



From Green Growth to Carbon Neutrality: Lessons Learned from the Experience of the Republic of Korea

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The Threat of Climate Change

Climate change harms all four pillars of sustainable development, disproportionately affecting southern countries and the vulnerable individuals within them.



Economy

Reduce global GDP by over 20% by 2100



Environment

Exacerbates the biodiversity loss and pollution pillars of the Triple Planetary Crisis



Society

Cause 14.5 million deaths by 2050



Peace

Increase the potential for violent conflict due to competition for diminishing resources

Emergence of Green Industrial Policy

- A green transition will enable countries to overcome these risks and benefit from the opportunities associated with low-carbon development trajectories.
- Accordingly, many first-mover countries in both the Global North and South have begun implementing 'Green Industrial Policy,' which can be defined as policies that facilitate the green structural transformation of a country's economy.

Global North



Inflation Reduction Act



European Union's Fit for 55

Global South



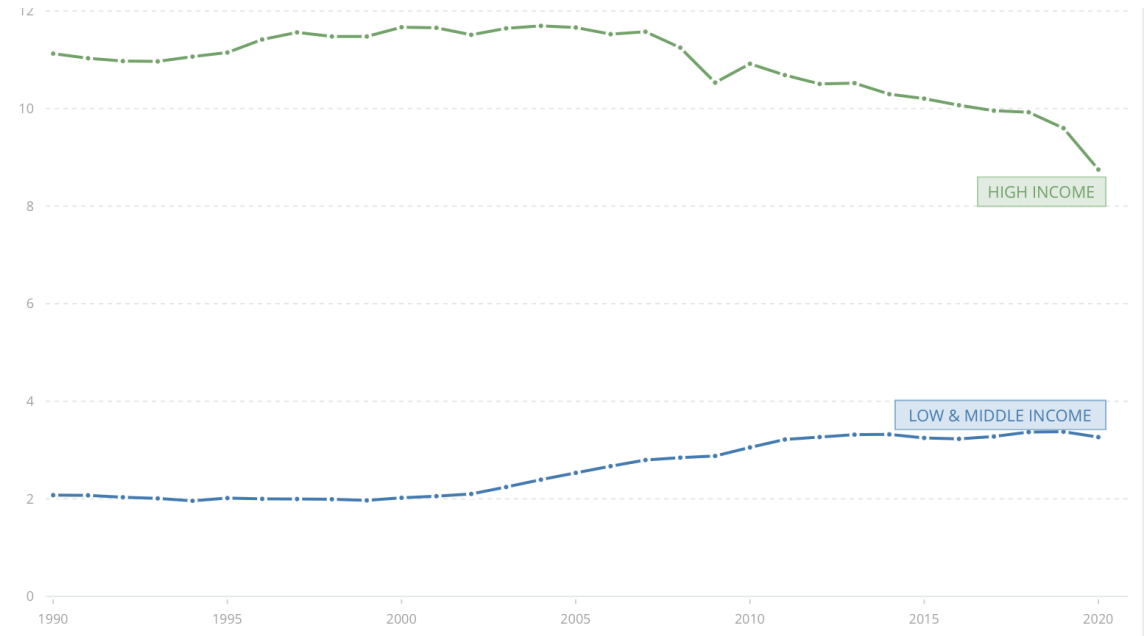
Made in China 2025



Green Growth and Climate Resilience Strategy

Carbon Leakage

- However, the green transition of a few countries may lead to carbon leakage, or when abated emissions are offset by increased emissions in countries with weaker policies.
- In addition to limited global emissions reductions, this is problematic as the developmental challenges directly associated with such increased carbon exposure (e.g., air pollution) is also transferred to these countries, which are generally in the global south.



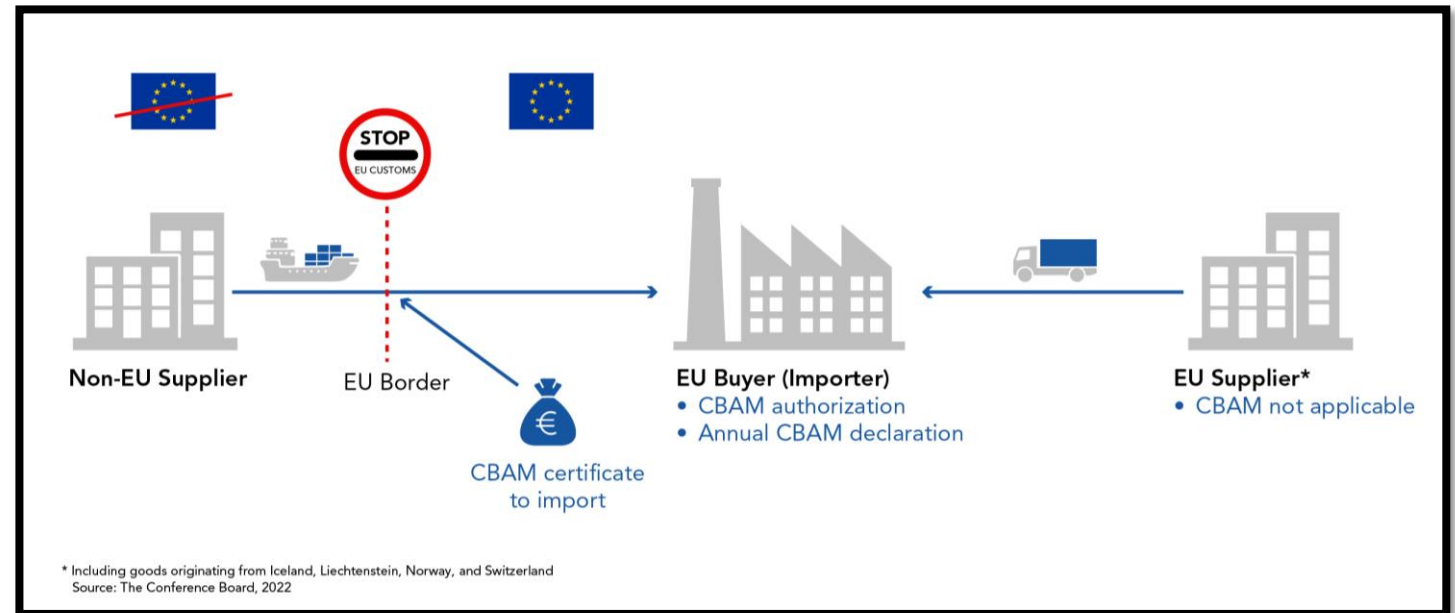
Comparison of CO₂ Emissions Per Capita

International Carbon Pricing Mechanisms

To overcome carbon leakage, first-mover countries will increasingly apply international carbon pricing mechanisms, which will decrease the economic competitiveness of countries that have not achieved a green transition.

CARBON BORDER ADJUSTMENT MECHANISM (CBAM)

The mechanism seeks to address the risk of carbon leakage by imposing a carbon price on imports of certain carbon-intensive goods from outside the EU.

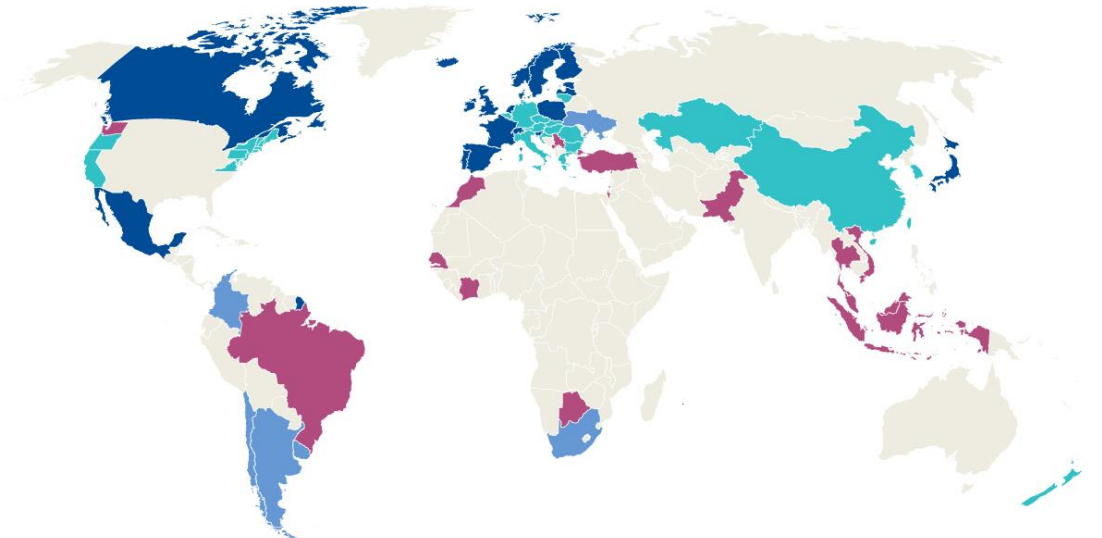


The Need for a Global Transition

- Thus, in addition to jointly overcoming climate change and its associated risks, all countries may eventually need a green transition to maintain their economic competitiveness.
- Thus, countries including those from southern settings are increasingly adopting a domestic carbon pricing mechanism, which serves as the basis for a green transition.

Carbon price choices

Countries and states are choosing different approaches to carbon pricing based on their own circumstances and objectives.

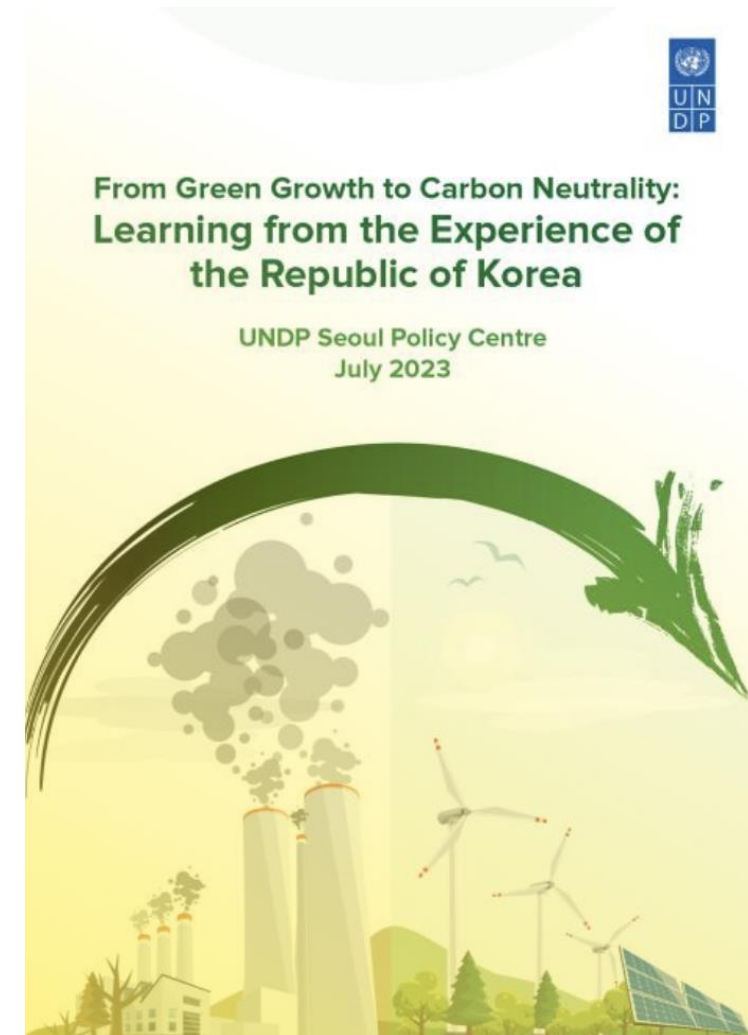


Source: WBG, IMF staff calculations, and national sources. Note: The boundaries and other information shown on any maps do not imply on the part of the IMF any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

The Potential for 'Leapfrog Development'

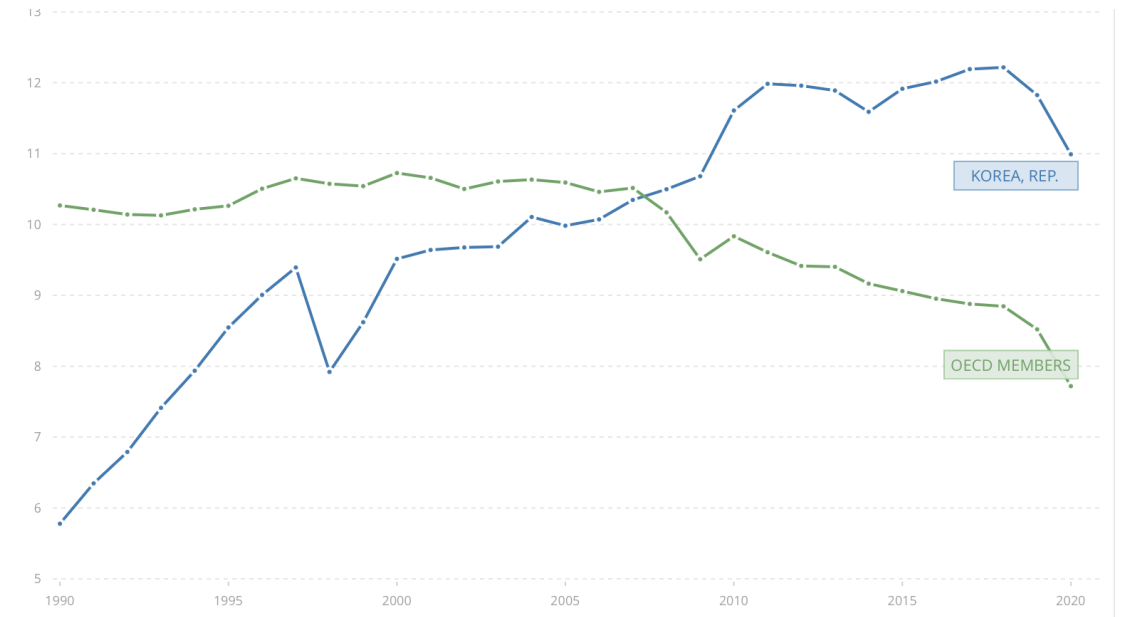


- While this can be endogenously achieved through new policies, the recent rise of green industrial policies has led to a plethora of development solutions that can be emulated in a contextualized manner.
- In this regard, countries aspiring to promote a domestic green transition could learn from the lessons learned from first-mover countries.



Case Selection: The Republic of Korea

- Having achieved an unprecedented rate of economic growth, the ROK's carbon emissions have also increased at a correspondingly high rate.
- Accordingly, it has been viewed as one of the worst-performing OECD countries in terms of achieving emission reductions.



The ROK's CO₂ Emissions Per Capita

Case Selection: The Republic of Korea

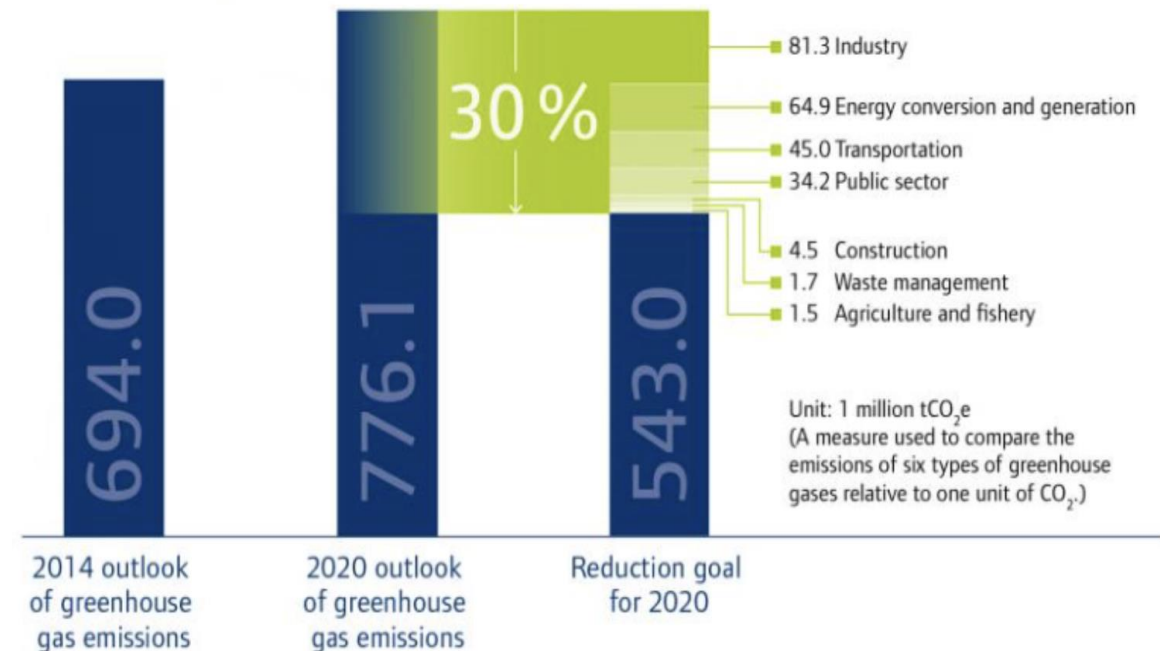


- Accordingly, the ROK has taken high-level initiatives to rapidly reduce its carbon emissions with such efforts having been considered as the political legacy of many recent presidents.
 - Green Growth [President Lee, 2008 - 2013]
 - Carbon Neutrality [President Moon, 2017 - 2022]
 - Carbon Neutrality and Green Growth [President Yoon, 2023 - current]
- While there is much room for progress, the ROK is a noteworthy case study due to the numerous measures being taken to rapidly reduce its emissions.
- In fact, the ROK's committed annual emissions reduction rate of 4.17% is two to four times greater than the one to two percent of other developed countries.

Green Growth

- Against the backdrop of the Global Financial Crisis, the ROK released its National Green Growth Strategy (2009-2050) in 2009, becoming the first OECD country to adopt green growth as its primary development strategy.
- This long-term strategy committed to a voluntary target of reducing its 2020 BAU emission baselines by 30%.
- This was supported through a medium-term Five-Year Plan, which served as a blueprint for the hundreds of projects that were mobilized to contribute towards meeting this target.

Breakdown of 2020 Greenhouse Gas Emission Reduction Goal



Source: The Ministry of Environment.

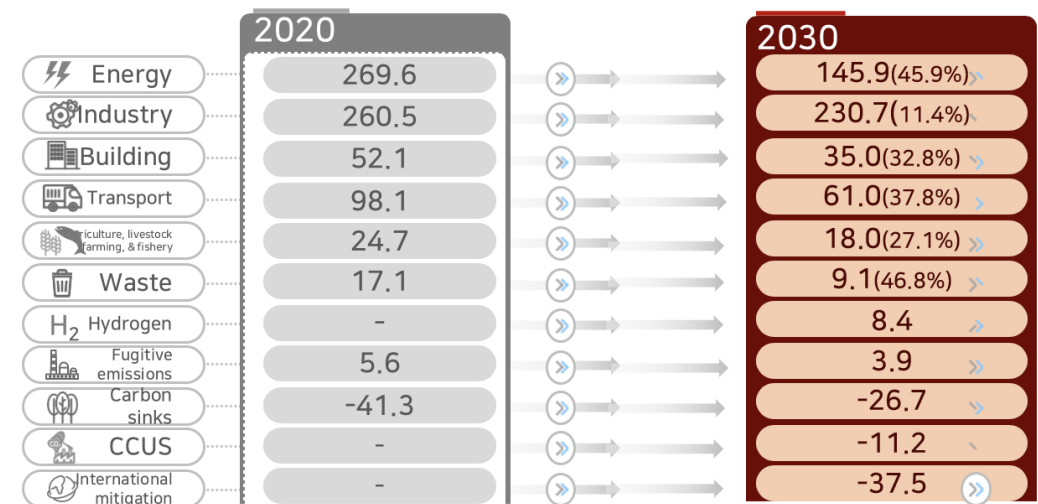
Carbon Neutrality

- In response to the socioeconomic repercussions of the COVID-19 pandemic, the ROK adopted its Carbon Neutrality Strategy in 2020.
- Committing to the achievement of net zero by 2050, this document was submitted to the UNFCCC as its Long-Term Low Emissions Development Strategy and led to a revised Nationally Determined Contributions of 40% reductions from its 2018 baselines.

2030 GHG reduction targets

Emission Reduction Targets by Sector

(Unit: mn ton CO₂eq, the numbers in parentheses are reduction rate from 2018 level)



The ROK's Green New Deal(s)

- This was supported through the two re-iterations of the Green New Deal, which also promoted public investments to priority sub-sectors.
- While the first 'Green New Deal' addressed issues on infrastructure, energy, and industry, the second one builds on these topics while including a new one on 'establishing the foundation for carbon neutrality.'

(trillion won, thousand jobs)

	Focus Areas	Projects	2020 SB -2022	2020 SB -2025	# of Jobs
Green New Deal	Total		19.6	42.7	659
		Sub-total	6.1	12.1	387
	5. Green Transition of Infrastructures	13) Turning public facilities into zero-energy buildings	2.6	6.2	243
		14) Restoring the terrestrial, marine and urban ecosystems	1.2	2.5	105
		15) Building a management system for clean and safe water	2.3	3.4	39
		Sub-total	10.3	24.3	209
	6. Low-carbon and Decentralized Energy	16) Building a smart grid for more efficient energy management	1.1	2.0	20
		17) Promoting renewable energy use and supporting a fair transition	3.6	9.2	38
		18) Expanding the supply of electric and hydrogen vehicles	5.6	13.1	151
		Sub-total	3.2	6.3	63
	7. Innovation in the Green Industry	19) Promoting prospective businesses to lead the green industry and establishing low-carbon and green industrial complexes	2.0	3.6	47
20) Laying the foundation for green innovation via the R&D and financial sectors		1.2	2.7	16	

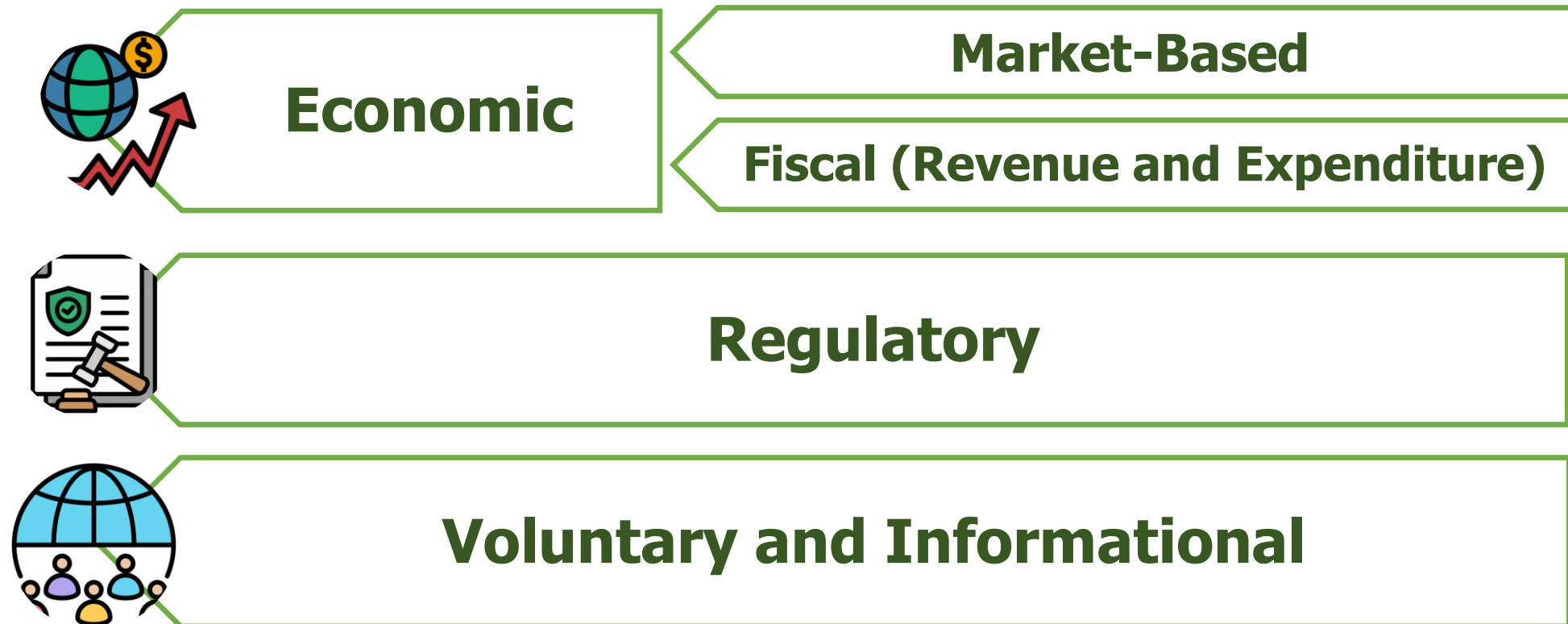
Carbon Neutrality and Green Growth

- In 2023, the ROK adopted its National Basic Plan on Carbon Neutrality and Green Growth, which serves as the long-term (twenty-year) plan.
- Building on this, the ROK adopted the Implementation Plan on Carbon Neutrality and Green Growth, which serves as the mid-term (five-year) plan.



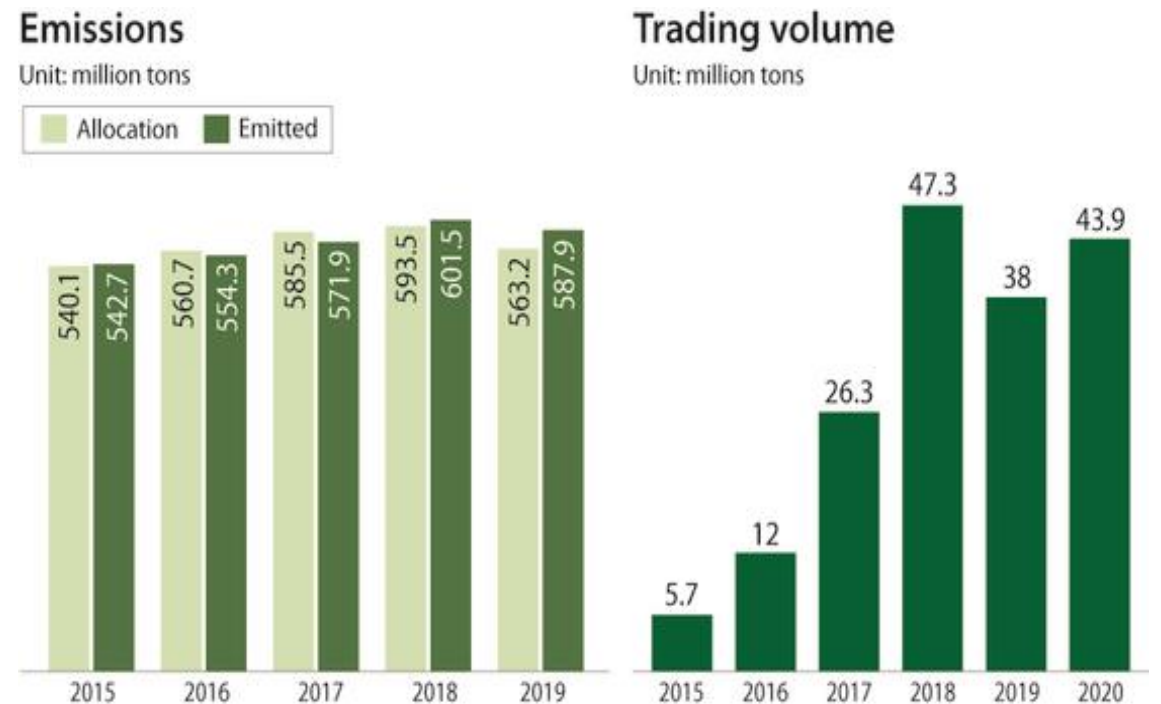
Case Study: The Republic of Korea

These strategies were complemented by various technical policies.



Korean Emission Trading Scheme

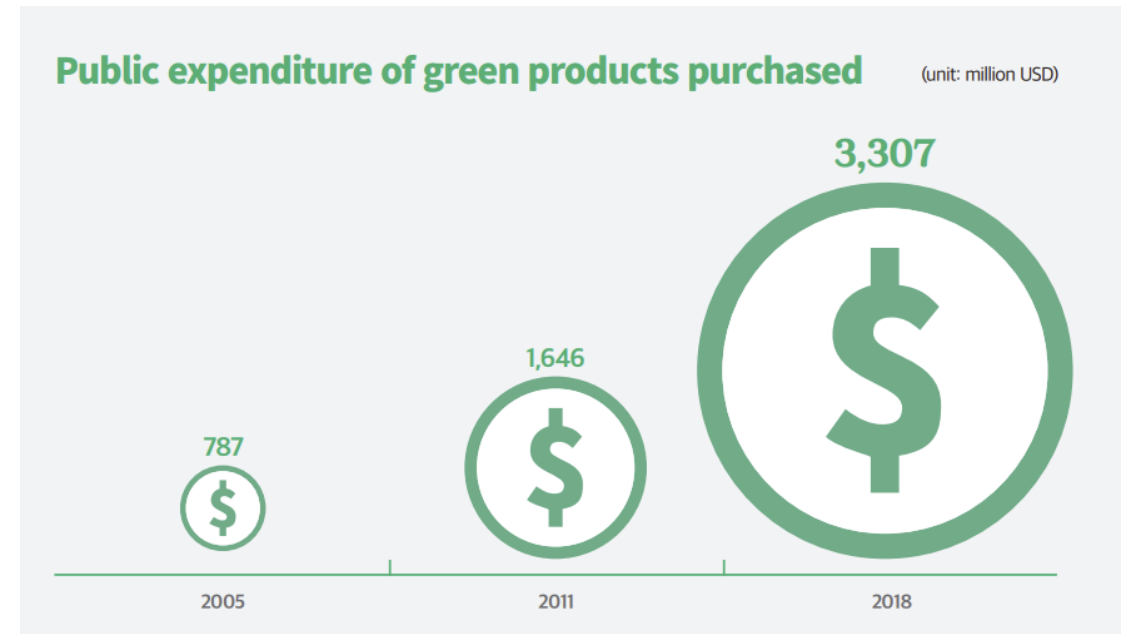
- The Korea Emission Trading Scheme (K-ETS) was introduced in January 2015, becoming the first cap-and-trade system in East Asia.
- In its third reiteration, the K-ETS is the world's third-largest carbon market in terms of sectoral coverage, covering 73.5% of its national emissions.



Source: Ministry of Environment

Act on Promotion of Purchase of Green Products

- Backed by a public procurement portal and an eco-labeling system, this policy requires government agencies to submit an annual green public procurement plan that stipulates a voluntary target and reports the progress made hitherto.
- Thus, green public expenditure increased from 759 million in 2006 to 2.9 billion in 2017, or 47.5% of public expenditures for those product categories.
- This stimulated market demand, leading to the number of green products having increased from 2,721 in 2005 to 14,657 in 2017.
- In 2017, this translated into 600,000 tons of emissions reductions and 35.4 million USD in developmental co-benefits.



Volume-Based Waste Fee Policy

- Citizens are charged based on the amount of waste generated, which is measured through standardized bags, a radio frequency identification weighing system, or disposal tanks equipped with e-chips.
- Among other things, their price reflects the costs of waste collection and treatment, production costs, and distributor commissions.
- This policy has been very effective in reducing household waste, with 6,833 tons having been decreased per day.



Source: Resource Recirculation Bureau of the Ministry of Environment (Nov. 2012), Korea Institute of Industrial Relations and Korea Environment Corporation (Dec. 2013)



Household Waste Disposal in Seoul

Regulatory Policy (Command and Control)



Seasonal Fine Dust Management System

- The ROK is operating a 'Seasonal Fine Dust Management System,' being the first country in the world to introduce such a policy.
- Currently in its fifth reiteration, this policy builds on the 'Comprehensive Management Plan on Fine Dust' by introducing a package of regulatory measures related to transportation, industry, and energy, which are meant to serve as mid-term measures.
- As immediate measures, the policy stipulates a combination of regulatory actions that will be taken when certain air pollution thresholds are passed.

Forecast Level	Attention	Caution	Serious
Forecast Standard	50µg/m ² or higher	Forecast of 'Attention' for 3 consecutive days	Forecast of 'Caution' for 3 consecutive days
Measures to be taken	Limiting power plant and construction operations and the use of Tier 5 vehicles, and more	+ Limiting public construction projects, the use of old construction machinery, and the use of public vehicles, and more	+ Suspension of all public construction projects, mobilize emergency supplies for civilians, and more

Voluntary and Informational Policy

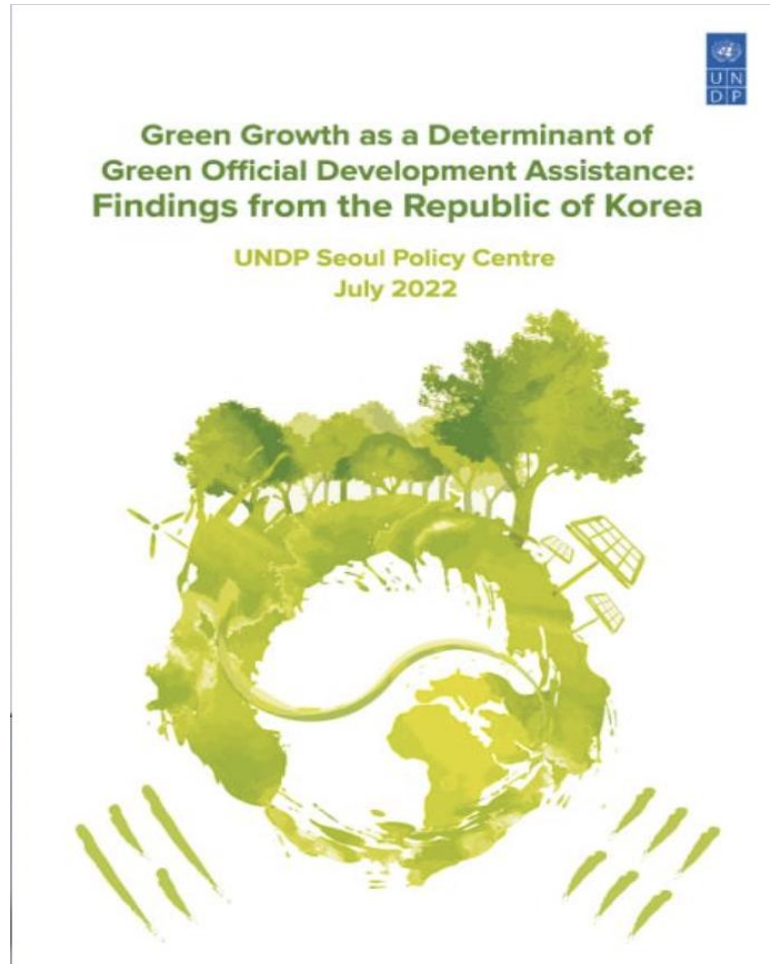


Seoul's Energy Citizen Cooperation Programme

- This policy incentivizes individuals to conserve energy and other utilities (e.g., electricity, water, gas, district heating) by providing eco-mileage points.
- Mileage points received can be used to purchase eco-friendly products, receive discounts on apartment maintenance fees, and charge public transportation cards.
- The program garnered voluntary participation from 2.51 million individuals, which amounts to more than 1/4 of residents in Seoul, resulting in energy savings of 2.26 million tons of CO₂.

Energy Saved	0 – 5% (consistent)	> 5%	> 10%	> 15%
Mileage points awarded	10,000	10,000	30,000	50,000

Implications for Cooperation



- The ROK's domestic climate policy is noteworthy as it influences its international climate policy.
- With one of the highest ODA increase rates in the OECD-DAC, the ROK prioritizes climate change in its Third Basic Plan on International Development and New Administration's International Development Cooperation Implementation Plan.
- This commitment extends to its 'Green New Deal ODA Implementation Plan,' aiming to increase Green ODA by 50% from 2019 levels by 2025.
- A UNDP study found that this is predominantly channeled through multilateral ODA.
- Among other things, the ROK's development cooperation is unique as it prefers to fund projects sharing its development experience.

Conclusion



- The ROK has used economic crises as an opportunity to promote high-level green industrial strategies, which provided a medium and long term vision to achieving a domestic green transition.
- These policies were complemented by a combination of technical policies, ranging from economic (i.e., market-based and fiscal) and regulatory policy to those of a voluntary and informational nature.
- This domestic experience has motivated its international agenda, which can be seen through its interest in becoming a leading provider of Green ODA, much of which from the international level.



Overview of USPC and its Green SDG Partnership Projects

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April 2024

Role of UNDP



- UNDP is a partner of choice for many donor countries because it:
 - Possesses the largest climate portfolio in the UN
 - Boasts the largest portfolio amongst GCF Accredited Entities
 - Provides the largest offer of NDC support via its Climate Promise
- As such, the ROK's Multilateral Cooperation Plan designates UNDP as the only priority partner agency with climate change set as the preferred sectoral area of cooperation.

UNDP Seoul Policy Centre (USPC)



- 1966 UNDP initiated assistance programmes in Korea.
- 1997 Korea started supporting UNDP projects for developing countries.
- 2010 Korea joined OECD-DAC.
UNDP closed its Country Office in Korea.
- 2011 UNDP Seoul Policy Centre (USPC) was established.
- 2023 1st implementation year of 2023-2025 Triennial Work Programme

USPC's MANDATE

- Sharing Korea's development experience and technical expertise with other countries
- Representing UNDP in Korea
- Working with Korea on international development priorities
- Performing pragmatic, policy-relevant research

Seoul Policy Centre (USPC)



 **UNDP Seoul Policy Centre (USPC)** is one of UNDP's six Global Policy Centres and constitutes an integral part of UNDP's Global Policy Network (GPN).

 **USPC** represents UNDP in Korea, works with Korea on international development priorities, and shares Korea's development experiences with other countries.

VISION

USPC as the “**facilitator of innovative development cooperation**”
to catalyze the achievement of the Sustainable Development Goals

USPC's SDG Partnerships provide partner countries with peer-to-peer knowledge exchange opportunities and country-level implementation support for innovative means to achieve their SDG-related challenges, based on Korean development know-how in the following thematic areas:



Area 1
**Governance and
Gender**



Area 2
**Green Recovery and
Transition**



Area 3
**Development
Cooperation**



Area 4
**Private Sector
Engagement**

SDG Partnerships: Forest Fire Prevention and Management



Ghana: Sustainable forest fire management (2018-2021)

- Partnered with Korea University, KFS and NIFoS to implement effective forest fire management techniques in Ghana to **capacitate local firefighters** and **enhance fire management** throughout the country.
- Conducted **onsite trainings** for firefighters and fire volunteers that benefited over 180 participants from 16 districts in Ghana.
- Updated **firefighting training manuals** with Korean forestry experts and developed local knowledge products.
- With the help of **KU Professors**, a study mission (2019) and a virtual training (2021) were conducted.

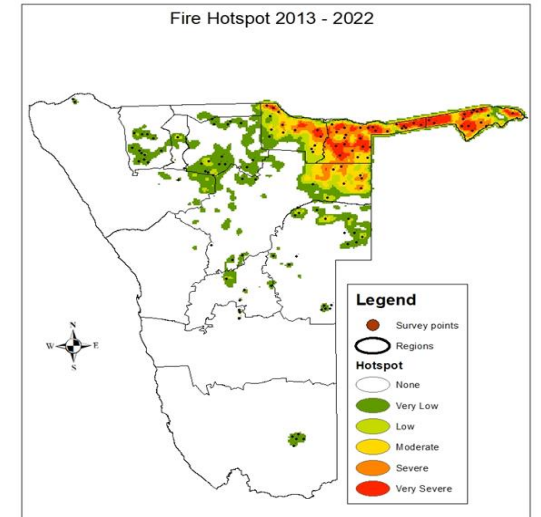


Sources: UNDP and NIFoS

Recent SDG Partnerships: Forest Fire

Namibia: Sustainable forest fire management (2023-2024)

- ❖ **Objective:** To develop a veld fire detection, monitoring, and response system in Namibia
- Collated historical and current data from the Namibia Meteorological Services, on remote sensing initiatives and other relevant data sources to develop a **geospatial fire occurrence database for Namibia**. Mapped historical trends of fire incidence and burn severity across different vegetation landscapes with an overlay of historical trends with bio-physical data and future climate projections to identify areas at **risk of increased incidence of fires**.
- 116 community members participated in the fire management training, which equipped them with knowledge in veld fire management. These individuals were hired to engage in the clearance and construction of over 145 kilometers of fire cutlines, w
- **Key partners:**



SDG Partnerships: Community Forestry



Mongolia: Digitalized and community-based forest monitoring system (2020-2023)

- **By leveraging Korea University's** expertise and in the framework of our partnership with NIFoS, we established a legal framework incentivizing the reporting of environmental crimes including illegal logging of forest resources to advance the engagement of citizens and communities in forest protection.
- Developed the web-based system, including **E-Forest** platform with a Smartphone App to track harvested wood and forest products, enabling citizen/community reporting on forest violations.
- Improved forest monitoring and community-based forest protection.



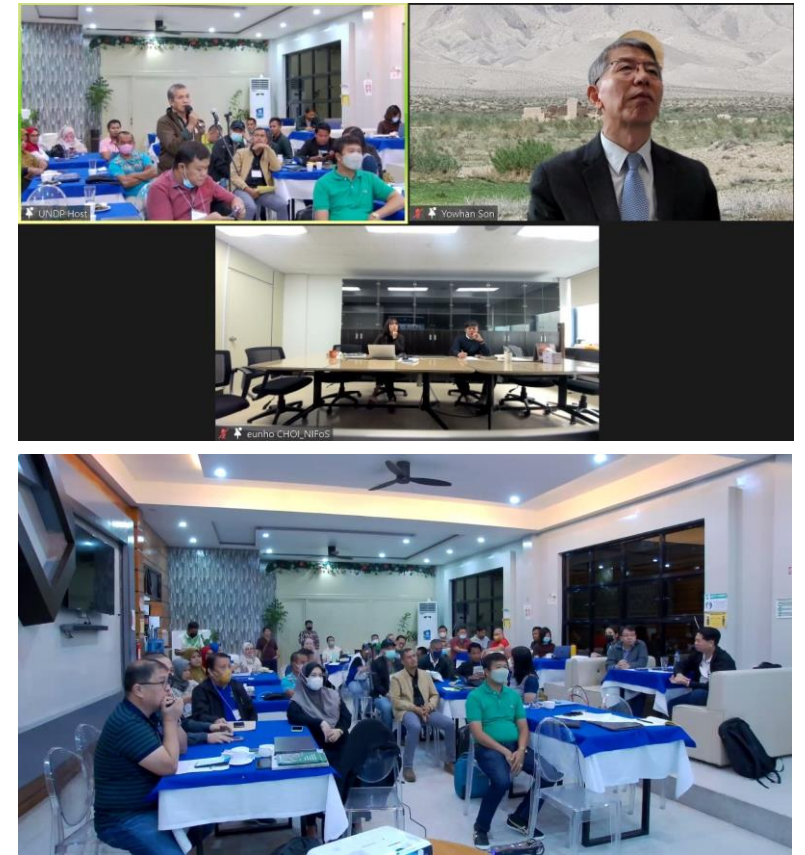
Source: UNDP Mongolia

SDG Partnerships: Community Forestry



Philippines: Community-based forest management in the Bangsamoro Autonomous Region of Muslim (2021-2024)

- **In the Philippines and with support of Korea University,** we are equipping former combatants and local communities with the necessary skills to manage community forests in the recently autonomous region (Bangsamoro Autonomous Region of Muslim Mindanao (**BARMM**)) who had been struck by civil war.
- This project also supports the newly formed regional government's capacity to sustainably manage natural resources and provide livelihoods to local communities. We are also designing **practical tools** (geological maps) and **knowledge products** to help improve sustainable forestry practices.
- With participation of Korea University and Prof. Son, a learning exchange was organized to facilitate the sharing of Korea's expertise in community-based forestry management, biodiversity management, reforestation, and its value in disaster risk



South-South & Triangular Cooperation (SSTC)



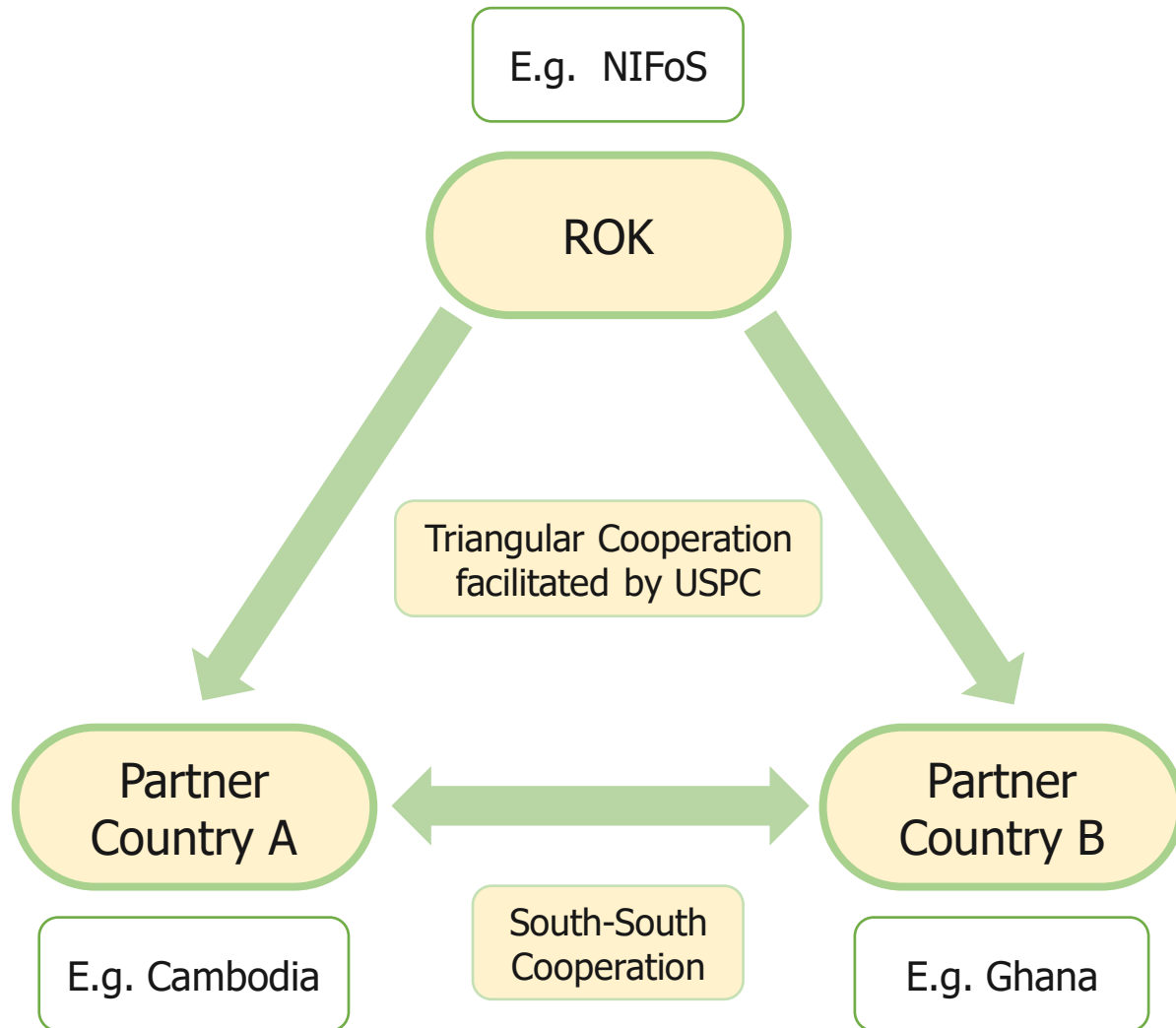
South-South and Triangular Cooperation (SSTC) is a tool used by governments, international organizations, academics, social partners, civil society and the private sector to **collaborate and share knowledge**, skills, know-how, and good practices in decent work and lifelong learning approaches as well as successful initiatives



UNDP Strategy 2022-2025

“**South-South and triangular cooperation** are integral to how UNDP works and thinks about the **future of development**, as UNDP **connects countries** and applies their knowledge and experience to **advance sustainable development.**”

USPC's SSTC Approach



USPC's Two-phased TrC/SSC approach:

- **TrC** is achieved by **sharing ROK's knowledge** in sustainable forestry with **partner countries**.
- **SSC** will be achieved by ensuring **partner countries pass acquired knowledge to other partner countries**, leading to a "multiplier effect".

Any Questions?



Thank You For Listening!

UNDP Seoul Policy Centre



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