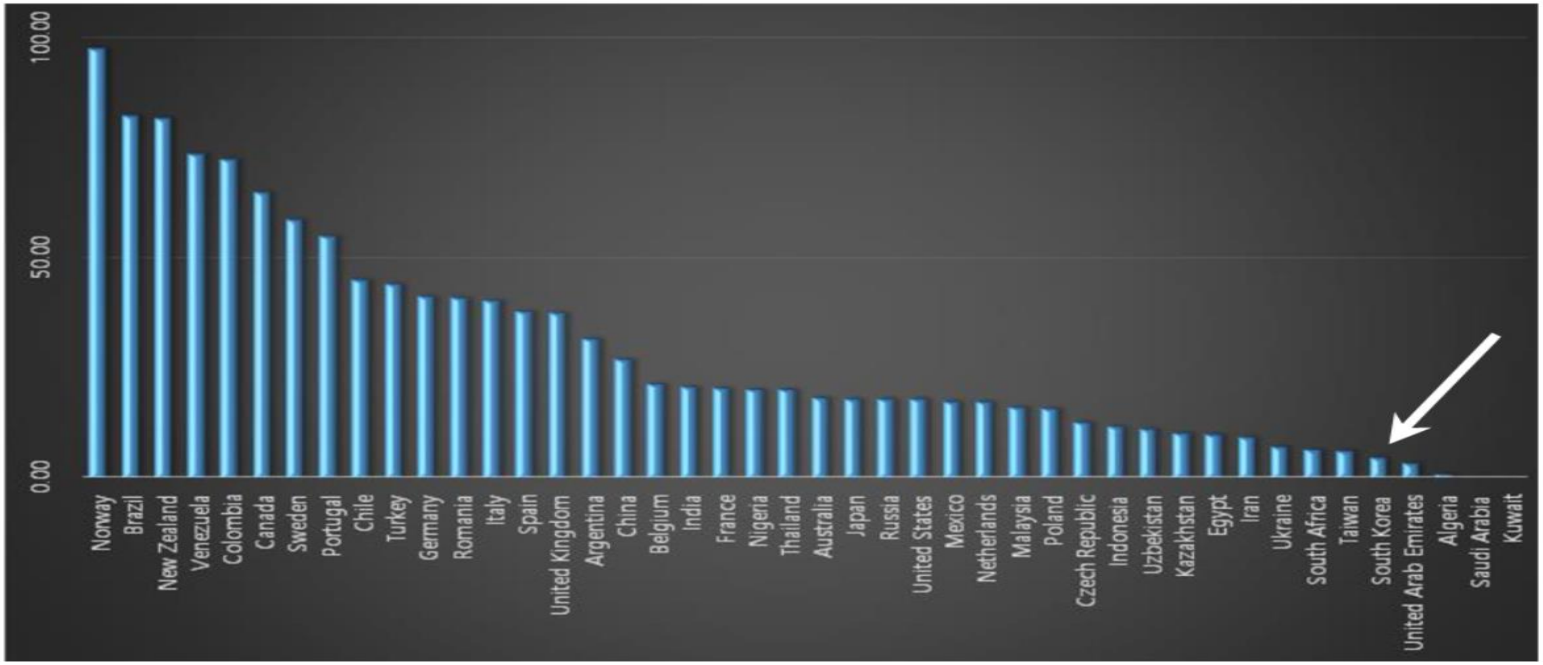


(source: Climate-transparency.org. 2021-05-31)

Allocation: Energy transition

- The proportion of RE in 2020 = 6% < 26% (OECD average)

< The proportion of electricity generation from RE sources in 2019 >



(source: World Bank Enerdata

- Proposed goals: RE3020, 60.9%~70.8% by 2050
- 2020 budget for RE is only 332.4 billion won (2.5% of 2020 GND budget)

→ need to expand

Allocation: Hydrogen Economy

- Budget to expand the supply of EV/FCEV supply accounts for 31% of 2022 GND budget.

R&D (basic tech) → R&D (commodity)→ Commercialization → Diffusion → Matured

→ need to increase R&D expenditure focusing on green hydrogen production technologies

- Korea's R&D investment on clean energy sources has been relatively small.

< Clean Energy R&D Investment in 2019 >

(unit: Million USD)

country	Total	Energy efficiency	Renewable Energy	Hydrogen Energy	Energy saving
France	1,573.2	247.9	180.4	37.9	69.2
Germany	1,575.5	278.6	331`.0	61.0	173.1
Japan	3,033.5	763.2	339.1	297.2	156.6
UK('18)	1,060.8	372.3	112.6	16.3	99.7
USA	7,761.0	1,330.7	767.5	120.0	125.0
Korea('18)	752.9	188.3	187.0	49.3	145.4

자료: 국회예산처,「2021년도 예산안 총괄 분석 II」, 2020.10., p.110.

Allocation: Innovating production process

- Sources of innovation = Production process
- The proportion of green budget supporting green innovation activities in the production process is around 10% → Need to increase with developing customized support modules

< 2022 Carbon Neutrality Budget (unit: 10 billion won) >

Green New Deal	11,872.4	(%)	
▶Low carbon transition of the economy	8,175.6	68.9%	
- Energy transition	1,921.3	6.2%	
- Innovating carbon-intensive industrial structure	**347.5**	**2.9%**	SME: CO2 reduction facilities
- Green mobility	3,546.7	29.9%	
- Low-carbonizing urban infrastructure and land-use	2,360.1	19.9%	Green smart schools
▶Promising · low-carbon industrial system	**855.1**	**7.2%**	
- Fostering promising industries	174.6	1.5%	CCUS tech
- Establishing the base of an innovative system	360.8	3.0%	SME: Commercialization
- Circular economy	319.8	2.7%	
▶Just Transition	552.1	4.7%	
▶Establishing institutional framework	2,289.5	19.3%	
- Green financing	839.9	7.1%	Green financing ($US6.4B)
- Expanding R&D	1,391.9	11.7%	
- Establishing basic architecture of carbon-neutrality	57.7	0.5%	

자료: 국회예산처,「2021년도 예산안 총괄 분석 II」, 2020.10. p.106.

Allocation: Inclusiveness policies

- **Fossil fuel subsidies** exist as welfare policy instruments for the poor → Replace carbon-neutral welfare policies.

- **Just transition:** increased by more than 140%
  - Re-arranging various fiscal subsidies and project fundings associated with the Balanced Regional Development Deal
  - Enhancing capacity of local governments.

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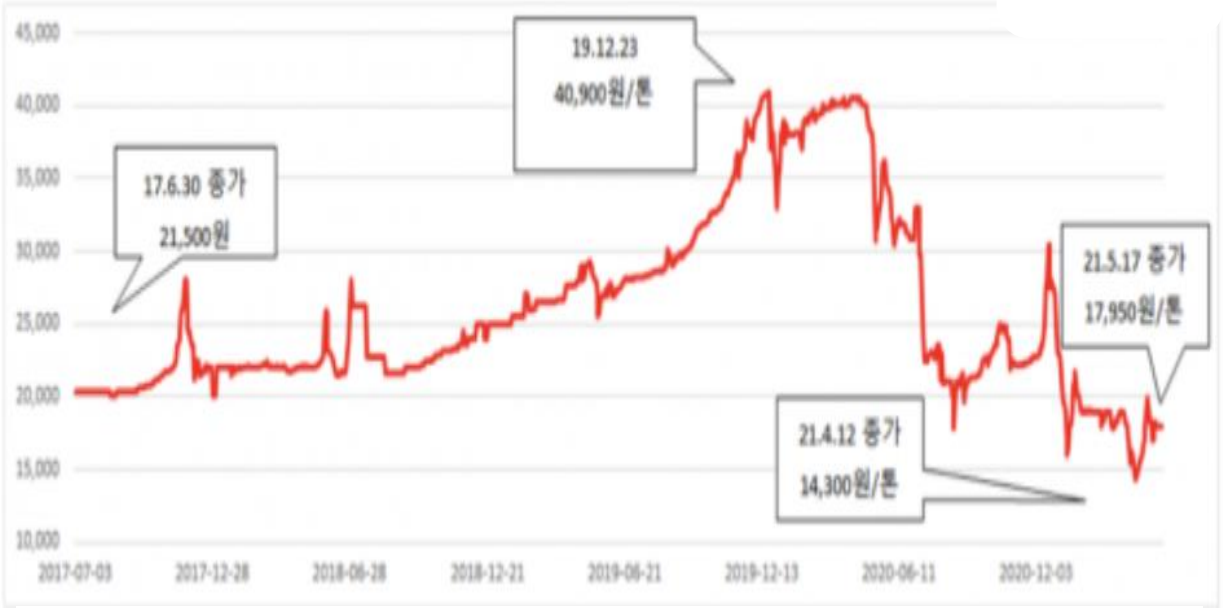
Inflow of Green Budget

A solid plan to get sufficient inflow?

- Adoption of carbon taxes or fees ?
- Unstable allowance price (around 27 USD)



Revenues from carbon taxes, energy taxes, climate-related fees, and selling allowances of the K-ETS

Enhancing carbon pricing

If not, the negative impact on fiscal sustainability will increase.

Source: Ministry of Environment

Efficiency and Fiscal Sustainability

- Find a golden cut to optimize the scope of government's spending
  - To avoid clouding-out the private sector's involvement
  - To stimulate private sector participation

Carbon PFM (public financial management)

- Repeated evaluation from the perspective of fiscal efficiency
  - More than 60% of GND projects are implemented by subsidies
  - In 2020, 89.7% of GND projects was 'vintage'.

- Rule-based approach
  - Climate impact: not only qualitatively but also quantitatively
  - Impact on total factor productivity
  - Plan to phase-out subsidies or replace with a strong incentive-based policy instrument

Revenues from carbon taxes, energy taxes, climate-related fees, and selling allowances of the K-ETS

Enhancing carbon pricing

Source: Ministry of Environment

Jobs

■ The K-GND will create jobs in the following sector

- Clean energy supply (RE, hydrogen energy)
- Circular economy sectors (recycling & waste management)
- Construction engineering and other technology service sectors
- Manufacturing sectors providing crucial inputs with low-carbon & low-resource-use technologies
- Green mobility and green infra
- Digital sectors to optimize the input and energy use: AI, IOT, bigdata, robots
- Environment monitoring system utilizing digital technologies
- Verification, reporting and consulting related to ESG and carbon-border adjustment mechanism

→ Mostly high-tech → Green transition is likely to impact low-skilled and informal workers.

■ The government plans to create 2.2 million jobs by 2025 by implementing the K-ND policy.

- Some outcomes of the K-ND 1.0 were already observed in the labor market (colored pink).

Thank you!

- Comment or Question: h.oh@khu.ac.kr