



Green Growth: A Korean Model

Jung, Tae Yong
Deputy Executive Director
Global Green Growth Institute



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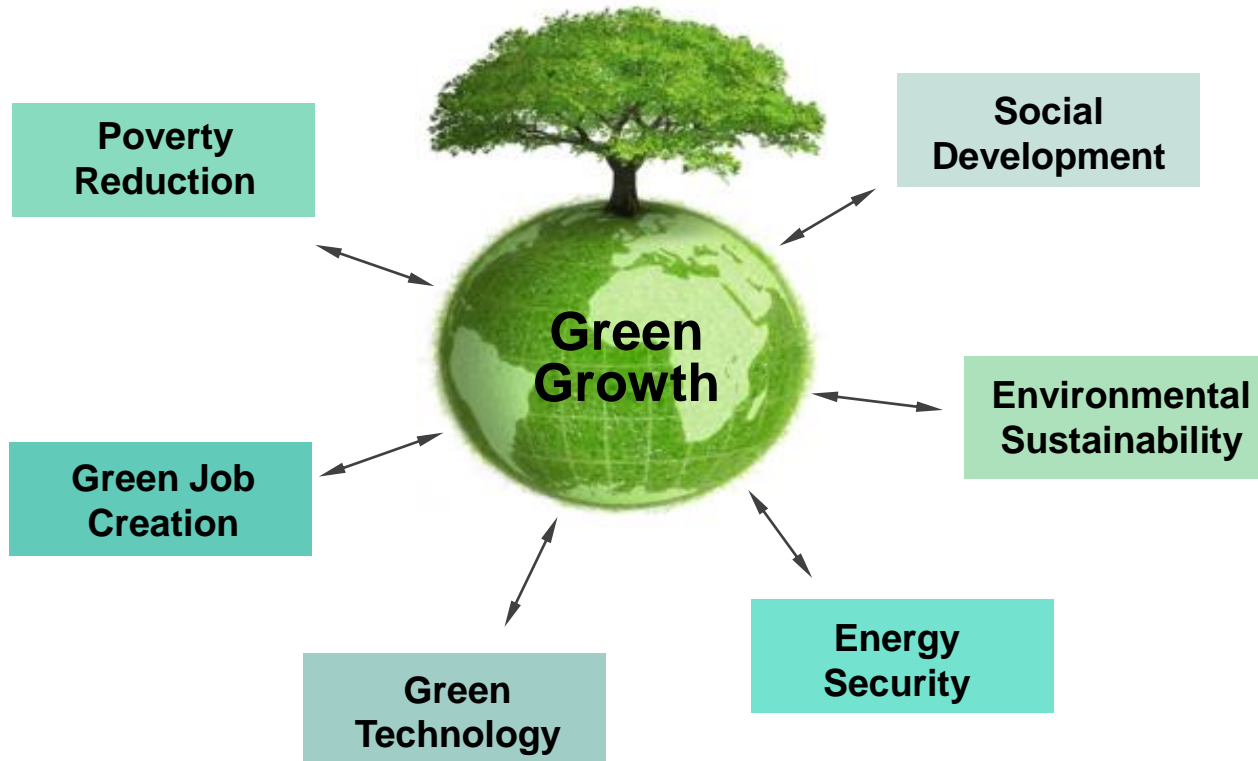
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I. Defining Green Growth



The concept of **green growth** suggests that ***“Growth and climatic and environmental sustainability are not merely compatible objectives, but can be made mutually reinforcing for the future of humankind.”***

Green Growth provides a set of strategies that aims for continued economic growth and environmental sustainability at the same time.



II. Korea's National Strategy for Green Growth



- **“Low Carbon, Green Growth” - A new development paradigm**



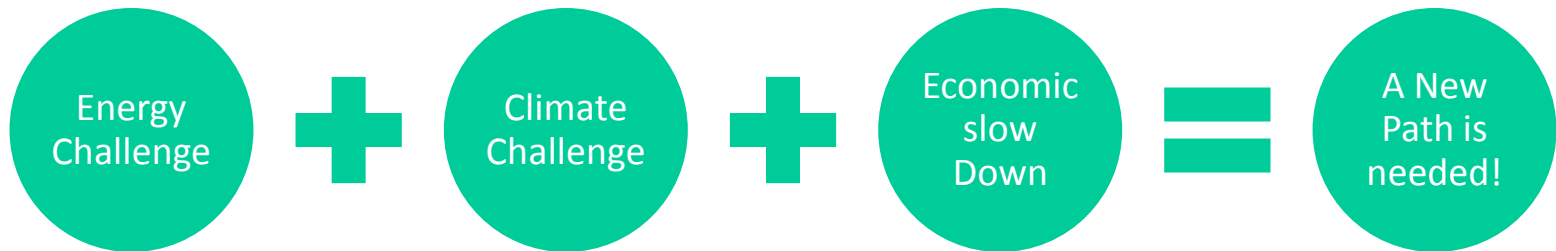
Past 60 Years

Quantitative, Fossil-Fuel Dependent Economic Growth

Coming 60 Years

Qualitative Economic Growth through Green Innovation, Technology, Knowledge, etc.

- **Solving the Triple Crunch: Energy, Climate & Economy**



- \$140 billion energy bill
- 97% of energy imported
- 83% of energy derived from fossil fuels

- Average temperature rise 1.7°C (2 times more than world average)

- Declining growth rates since the late 1990s & growth without employment

II. Korea's National Strategy for Green Growth



Strong Leadership

- Presidential Committee on Green Growth
- Active advocacy and role on the international stage

Fast Integration of the Vision in All Sectors

- Strong partnership with public, private and civil sector (businesses, financial sector, academia, local governments, social groups)

Competitive Industrial Base in Relevant Areas

- Large, competent players

Action - Oriented Strategy

- Secure green budget: Investing 2% of GDP (2009-2013)
- GHG emissions reduction of 30% from BAU by 2020
- 20% of green funds already disbursed by first half of 2009

II. Korea's National Strategy for Green Growth



Green New Deal ('09.1)
Recovery package of \$38.5 billion for 2009-2012 on 9 key green projects

Nat'l GHG Emissions Reduction Target('09.11)
30 % from BAU by 2020

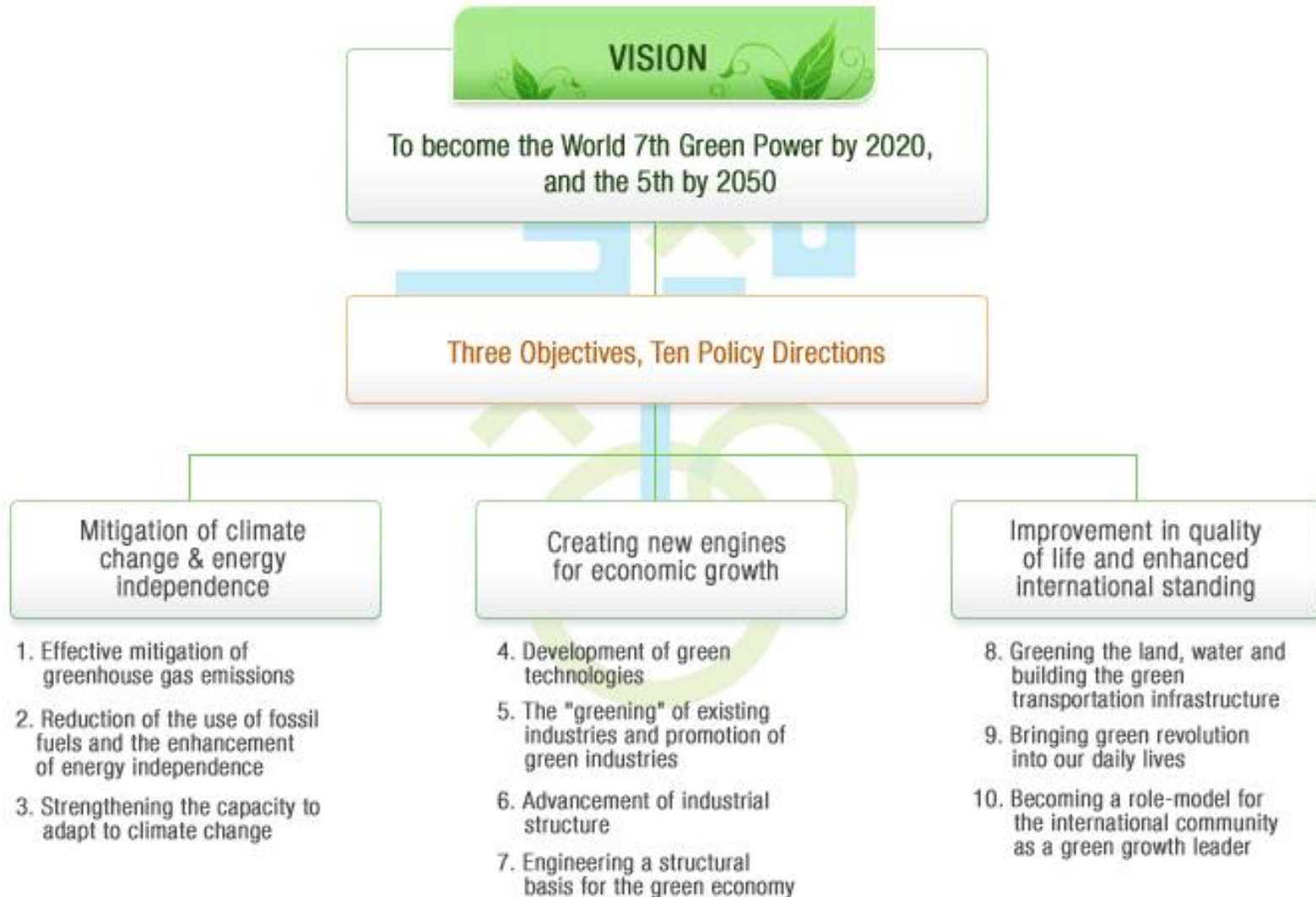
Launch of GGGI ('10.6)
Support developing countries in their green growth efforts

Nat'l Strategy for Low Carbon, Green Growth & its 5 Year Implementation Plan ('09.7)
Public Investment of \$86 billion for 2009-2012

Framework Act on Green Growth and its Enforcement Decree ('10.4)
GHG Target Management System & Green Certificate Program

Proposal of Act on Emissions Trading System ('10.11)
Mandatory ETS by 2015

II. Korea's National Strategy for Green Growth



III. Ten Policy Directions



1. Effective Mitigation of Greenhouse Gases

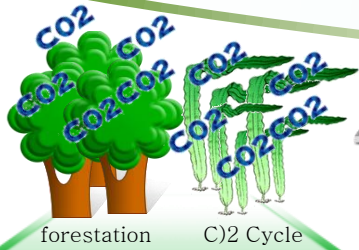
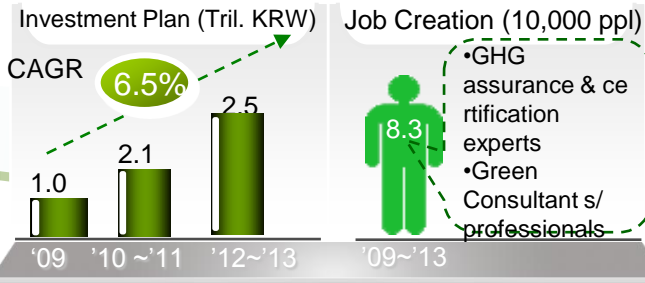
Setup and Manage National Mid-long Term GHG Reduction Goal

- ('09) Setup mid-term goal → ('10) Manage Emission



Manage & Expand GHG Emissions Reporting

- GHG Emission Info Management System: ('09) Policy Formulation → ('10) System Implementation

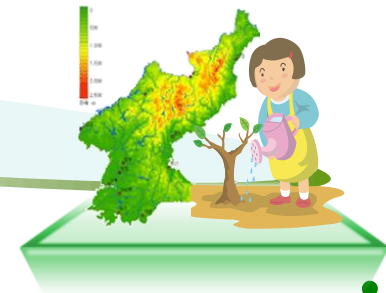


Foster Carbon Cycle Activity(Carbon-3R) and Carbon Sink

- Carbon Storage of Forest : ('09)1,452→('13)1,613million tCO₂

Support Regeneration of Forests in North Korea

- Forestation area of North Korea: ('09)- → ('13)50,000ha



III. Ten Policy Directions



2. Reduction of Fossil Fuel Use & Energy Independence

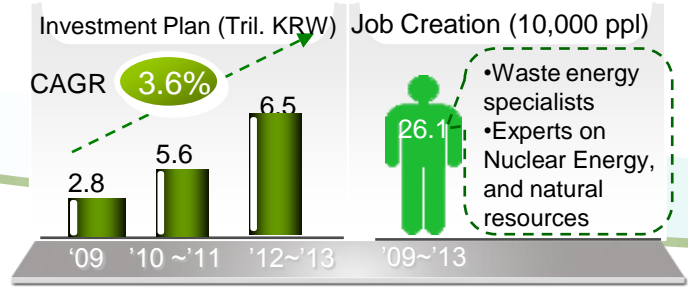
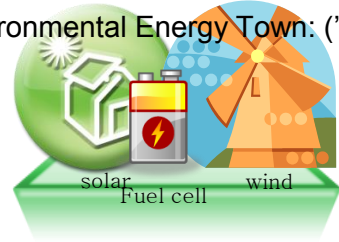
Manage Energy Efficiency and Energy Demand

- Expand use of high efficient instruments: ('13) Eliminate incandescent lamp
- Energy base unit : ('09)0.32→('13)0.29 toe/\$1k
- Introduce and run Energy Target Mgmt. System



Foster Industrialization of Renewable Energy

- The diffusion rate of renewable energy : ('09)2.7→('13)4.0%
- Green Home : ('13)140.000 →('20)1 million houses
- Build Environmental Energy Town: ('09) - →('20) 14 towns



- Waste energy specialists
- Experts on Nuclear Energy, and natural resources

Expand of Global Resource Development Infrastructure

- Independent Exploitation Rate of Petroleum gas : ('09)7.4→('13)20%



Increase Reliability and Relative Importance of Nuclear Energy

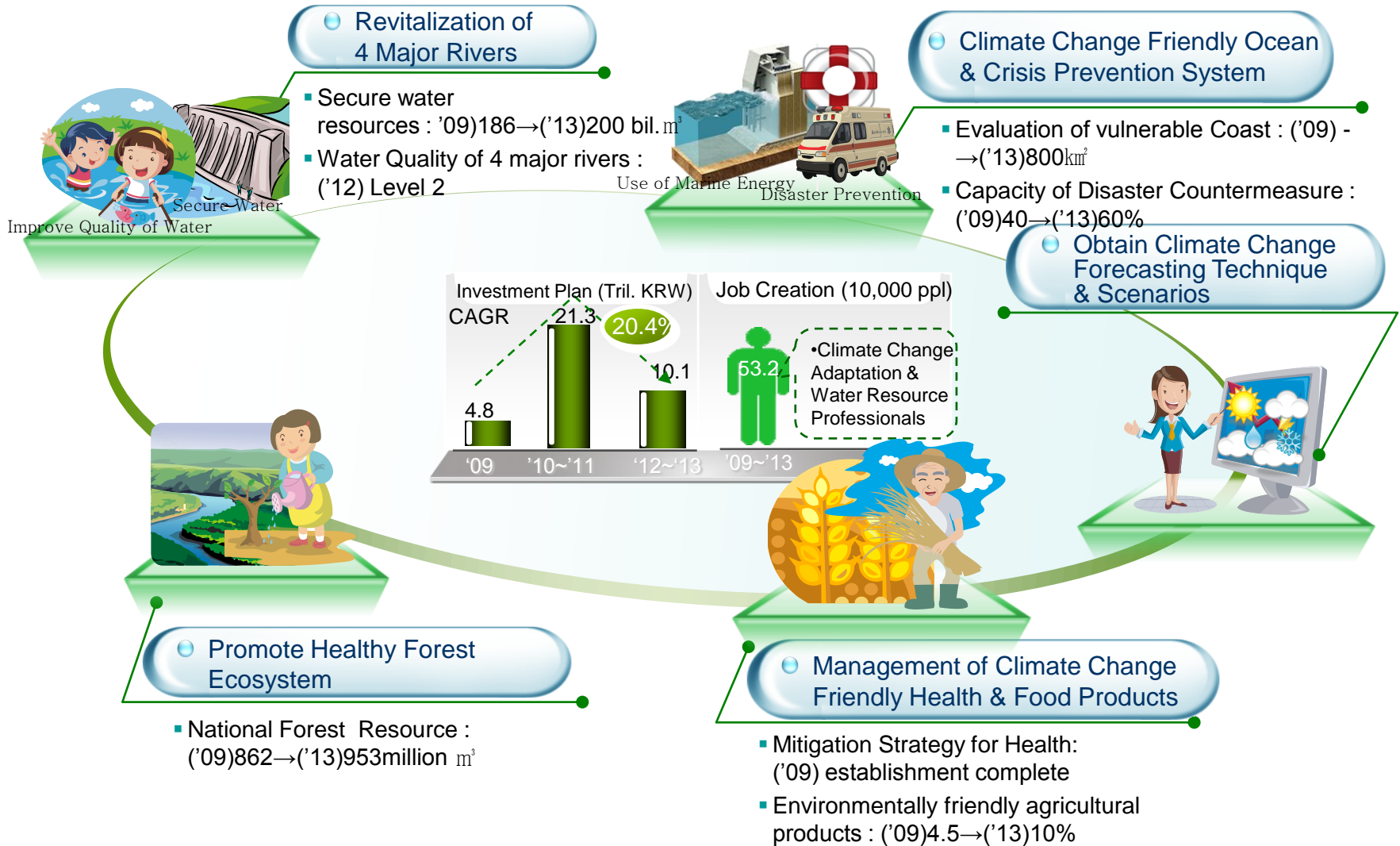
- KR's 1st Nuclear Energy Plant Export (1~2+)
- Develop KR's own technology for foreign-dependent nuclear energy technology ('12)



III. Ten Policy Directions



3. Strengthen Capacity to Adapt to Climate Change



III. Ten Policy Directions



4. Development of Green Technologies

Green Tech Initiative -Use of Core Technologies

- Commercialize Green Technology : LED, Solar Battery, Hybrid Car, measuring Light-Water Reactor, Fuel Cell, etc.

Expansion of Green R&D Investment

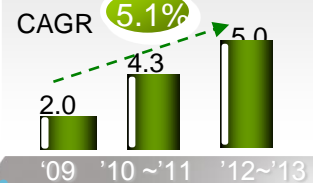
- Green Tech R&D Investment : ('09)16→('13)20%



Strengthen Green IT - Greening of IT, Greening by IT

- Develop and Export World Best 3 Green IT Products (Green PC·TV·Server) ('12)

Investment Plan (Tril. KRW)



Job Creation (10,000 ppl)



"Green TCS* System"

Expand Green Tech, Industrial Infrastructure

- Market Share of Green Tech Exam
 - International Certification : ('09) less 0.5→('13)8%

*TCS: Testing, Certification, Standard

Education for Green Tech Professionals with Int'l Cooperation

- Green Tech. Human resource : ('09) - → ('13)10,000 ppl
- Induce Masters degree+ level high profile Human resource ('09)25→('13)100ppl.



III. Ten Policy Directions



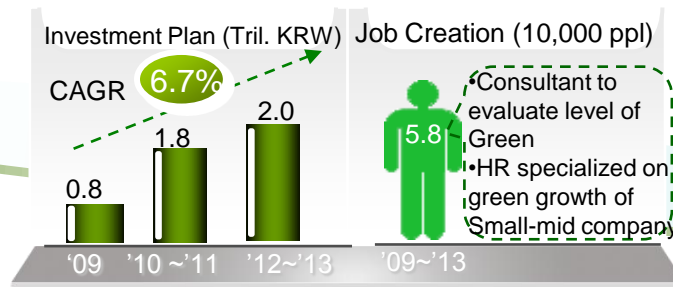
5. "Greening" of Existing Industries & Promoting Green Industries

Expand Green Industrial Complex

- Number of target industrial complex : ('09)5 → ('13)10 complexes (resource reuse, renewable energy, IT based system, etc.)

Enhance Green Partnership with Large-Mid-Small Companies

- Number of joining Green partnership : ('09)- → ('13)1,500 companies



Green Main Industry & Disseminate Green Business Structure

- Greening 9 main industries for Petrochemistry Steel, etc.
- Proportion of Green Product Export : (('09)10 → ('13)15%

Implement Structure of Resource Circulating Economy · Industry and Vitalize Urban Mining`

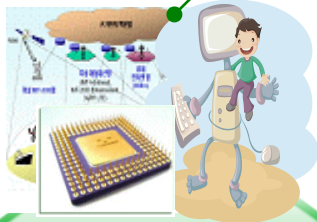
- Rate of Resource cycle : ('09)15→('13)17%
- Urban mining related R&D Support : ('09)90→('13)375billion KRW

III. Ten Policy Directions



6. Advancement of Industrial Structure

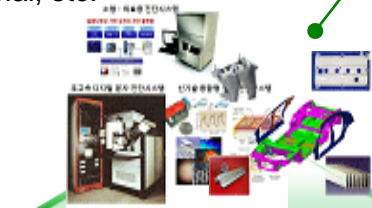
Broadcasting-Communication, IT, Robot Industries



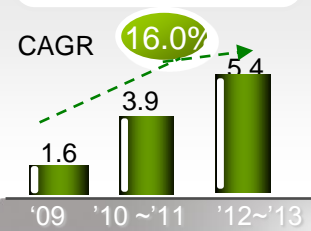
- World Robot Market Share : ('08)8.9→('13)13.3%
- Amount of Exporting Broadcasting-communication Integrated Industry : ('08)520→('13)1,237billion USD
- Next Generation Wireless Communication, Life-care Robot, etc.

Vitalize New Materials·Nano Fusion, Bio-medicine Industries

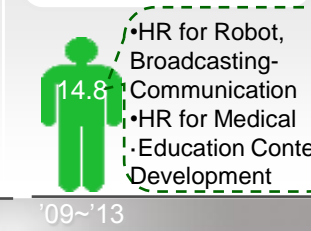
- Local productivity of Bio Industry: ('08)6→('13)22 tril. KRW
- Nano Integrated Solutions: ('08)0→('15)30 products
- High-tech medical image examination machine, ultralight magnesium material, etc.



Investment Plan (Tril. KRW)



Job Creation (10,000 ppl)



Promote High Value-added Sightseeing and S/W Contents, etc.

- Amount of S/W export : ('09)58 → ('13)81billion USD
- Number of MICE tourists : ('09)58 → ('13)1.58million ppl.
- * Meeting, Incentive Travel, Convention, Exhibition
- Virtual reality Contents, Embedded*S/W, etc.
- * loaded S/W to support specific operation

Strong Power of Global Healthcare & Educational Service

- Utilization Rate of U-Health : ('09)0.02 → ('13)14.8%
- Utilization Rate of U-Learning usage: ('09)45 → ('13)65%



III. Ten Policy Directions



7. Engineering a Structural Basis for a Green Economy

Introduce Carbon Emission Trading by Stages

- Carbon Emission Trading System : ('09) Establishing initial plan→('12~) Modeling & Implementing Emission Trading system
- Local carbon market size : ('09) - → ('13)0.5 trillion KRW



Revitalize Green-Tech & Green Finance Industry

- Market Share of Green Investment Fund : ('09)- → ('13) 5%

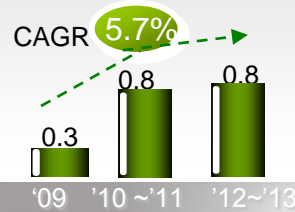


Create Green Jobs

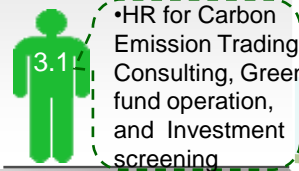
- Managing integrated DB for green employment ('13)
- Cultivation of Green labor
- Support Green Specialized Schools



Investment Plan (Tril. KRW)

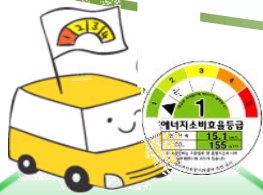


Job Creation (10,000 ppl)



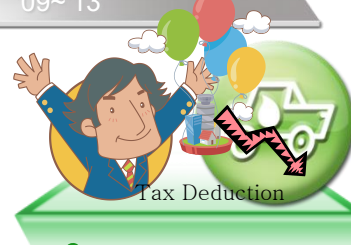
Support and Maintain Carbon Emission Reduction & Regulation and Support Low-income Bracket

- Introduce Standard of Eco-vehicle & GhG emission
- Number of energy shortage households : ('09)7.3→('13)5.0%



Environmental Tax System Reform

- Expand tax favor for eco- products and eco-vehicle



III. Ten Policy Directions



8. Greening the Land, Water & Building Green Transportation

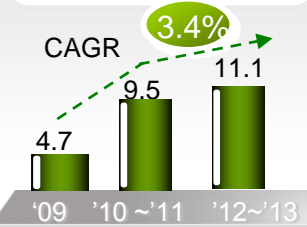
Increase Green Buildings

- Expand Certification of Environmental friendly building and energy efficiency
- Promote Green Home, Green Government Administration, Green School, Green Welfare

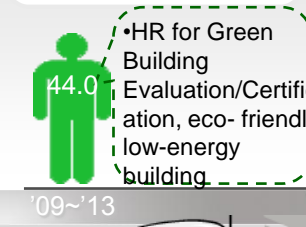
Create Low Carbon Green Forest and Ecosystem

- Area of Green forest : ('09)1,800→('13)2,500ha
- Ratio of Ecology watercourse: ('10)60→('13)70%

Investment Plan (Tril. KRW)



Job Creation(10,000 ppl)



Encourage Bike Use

- Rate of bicycle use : ('09)1.5→('13)5%
- Nation-wide bicycle road network : ('18) 3,114km

Develop Resource Cycle District & "Green Core"

- Build Renewable Bio energy generation town (Sae Man Gum, etc)
- Develop model of low-carbon green city ('09)

Environmentally Friendly Green Transportation

- Rate of railroad use : ('09)18→('13)22%
- of Public transportation use : ('09)50→('13)55%

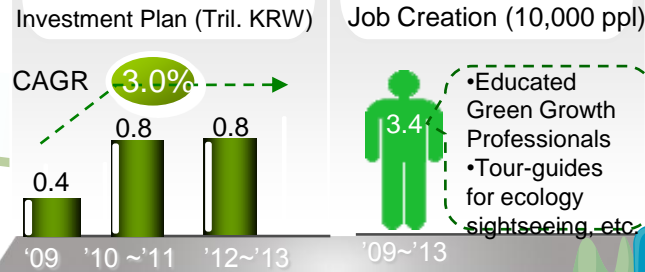
III. Ten Policy Directions



9. Bringing the Green Revolution into our Daily Lives

Green Consumption

- Amount of Green Purchase : ('09)2.5→('13)4tril. KRW
- Number of Carbon Labeling Certificate Products : ('09)50→('13)500 products
- Number of Green Store : ('09)387→('13)600 stores



Expand Green Villages

- Number of Green Village Centers : ('09)50→('13)100 centers
- Low-Carbon Green Village (disposed Bio-mass) Test Operations: ('12) 12 villages



Green Citizens • Green Families

- Number of Green Citizens : ('09)50→('13)100 million ppl
- Number of Green Families : ('09)16→('13)0.3 million houses

Develop and Expand Korean Model of Ecology Sightseeing

- Change to ecology tourists : ('12) 5% of domestic/international tourists



III. Ten Policy Directions



10. Becoming a Role Model as a Leader in Green Growth

Support Developing Countries in Green Growth



- Portion of Green ODA (Both Parties) : ('09)14 → ('13)20%
- GEF Contribution : ('09)0.23 → ('20)0.25%

Green Growth Role-Model

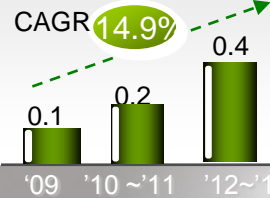
- Environmental Performance Index, World Ranking: ('08)51st → ('13)30th



Cooperation to Realize Global Green Growth

- Through 'East Asia Climate Partnership', Extend Green leadership
- Bridges between developing countries and advanced countries for climate change negotiation
- Enhance diverse technique cooperation

Investment Plan(Tril. KRW)



Job Creation (10,000ppl)



Green Hub Korea Week 2009

Green Hub Korea

- Integrated with Green Technology and System including green growth city and green FEZ (Free Economic Zone)
- The center of Asia Climate Change that leads Asia's Green Growth

IV. Green Technology & Renewable Energy



As one of the ten policy directives under the National Strategy for Green Growth, Korea is placing a strong emphasis on green technologies and renewable energy through sound policies and sustained investment.

Korea's Investment in Renewable Energies (100 million KRW)

Year	PV	Wind	Fuel Cell	Others	Total
2009	18,575	4,936	355	692	24,558
2010	30,337	6,130	1,053	1,271	38,791
Change	63.3%	24.1%	196.6%	83.6%	57.9%

Korea's Renewable Energy Export (million USD)

Year	PV	Wind	Others	Total
2009	1,656	762	10	2,428
2010	3,111	1,462	47	4,620
Change	87.8%	91.8%	370%	90.2%



IV. Green Technology & Renewable Energy



By 2030, Korea is seeking to increase the share of renewable energy sources to 11% of the total energy mix to enhance energy security, promote environmental sustainability and economic growth.

- **Smart grids** improve energy efficiency through optimal electricity generation using real-time monitoring of electricity usage. Korea has established a Smart Grid Roadmap and has created a test-bed in Jeju Island.
- **Fuel cells** generate electricity by converting the chemical energy of hydrogen and oxygen and create 45% less emissions of CO₂ while requiring 31% less energy to operate relative to traditional, fossil-fuel based electricity generation.
- **Solar PVs** directly convert solar energy into electricity. Currently, the domestic market is rated at KRW 2.25 trillion.
- Korea's geography offers great potential for **wind energy**. The total energy that can be generated annually through offshore wind plants reaches 20.1TWh.





Founding & Landmarks

GGGI is an independent, international non-profit organization dedicated to supporting the new model of economic development, **‘Green Growth.’**



“I will ensure that GGGI will evolve into a permanent common asset of the international community by 2012”

- Lee Myung-bak, President of Republic of Korea, June 2010



“GGGI will significantly contribute to a variety of UN’s activities regarding climate change”

- Ban Ki Moon, UN Secretary-General, June 2010

Creation of GGGI announced by President Lee Myung-bak at UNFCCC COP-15

**Copenhagen, Denmark
December, 2009**

GGGI launched at East Asia Climate Forum

**Seoul, Korea
June, 2010**

V. Global Green Growth Institute



“GGGI will create the policy environment that will shape and drive the transition to the low carbon economy...”

- Lord Nicholas Stern, GGGI Vice Chair of the Board, September, 2010

**GGGI Side Event
at UN MDG Summit**

**New York, USA
September, 2010**



**GGGI Side Event
at UNESCAP MCED-6**

**Astana, Kazakhstan
October, 2010**



“GGGI is just the right institution at just the right time.”

- Inger Anderson, Vice President of Sustainability for the World Bank, December, 2010

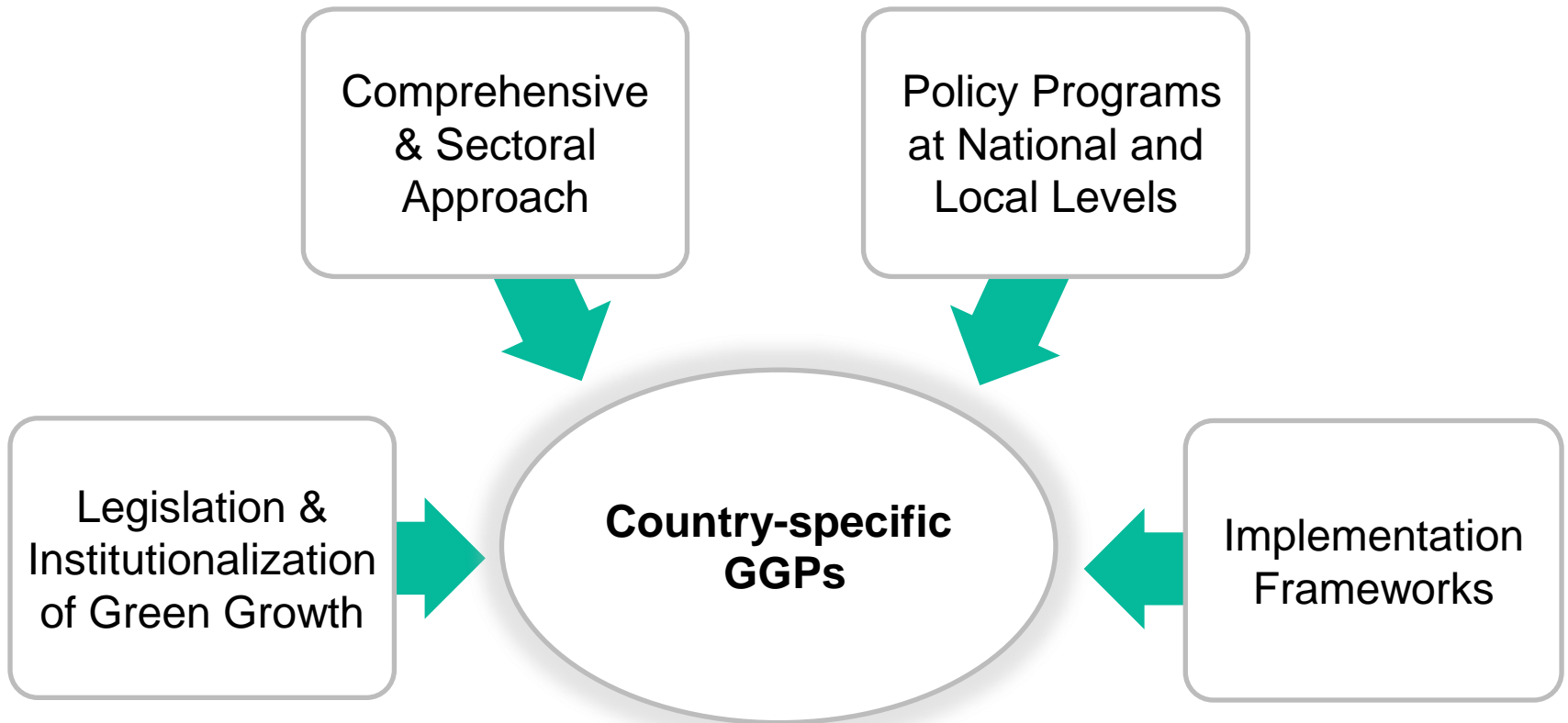
**GGGI Side Event
at UNFCCC COP-16**

**Cancun, Mexico
December, 2010**



Activities: 1. Green Growth Plans (GGPs)

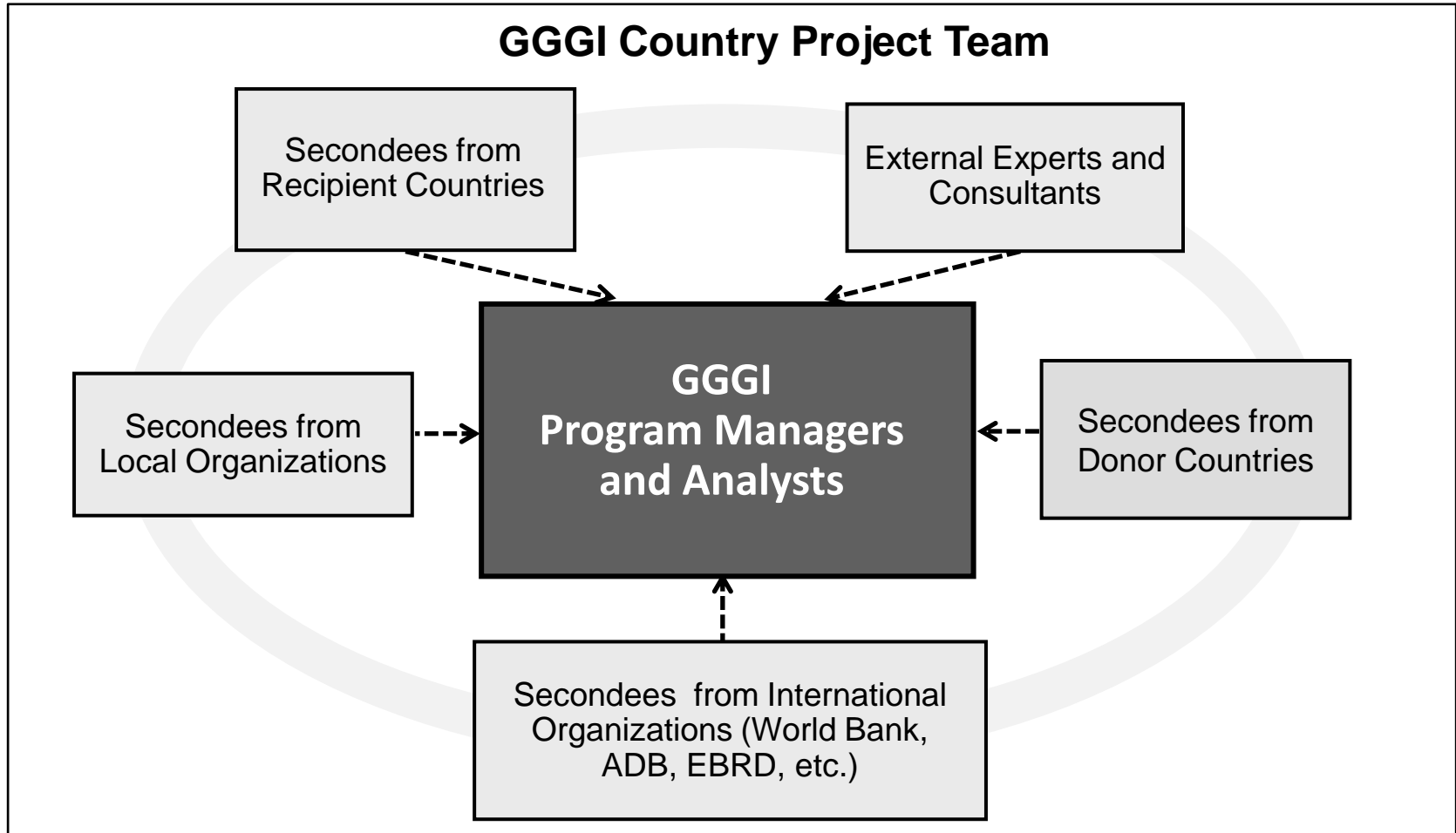
Through **Country Projects**, GGGI provides support to developing countries in their endeavors to develop Green Growth Plans.





Activities: 1. Green Growth Plans (GGPs)

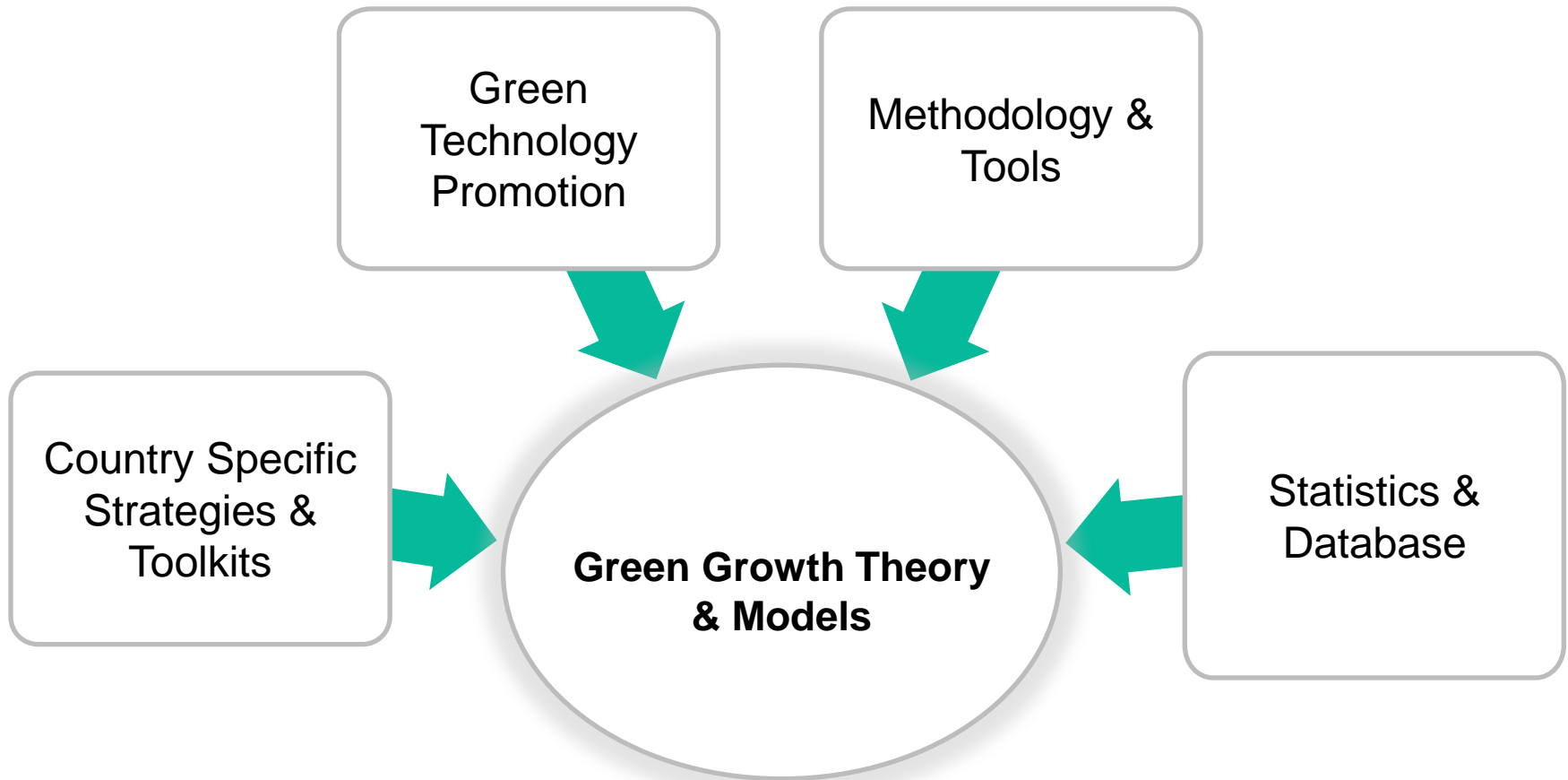
To design GGPs, GGGI works in an **'Open Architecture'** that embraces public/private partners both in donor and recipient sides.





Activities: 2. Research

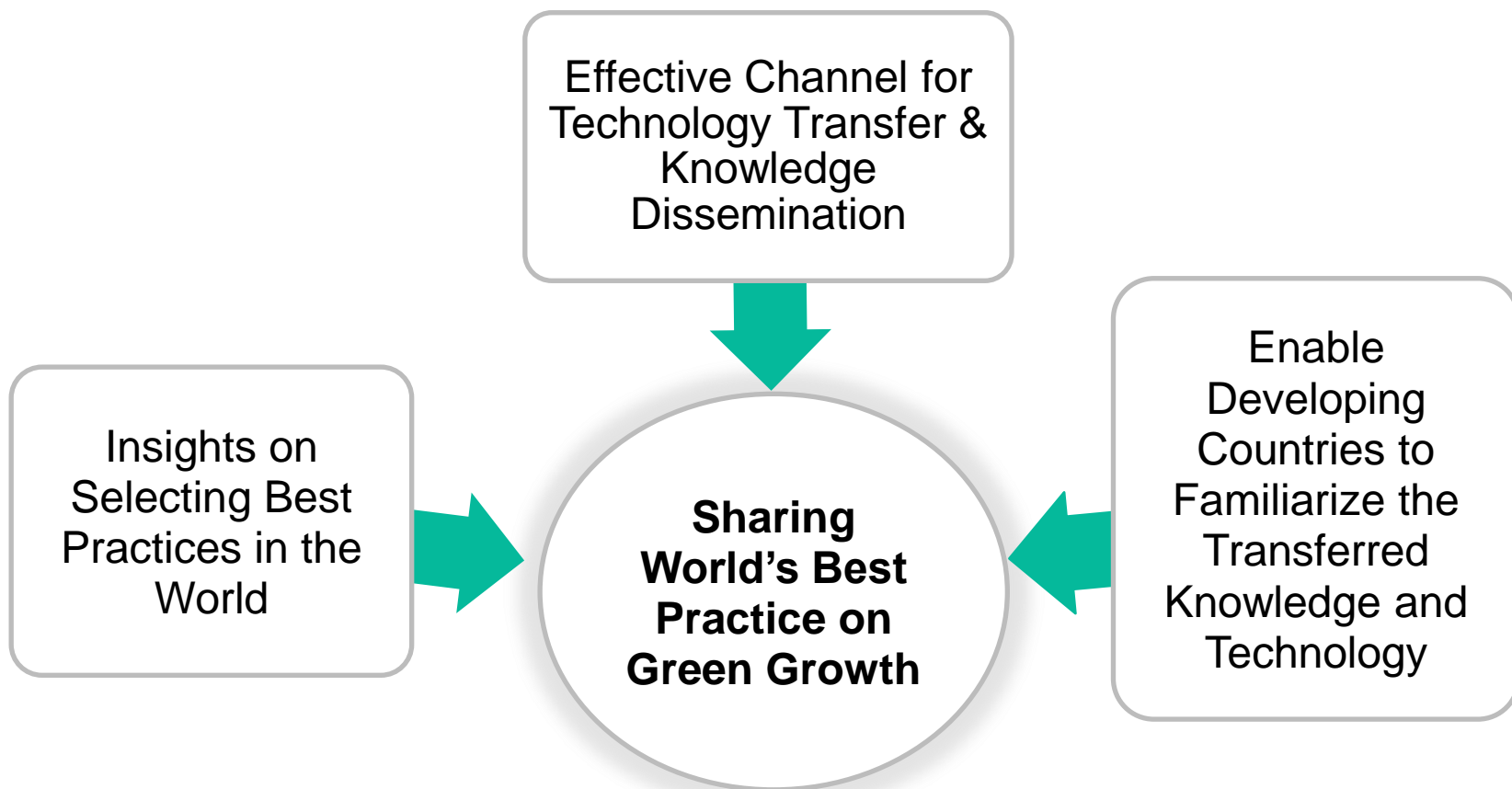
GGGI develops Green Growth theory & models for the new development paradigm.





Activities: 3. Knowledge Sharing

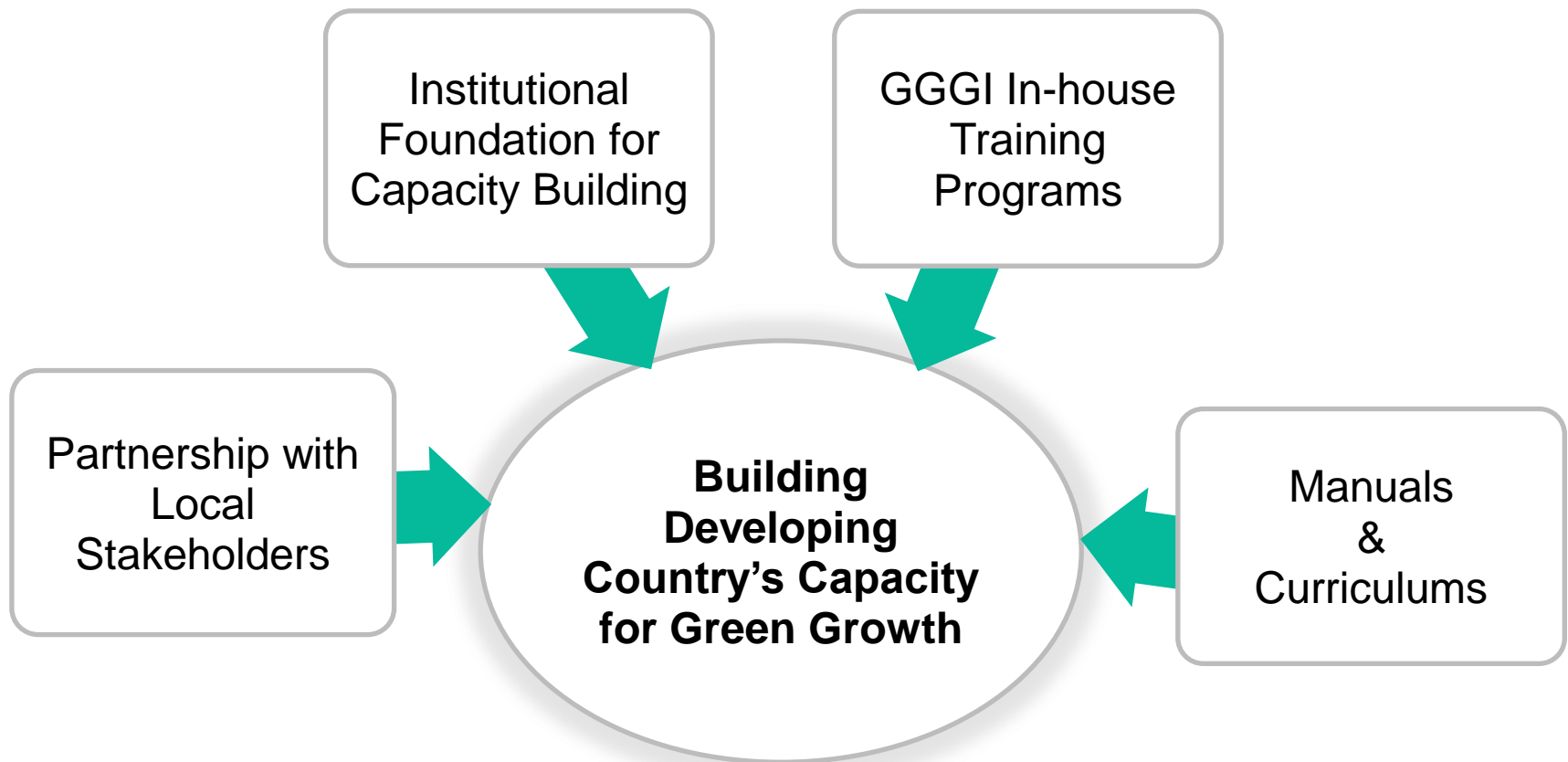
GGGI focuses on “Power of Example” by accumulating and disseminating world’s best practice on Green Growth.





Activities: 4. Capacity Building

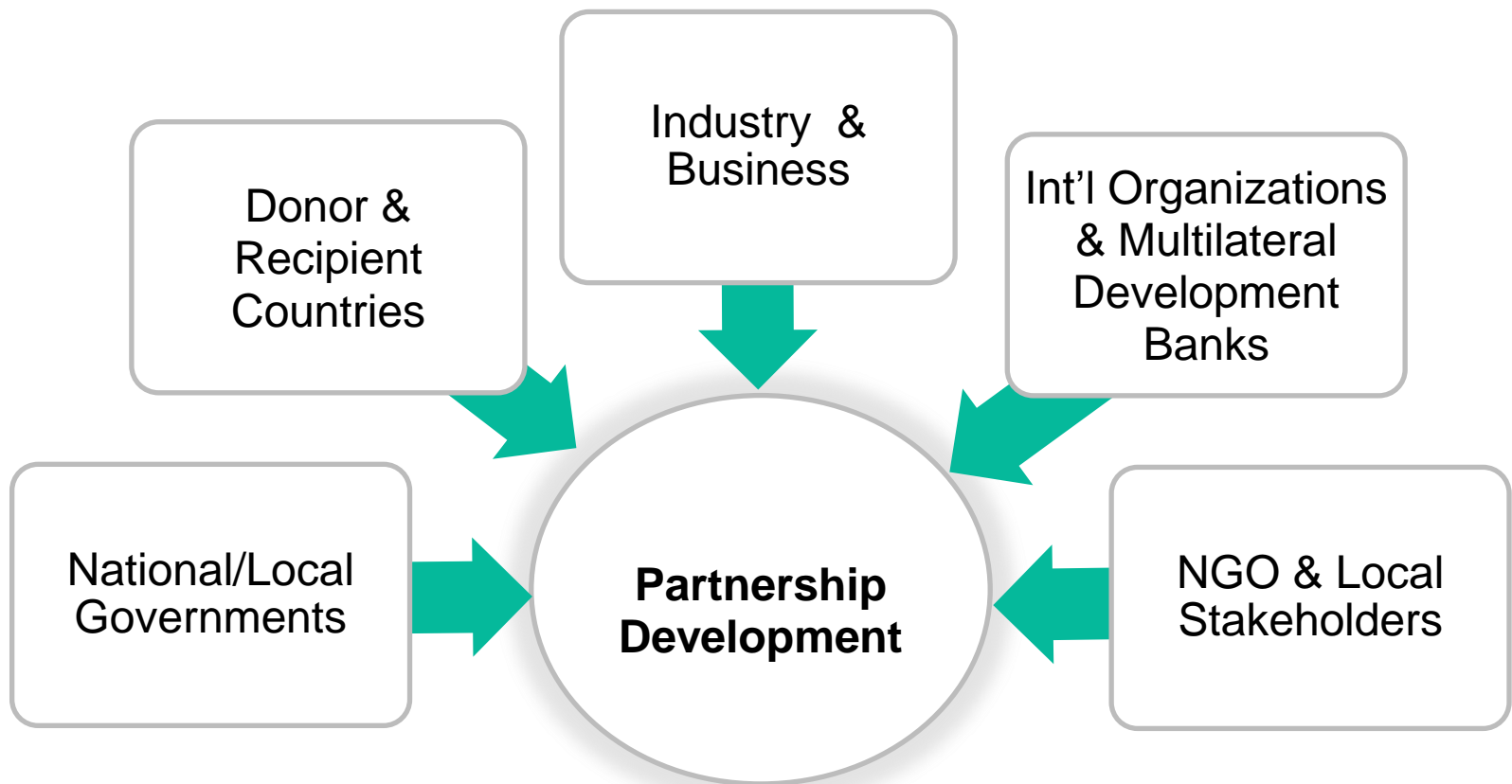
GGGI supports enhancement of developing countries' capacity to sustain their drive for Green Growth.





Activities: 5. Partnership Networks

GGGI partners with all relevant groups from public & private, global & local arenas and connects them one another for increased collaboration and efficiency.





Operational Plan

**2010
Launch of GGGI**

- Build the institution
- Select partner countries
- Secure international participation

**2011
Scale up**

- Strengthen in-house capabilities and set up max. 3 regional offices
- Promote active country projects and research programs
- Expand international partners

**2012
World-class
Institution**

- Fully convert into an intergovernmental, multi-stakeholder organization
- Complete global presence by having max. 6-7 regional offices in place
- Systematize and diversify GGGI activities