

Opportunities and Challenges to Promote Economic Transition to Low Carbon Green Economies

International Conference on the Korean Experience: Lessons
for LAC Development

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Washington D.C., May 14 2014

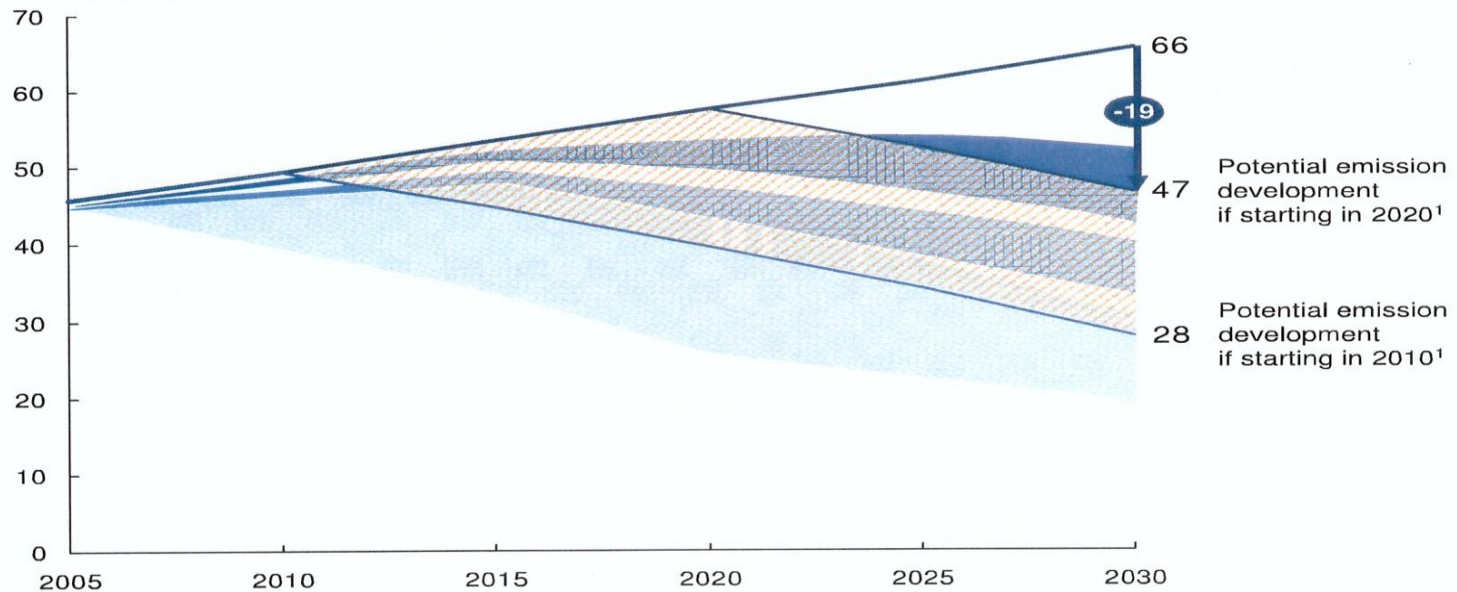
Serious Impacts of Climate Change



How much do we need to reduce GHGs?

Effect of delaying action for 10 years

Global GHG emissions
GtCO₂e per year

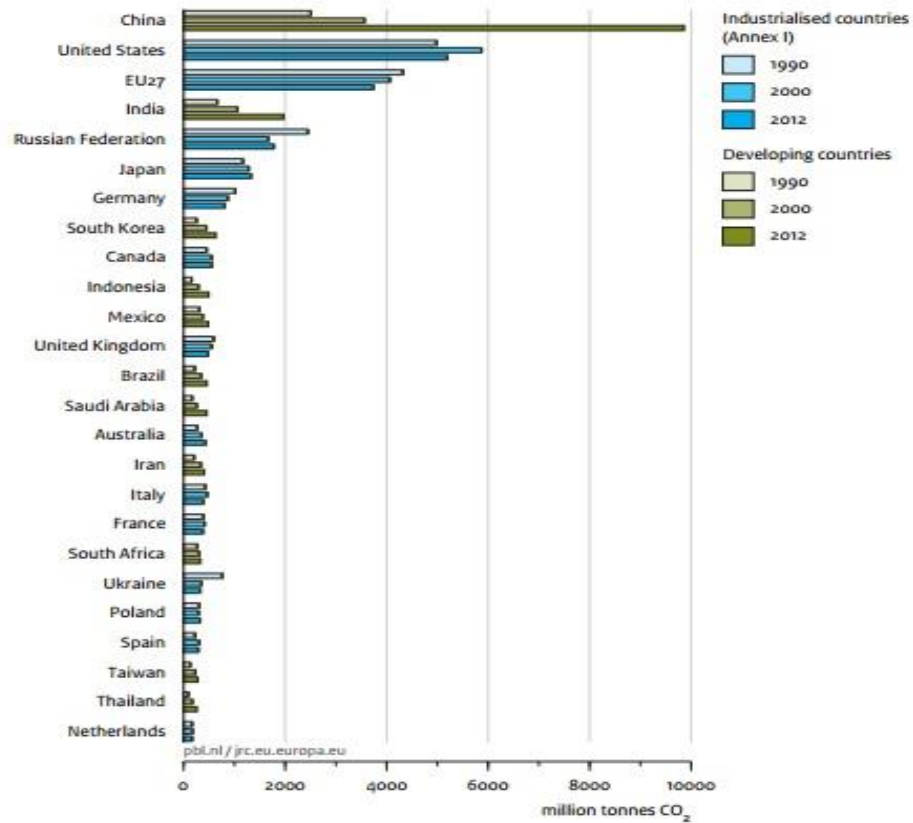


¹ Technical levers < € 80/tCO₂e.

Source: Global GHG Abatement Cost Curve v2.0, v2.1; IEA; US EPA; Houghton; IPCC; OECD; den Elzen; Meinshausen; van Vuuren

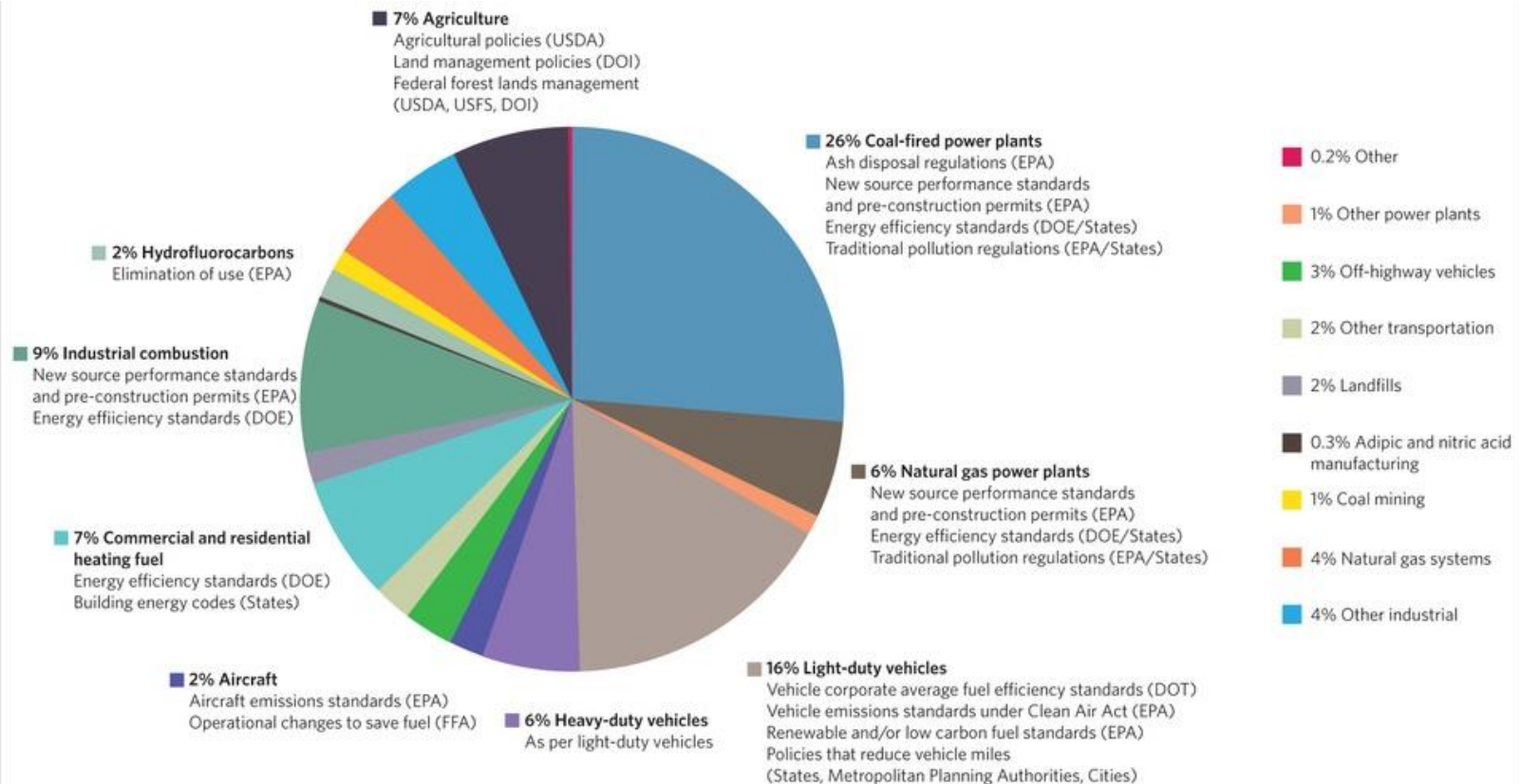
CO2 Emissions

CO₂ emissions per country from fossil-fuel use and cement production



Source: EDGAR 4.2 FT2010 (1990–2010); BP, 2013; NBS China, 2013; USGS, 2013; WSA, 2013; NOAA, 2012

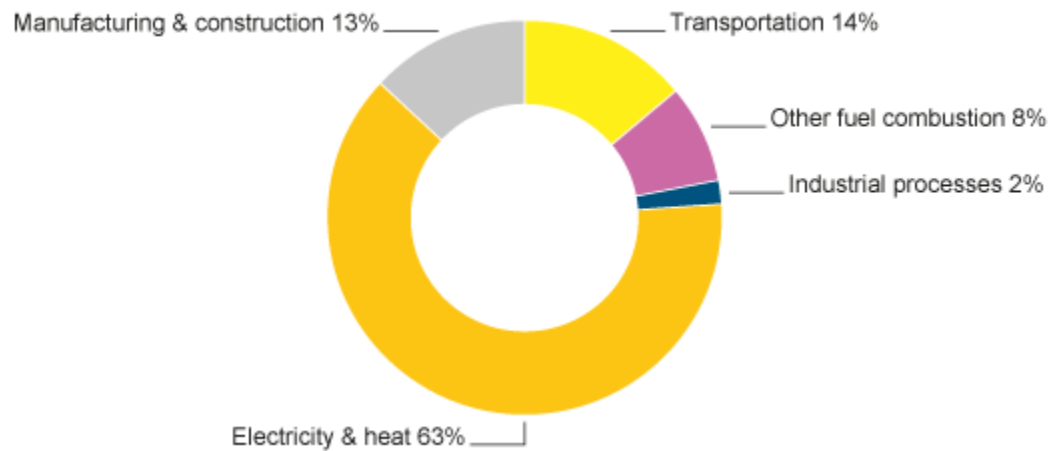
GHG Emission: US



DOE, Department of Energy; DOI, Department of the Interior; DOT, Department of Transportation; EPA, Environmental Protection Agency; FAA, Federal Aviation Administration; USDA, US Department of Agriculture; USFS, US Forest Service. Figure reproduced with permission from ref. 13, © 2013 WRI.

GHG Emissions: Mexico

source: Global CCS Institute



Assessment on the effectiveness of current Climate Change Regime

- 1992 UNFCCC
- 1997 Kyoto Protocol
- Mainly top-down
- With some market mechanisms
- Changed landscape of GHG emission
- Problem of country-grouping
 - Annex I vs. Non Annex I
- Legally binding without effective enforcement mechanism?

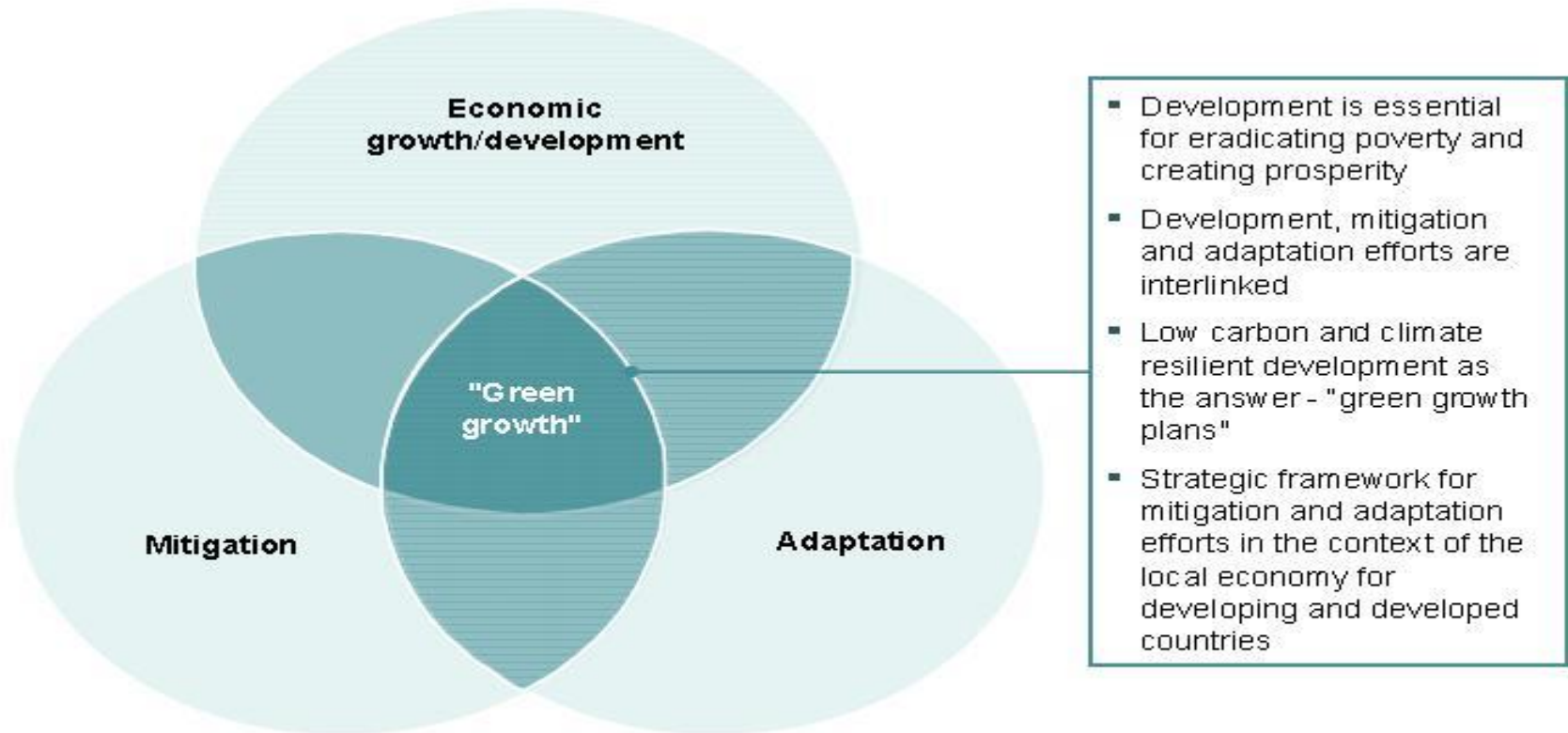
New Approach?

- Bottom-up Approach
 - Country level efforts
 - Issue of development/growth
 - Means of implementation
 - Technology
 - Finance
 - (capacity-building)
 - Low Carbon (Emission) Development Strategy

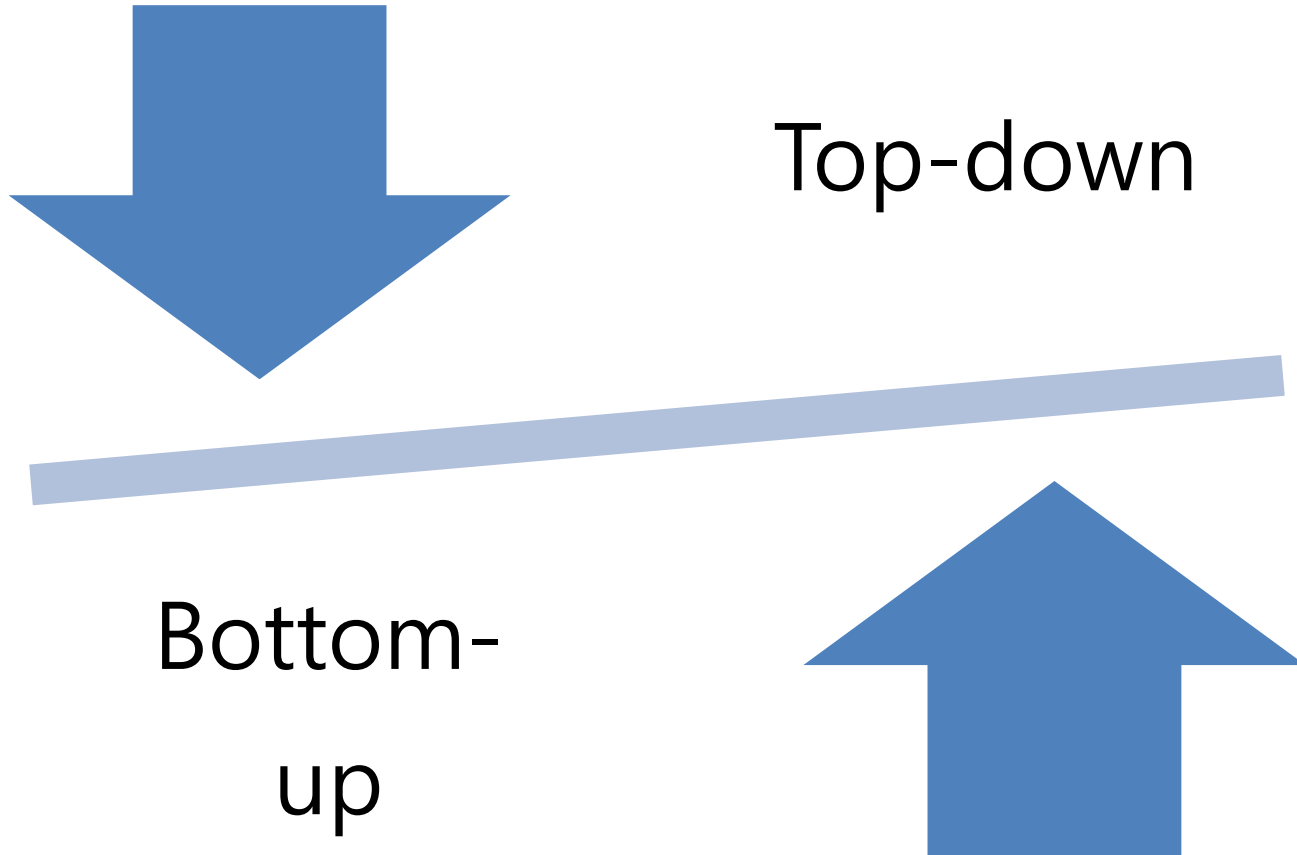
Bottom-up Approach in the UNFCCC regime

- NAMAs (Nationally Appropriate Mitigation Actions) by developing countries
 - MRV
 - ICA
- Elements of NAMAs
 - Emission reduction strategy and related law/regulation
 - Finance
 - National Communications
 - Technology Needs Assessment
 - Technology Action Plan

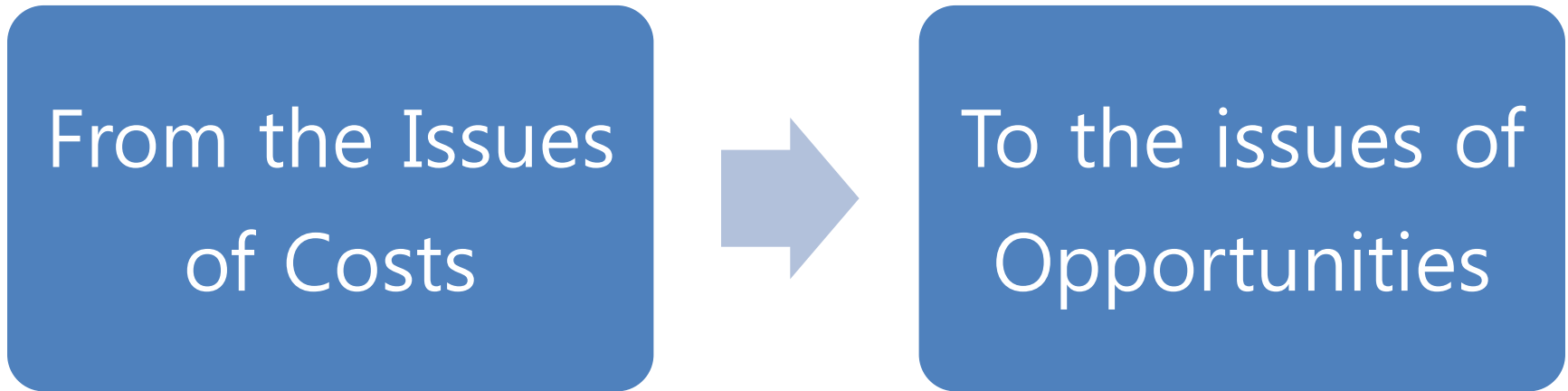
Why Low Carbon Green Economy?



How would 2020 Regime look like?



Why Low Carbon Green Economy?



Why Low Carbon Green Economy?

From the issues of
Environmental
Protection



To the Issues of
Growth/Development

Why Low Carbon Green Growth?



For more information on the Strategic Framework and Technology Focus Areas, please click on the links below

Strategic Framework

› Overview

Technology Focus Areas

› Overview

› Bio-energy

› Carbon Capture and Storage

› Domestic Buildings

› Electricity Networks & Storage

› Heat

› Hydrogen for Transport

› Industrial Sector

› Marine

› Non-domestic Buildings

› Nuclear Fission

› Offshore Wind

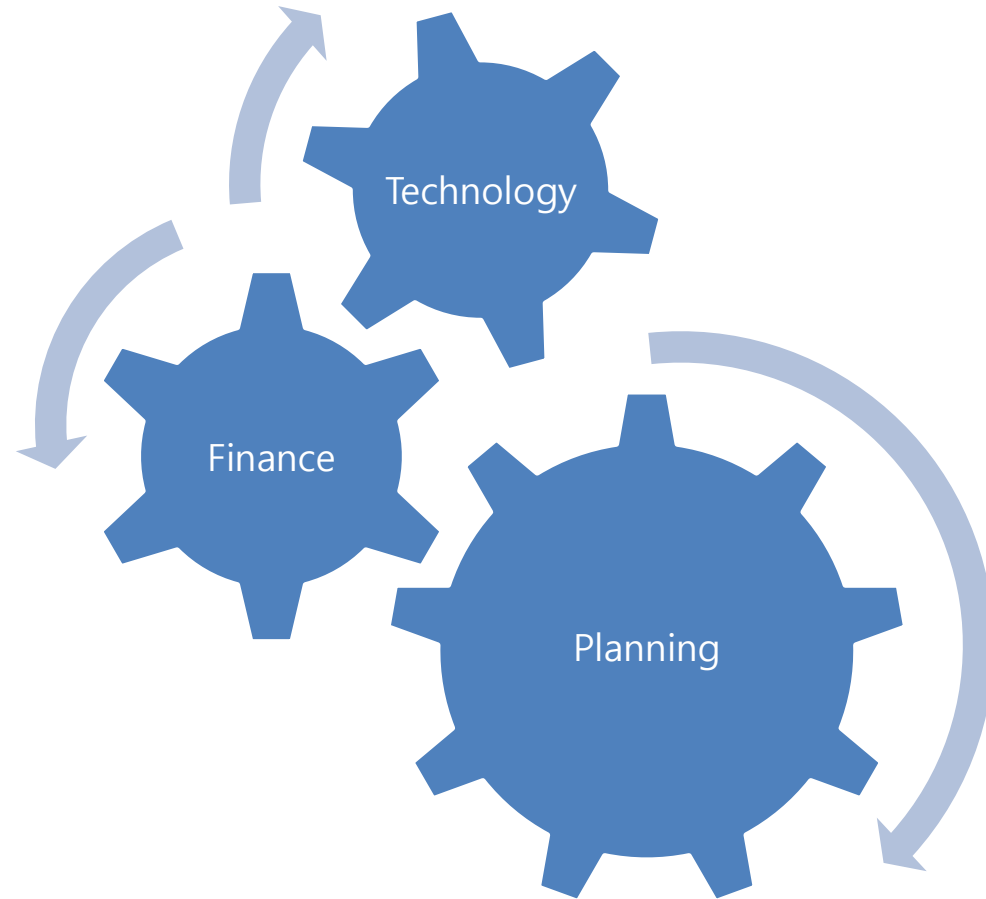
Working together

LCICG members have diverse interests in low carbon technologies and support different stages of the innovation chain. In the period up to April 2015, core LCICG members expect to spend over £1 billion of public-sector funding on low carbon innovation. By working together, the members of the LCICG can maximise the impact of their spending and add value to the low carbon innovation landscape. The LCICG is working to:

- Coordinate future investment programmes delivered through individual member organisations, building on its *Strategic Framework - Coordinating Low Carbon Technology Innovation Support*;
- Improve communication with innovators across low carbon technologies;
- Create a robust, shared, evidence base to understand the innovation needs of a range of key low carbon technologies in the form of *Technology Innovation Needs Assessments*;
- Develop a shared toolkit of metrics to assess the impact of public spending in low carbon innovation;
- Share learning, approaches and tools to accelerate performance improvement.

Information about current funding opportunities from LCICG members can be found on their own websites or on the Low Carbon Funding Landscape Navigator: www.lowcarbonfunding.org.uk.

Planning, Finance & Technology



Global Green Growth Institute

- Lack of any consultative organization or think-tank type of organization to address the challenges which can become new opportunities
- Given the limited coordination ability of existing global institutions, country based bottom-up approach may work better
- Need for strengthening public-private relationship

Three Pillars of GGGI Activities

- **Green Growth Planning and Implementation (GGP&I)**

GGP&I assists developing and emerging countries in mainstreaming green growth in their economic development plans. The GGP&I workstream includes about 3 programs in about 20 countries and regional and cross-cutting projects to support achieving economic goals while integrating social and environmental aspirations.

- **Knowledge Development & Management (KDM)**

KDM creates and shares knowledge about the green growth paradigm through a portfolio of initiatives that advance the knowledge available to policymakers, including Green Growth Best Practices, Green Growth Knowledge Platform, Technology Innovation to Advance Green Growth, Green Growth Indicators and Methodologies, and Green Growth: the New Industrial Revolution.

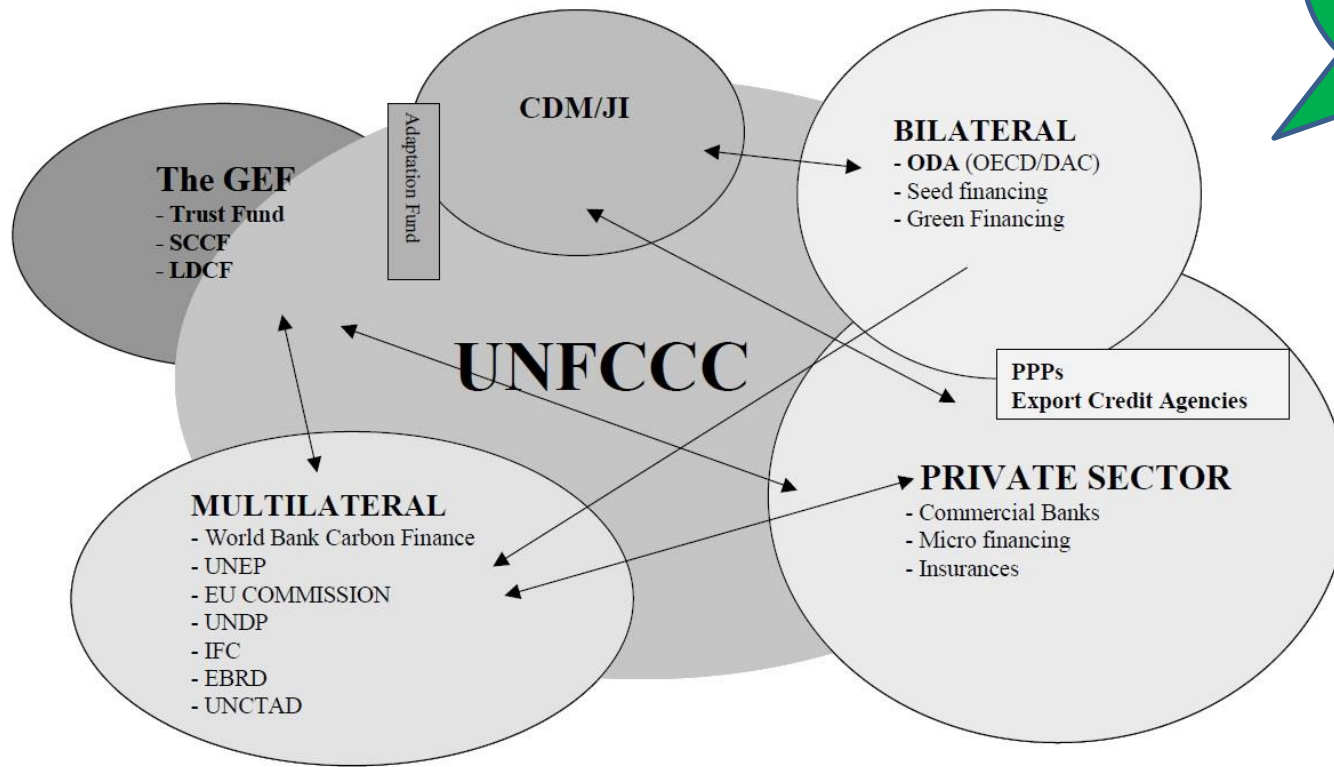
- **Public-Private Cooperation (PPC)**

PPC facilitates cooperation between the public and private sectors to unlock the barriers to green growth through engagement with the Global Green Growth Forum (3GF), the Green Growth Action Alliance (G2A2), and Clean Energy Ministerial initiatives. PPC aims to rebalance the risk/reward profile of green growth sectoral investments. A recently established private sector advisory committee provides guidance on the program of work.

- **The Assembly** is composed of the GGGI Members (contributing and participating) and is the supreme organ that advises the overall direction of the GGGI's work and elects Council members
- **The Council** is composed of a balanced number of Members, non-state/expert actors, the host country and the Director-General, and is the executive organ that directs the GGGI's activities
- **The Advisory Committee** is composed of leading private sector and non-state actors, and is the consultative/advisory organ
- **The Secretariat**, headed by the Director-General, is the operational organ that supports the above governance bodies

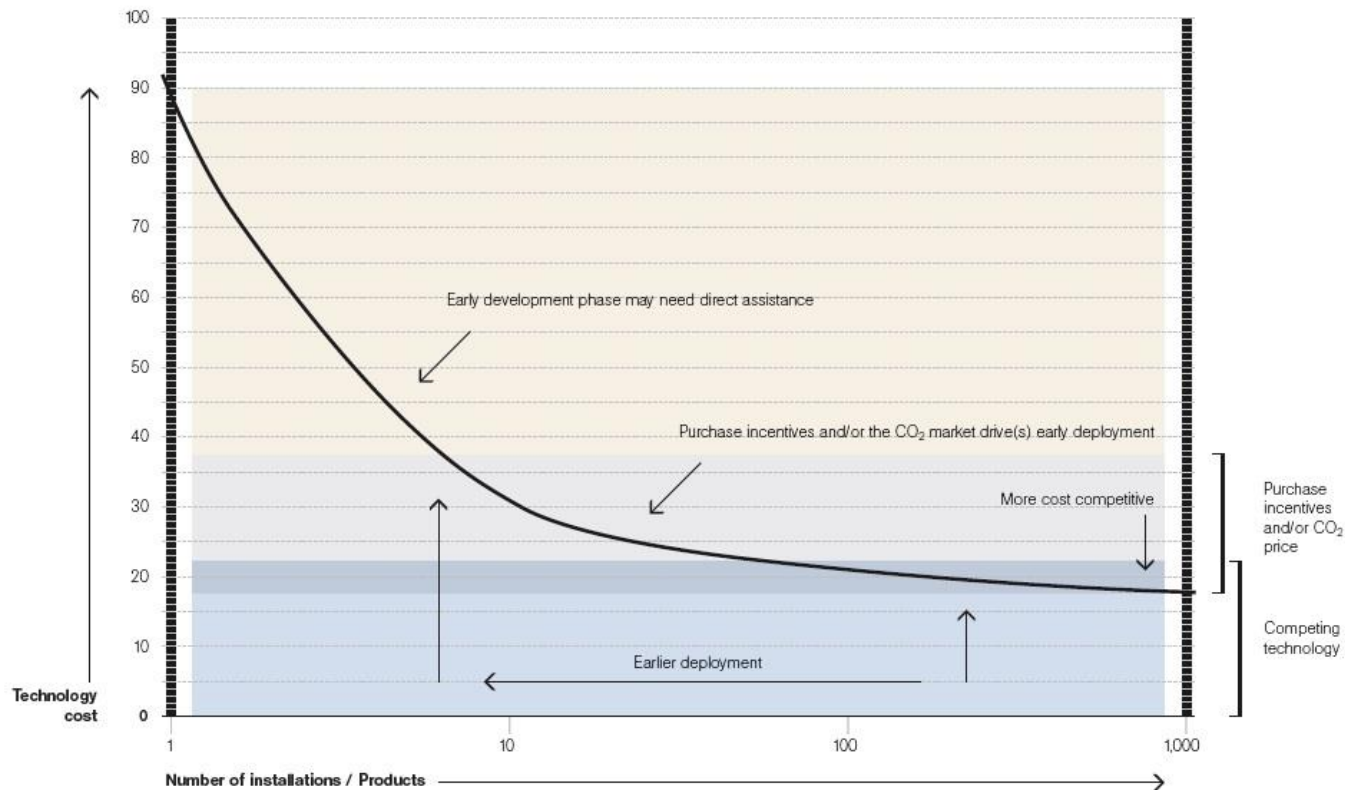
Climate Finance

Figure 2: Funding targeted for climate change activities



Climate Finance & Technology

Figure IX-41. Technology cost and financing curve



Source: Kirkman A et al., 2007.

Climate Finance



Source: CPI

Climate Finance

Where is climate finance going?

76% of climate finance is spent domestically.

The majority of global climate finance originated in the country in which it was used.



24% of climate flows between countries.

Much of the international money flowing between developed countries is **private**.

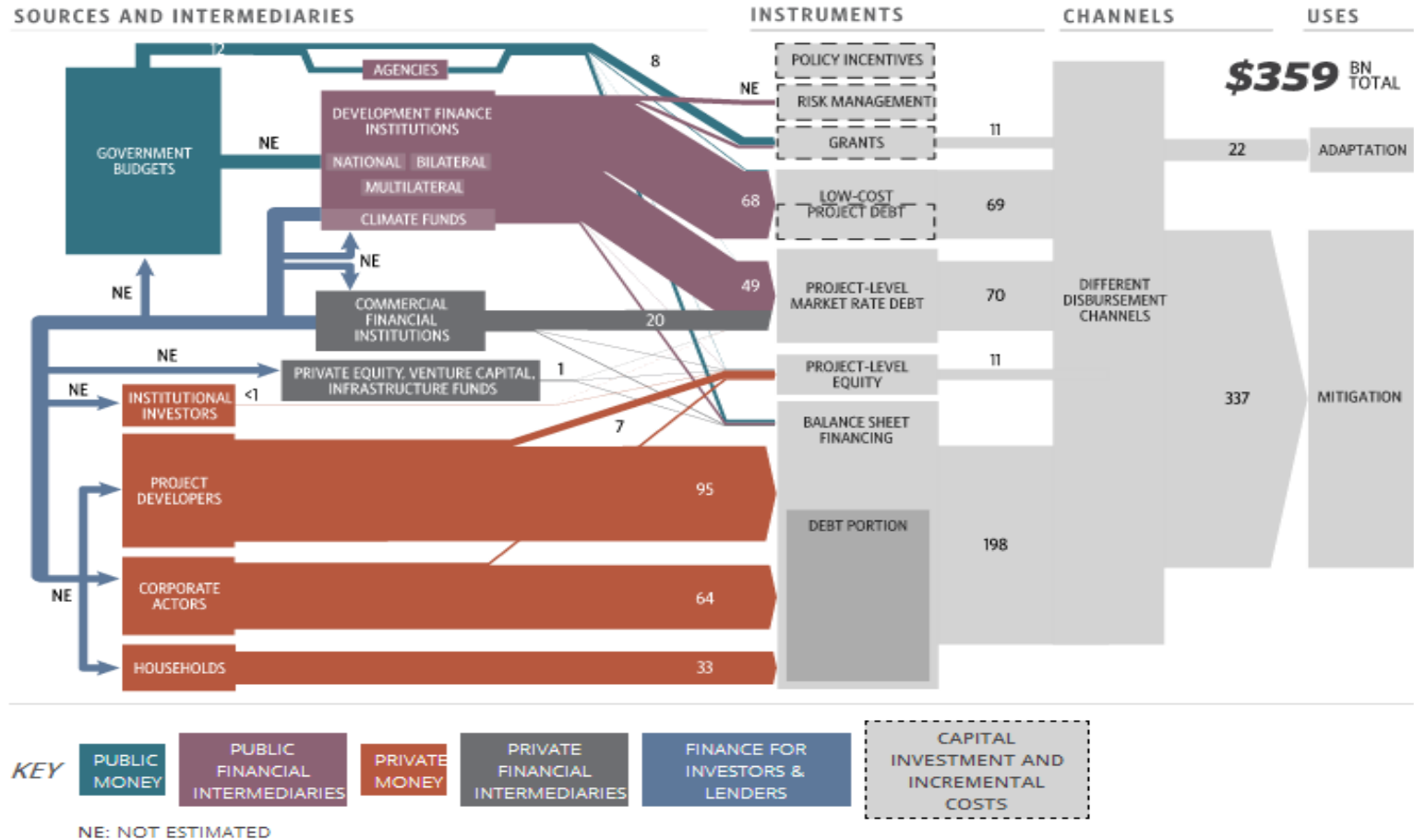
The vast majority of money flowing from developed to developing countries is **public**.

This highlights investors' preference for familiar environments perceived to be lower risk.

Source: CPI

THE FLOWS OF CLIMATE FINANCE 2013

The Flows of Climate Finance Diagram illustrates the most comprehensive inventory of climate finance flows along their life cycle for the latest year available, mostly 2012. Click on each box for more detail about the actors, instruments, and uses of climate finance.



Green (Climate) Finance in Korea

Framework Act on Low Carbon Green Growth

- Article 28. The Government shall establish and enforce financial measures, including the following matters, to facilitate low carbon, green growth:
 1. Raising of financial resources for supporting green economy and green industries and financial support therefor;
 2. Development of new financial products for supporting low carbon, green growth;
 3. Encouragement of private investment in projects for the establishment of infrastructure for low carbon, green growth;
 4. Reinforcement of the public disclosure system for information about enterprises' green management and expansion of financial support for enterprises adopting green management;
 5. Establishment of a carbon market (referring to a market in which rights to emit greenhouse gases or results of performance of reducing or absorbing greenhouse gases are traded; the same shall apply hereinafter) and stimulation of transactions therein.

Policy Instruments (year 2010)

Korea Finance Corporation

- Generated 1.5 trillion Korean Won fund for stimulating investments

Green Certification

- Incentivizing SMEs

Expanding ESCO funds

- Liking to target management system

Green Finance Information Sharing

- Lunched a comprehensive website system

Policy Instruments

Emission Trading System

- First non-Annex I country which adopts the ETS Bill (2012)
- Scheduled to have ETS bill effective in 2015
- 3 phases (2015-2017; 2018-2020; 2021-2026)
- About 490 of the country's largest emitters (roughly 60% of the country's annual GHG emissions) will receive caps.
- 2 categories for ETS participants:
 - voluntary
 - Mandatory: capped emitters are determined by thresholds: companies that annually discharge over 125,000 tCO₂e and/or workplaces that annually emit over 25,000 tCO₂e are required to submit allowances for each ton of CO₂e that they produce.
 - All participants must fill out an application for receiving permits, as well as constructing an annual emissions inventory for the government to monitor

- Auctioning/allowance distribution:

| | % of allowances freely allocated | % of allowances auctioned |
|---------|----------------------------------|---------------------------|
| Phase 1 | 100% | 0% |
| Phase 2 | 97% | At least 3% |
| Phase 3 | Up to 90% | At least 10% |

⇒ high % of free allocations is intended to ease costs and int'l trade burdens on industries. In addition, to invigorate emissions permit trading and to prevent loss of business competitiveness due to the introduction of the ETS, financial and tax support, assistive monies, and/or other assistance may be provided.

(companies in sectors that are considered energy-intensive and trade-exposed (EITE) will receive 100% of their allowances free of cost.)

Hosting GCF

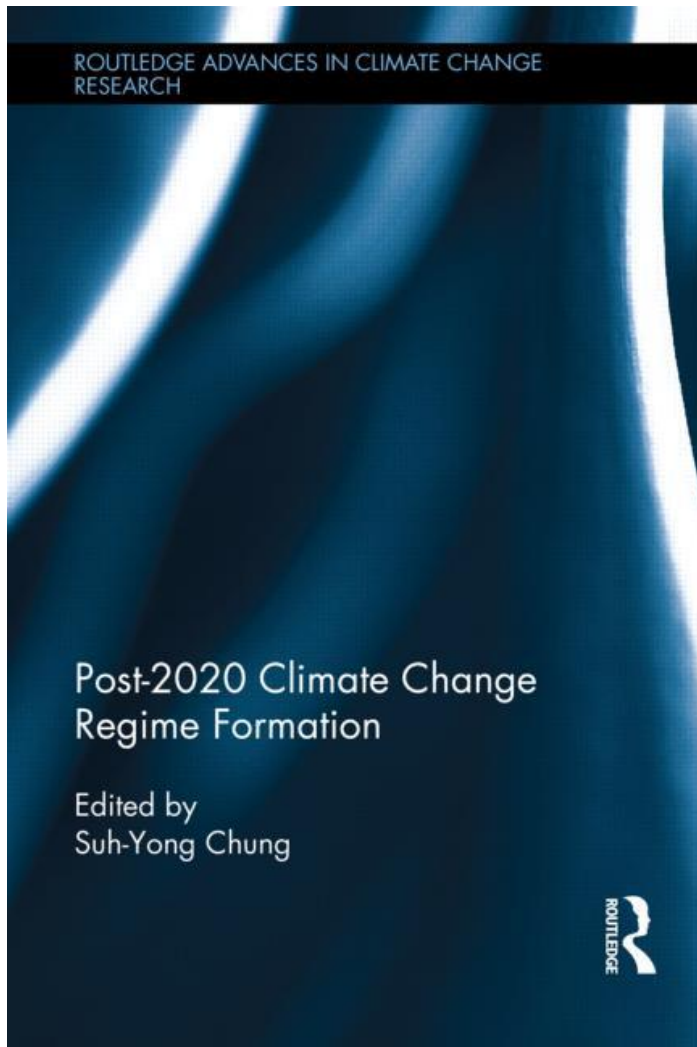
- GCF is headquartered in Songdo, Korea (2013)
- In 2013 at the UN Long-term Finance Work Programme Wrap-up meeting, Korea promised to provide US\$40 million to GCF (2014-2017)
- In July 2013 Korea passed the “Law on the Operational Support for GCF”
 - The Law allows GCF to issue financial products and to trade financial products in the financial market. However, this clause is to become effective only after the Secretariat is entrusted with the fund (currently the World Bank is temporarily given this role for 3 years)
- The Korean government provides office in Songdo (max 15 floors), and also at the Songdo Convention Center when needed.
- Contribution Agreement (Oct., 2013)
 - Korean government will contribute \$1million/year 2013-2019 to the operation cost of GCF secretariat

Results on the implementation of green finance (2012)

- It has been shown that reliance on government is increasing in areas such as green loans, guarantees, and insurance, because domestic financial industry operates funds usually around short-term risk management, which makes it difficult to secure funds to satisfy the green industry's investment demand.

Source: Namhee Kim, 2013)

| Category | 2009 | 2010 | 2011 |
|-----------------------|--------------------------|--------------------------|---------------------------|
| Green financing total | 5.5. trillion won (100%) | 9.9 trillion won (100%) | 14.8 trillion won (100%) |
| National bank | 3.1 trillion won (56.4%) | 6.4 trillion won (64.6%) | 10.4 trillion won (70.3%) |
| Private bank | 2.4 trillion won (43.6%) | 3.5 trillion won (35.4%) | 4.4 trillion won (29.7%) |



- Introduction *Suh-Yong Chung*
- Why the World has Failed to Slow Global Warming *David Victor*
- Is an international treaty worth fighting for? *Yvo de Boer*
- Post-2020 Climate Change Regime Building: An Advanced Developing Country's Perspective *Suh-Yong Chung*
- Post-Durban Prospects for Low-Carbon Green Growth *Paul Ekins*
- Climate Negotiations: How to Break the Impasse and Deliver *Juan Zak and Myung Kyoon Lee*
- China's Transition Towards a Low-carbon Economy: a Review of the 11th Five Year Plan *Ye Qi and Hui-min Li*
- Moving Forward in the Climate Change Policies and Practices *Wan Portia Hamzah*
- Conclusion *Suh-Yong Chung*

THANK YOU!

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