



THE GREEN GROWTH EFFECT

Implementing Ideas
That Change The World

FIFTH ANNUAL KOREA GREEN INNOVATION DAYS 2018

MAY 17-18, 2018 SEOUL, REPUBLIC OF KOREA WORLD BANK GROUP | KOREA GREEN GROWTH TRUST FUND



The Korea Green Growth Trust Fund

The Korea Green Growth Trust Fund is a partnership between the World Bank Group and the Republic of Korea, established in 2013 to support client countries as they shift to a green development path. Both partners share a common goal to reduce poverty and promote shared economic prosperity in an environmentally responsible and socially inclusive way.

The Trust Fund finances on-the-ground programs as well as knowledge exchange activities, and to date has approved 122 programs in the urban, transport, information and communication technology, energy, environment, water, and climate sectors. Based on strong performance, as well as increasing demand for collaborative development implementation programs, the fund has grown from US\$40 million to US\$88 million through 2021.

ENVIRONMENTAL
QUALITY
STANDARDS



AIR AND WATER
MONITORING
NETWORKS



CLEANER AIR
IMPROVED HEALTH
BETTER QUALITY OF LIFE



From the Donor

The Republic of Korea is proud to continue building its partnership with the World Bank Group. Together we continue to find innovative green growth solutions in response to the trends of urbanization, globalization, income inequality and climate change. Working together we can positively change the world.

As countries search for actionable solutions to achieve their goals across energy, environment, water and sanitation, urban, transportation and ICT sectors, leaders are recognizing that the green growth framework provides the right balance of flexibility and structure to achieve the twin goals of environmental and economic sustainability. The prominence of shared economic prosperity, the investment in human capital, and the environmental, economic and health benefits embedded in the green growth framework simultaneously bring economic, social and environmental solutions. While each project and situation varies, Green Growth principles remain the same: implementing solutions that integrate multi-sector needs, technological innovation and social inclusion.

Yoo, Byunghee

Director

Development Finance Division

Ministry of Strategy and Finance, Republic of Korea

OPEN AND BIG
DATA BEST
PRACTICE



REAL TIME
TRAFFIC FLOW
DATA



IMPROVED MOBILITY

REDUCED TRAFFIC
CONGESTION

REDUCED
ENVIRONMENTAL DAMAGE



Seoul Station, South Korea

The World Bank Group + Republic of Korea = **A Strong Partnership**

The Korea Green Growth Trust Fund works with client countries to find and implement sustainable development solutions that improve lives and contribute to shared economic prosperity. The World Bank Group was established in 1944 with the mission to provide large infrastructure funding to developing countries that otherwise were unable to qualify for loans. Because of its global reach and wide ranging development experience, its ability to discover innovative solutions and provide technical expertise and training has become increasingly valuable to its client countries.

Building on its value as a technical partner and knowledge bank, the Korea Green Growth Trust Fund was established in 2013, in partnership with the Republic of Korea, to support client countries to find and implement innovative strategies for green growth.

The Republic of Korea has become a global leader in green growth. It has developed innovative and effective policies and governance structures that support a sector-integrated approach to sustainable economic development that prioritizes protection of the environment.

Korea's remarkable transition over several decades from the recipient of global aid to a strong, thriving economy and World Bank donor is an inspiring story. As a nation, its first-hand experience developing solutions across the urban, transport, information and communication technology, energy, environment and water sectors is highly relevant for many developing countries facing similar challenges.

An important symbol of this partnership, the Korea Green Growth Trust Fund now looks ahead to continue finding innovative green growth solutions in response to the trends of urbanization, globalization, income inequality and climate change, in order to positively change the world.



INTRODUCING
SMART GRID
TECHNOLOGIES



INTEGRATING
RENEWABLE
ENERGY SOURCES



REDUCED DEPENDENCE
ON OIL & GAS

FEWER BLACKOUTS

INCREASED ENERGY
ACCESS

THE GREEN
GROWTH EFFECT
ENERGY

From the World Bank

It has been an honor and a pleasure to partner with the Government of Korea since the Korea Green Growth Trust Fund (KGGTF) was established in 2013. Korea's remarkable achievements combining economic development with environmental sustainability and social wellbeing align directly with the goals of the World Bank.

The programs that the KGGTF supports are transformative. For example, the methodology to assist with decision making under deep uncertainty has been integrated as a foundational World Bank framework to help promote more robust and resilient infrastructure investments worldwide. The KGGTF is highly valued for its support of new methodologies, its investment in innovative approaches, and its facilitation of learning from around the world. To date the KGGTF has influenced around \$13 billion in project lending to World Bank client countries.

The Republic of Korea's visionary leadership in green growth policies, integration of ground-breaking technologies, and long-term sustainable thinking is an inspiring story for governments around the world. We look forward to building on the Trust Fund's accomplishments to date, and continued collaboration to share sustainable solutions with countries tackling development challenges.

Marianne Fay

*Chief Economist of the Sustainable Development,
Vice Presidency of the World Bank Group*



Korea Green Innovation Days 2018

The Green Growth Effect

Korea Green Innovation Days 2018 is the KGGTF's fifth annual flagship event. To celebrate and share the success of the KGGTF since it began operationalizing green growth in 2013, the event will focus on the results and impact achieved—The Green Growth Effect.

A diverse line-up of green growth practitioners and visionaries, together with decision-makers from public and private organizations in Korea, senior officials from client countries, and technical specialists from the World Bank will lead a highly interactive and practical two-day knowledge sharing activity.

Countries and companies around the world are searching for ways to achieve

sustainable development. While each set of challenges and circumstances varies, green growth principles remain the same: implementing solutions that integrate multi-sector needs, technological innovation and social inclusion. This provides a comprehensive approach, with a flexible and sophisticated framework on how to achieve sustainable development.

Together we will demonstrate the collective action taken and progress made throughout the world to transform green growth challenges into opportunities to stimulate economic activity in a sustainable way, and improve quality of life for citizens, children and future generations.





Laos



Bhutan

The Green Growth Effect Around the World

IN LAOS

Supporting the Government of Laos with technical assistance, analysis and advisory services to develop a Green Resilient Growth Platform

GREEN GROWTH EFFECT

- HELP TO BOOST PRODUCTION
- REDUCE GHG EMISSIONS FROM FARMING
- BUILD CLIMATE CHANGE RESILIENCE

IN COLOMBIA

Working with the government to implement a comprehensive national green growth strategy

GREEN GROWTH EFFECT

- INCLUSIVE ECONOMIC GROWTH
- PROTECTION OF NATURAL RESOURCES
- LONG TERM STRATEGY ENCOURAGING NEW BUSINESS INVESTMENTS

This year's event will examine The Green Growth Effect, looking at the positive and scalable effects of green growth investment on communities, the environment and the economies of the countries we work with, for example:

IN BHUTAN

Improving urban transport in Bhutan's capital city including investment in Electric Vehicle implementation and green public transportation

GREEN GROWTH EFFECT

- BENEFITS CITIZENS
- REDUCES GHG EMISSIONS
- PROMOTES TOURISM
- ENHANCES NATIONAL COMPETITIVENESS

IN CENTRAL AMERICA

Provide technical support for renewable energy integration in Central America

GREEN GROWTH EFFECT

- FACILITATE GROWTH BY IMPROVING ENERGY RELIABILITY AND EFFICIENCY
- REDUCE DEPENDENCE ON VOLATILE OIL PRICES
- HELP TO ACHIEVE GHG REDUCTION TARGETS



Colombia



Central America



Agenda

Wednesday, May 16

KGID Pre-Reception

MOLIT Land Development Museum

5:30 pm

Thursday, May 17

Le Méridien, Seoul



LL Floor
Lower Level

8:00–9:00 am
Registration



9:00–9:25 am
Welcome and
Opening Remarks

Taesik Yoon, Director General of Development Finance Division, Ministry of Strategy and Finance (MOSF), Republic of Korea (RoK)

Marianne Fay, Chief Economist, Sustainable Development Unit, World Bank Group (WBG)

Keynote Address

Jae Jeong Kim, Chief Deputy Minister for Planning and Coordination, Ministry of Land, Infrastructure and Transport (MOLIT), RoK

9:25–9:40 am
KGID 2018:
The Green Growth Effect

Eun Joo Yi, Korea Green Growth Trust Fund (KGGTF), WBG



9:40–11:00 am
Success Stories:
What's Your Green Growth Effect?
Ideas and Solutions That Are
Changing the World

Green growth is informing World Bank and country projects in a variety of sectors around the globe. Learn how the green growth framework is taking challenging situations and transforming them into opportunities to stimulate economic growth, improve quality of life and build shared economic prosperity.

MODERATOR

Eun Joo Yi, KGGTF, WBG

LAOS

National Green Growth Program

COLOMBIA

National Green Growth Commitment

UZBEKISTAN

Cleaner Production: Industrial Energy Efficiency

CAMEROON

Pedestrian Mobility for Urban Growth

Panel Discussion
Q & A

11:00–11:15 am

Coffee Break

Networking and
Pre-Scheduled Meetings



Sign up for
Individual
Meetings



F Floor
4th Level

11:15 am–12:30 pm
The Multiplier Effect:
Partnerships and Ideas from
Around the World

- Partnership between the Ministry of Environment and KEITI, RoK and the World Bank's Environment Unit. MOUs that foster sharing and impact.
- Collaboration between KLID, the World Bank's Urban Unit and Cairo, Egypt to achieve civil green growth action incorporating E-Government.
- Partnership between the Ministry of Oceans and Fisheries, RoK and the World Bank to achieve and integrate innovation for sustainable fisheries.

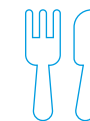
MODERATOR

Eun Joo Yi, KGGTF, WBG

Panel Discussion

12:40–1:40 pm

Lunch



1:40–2:30 pm

Green Growth Effect Exhibits

Networking and
Multi-Media Experience

Sign up for
Individual
Meetings



LL Floor
Lower Level

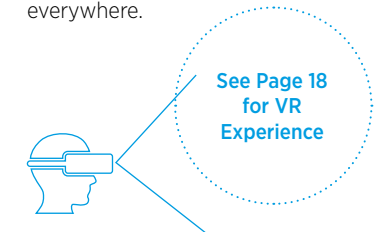
2:30–4:45 pm
Working Sessions
F Floor, 4th Level
Monet Conference Rooms

Four Working Sessions will be held each afternoon. These will be highly interactive technical discussion forums based on sectors or technical areas, where green growth experts and practitioners can discuss critical issues in-depth, find solutions to specific problems, and seek opportunities for collaboration. These sessions will run simultaneously, please choose one to attend each day.

See Next
Page for Working
Sessions

5:00–5:30 pm
Take Out: Green Growth
Experiences To-Go
Virtual Reality and Movie Time
in the Main Ball Room

Experience innovative solutions to complex problems. Get a sneak-peak at the future of immersive learning and how KGGTF is working to make site visits available to city leaders everywhere.



5:40 pm

It's a Wrap

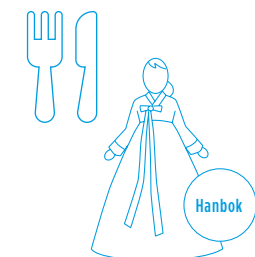
Reflections on Day 1 and
Announcements for Day 2

6:30–8:30 pm

KGID 2018 Day 1

Dinner Reception

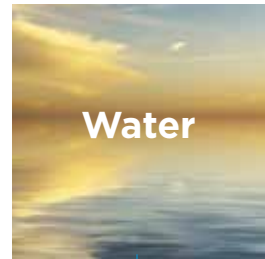
Hanbok Experience



Working Sessions

Thursday, May 17 2:30–4:45 pm

F Floor, Le Méridien, Seoul



Water

Smart Water Management for a Sustainable Future: Managing the Highs (Floods) and the Lows (Droughts)

Clean water and air are indispensable. Many countries now or in the near future will experience difficulty securing these resources. New inexpensive technologies allow for robust environmental monitoring. The deployment of accurate and transparent monitoring systems alongside campaigns that educate and engage the public can supercharge the process of reducing GHG emissions and improving air and water quality for all.

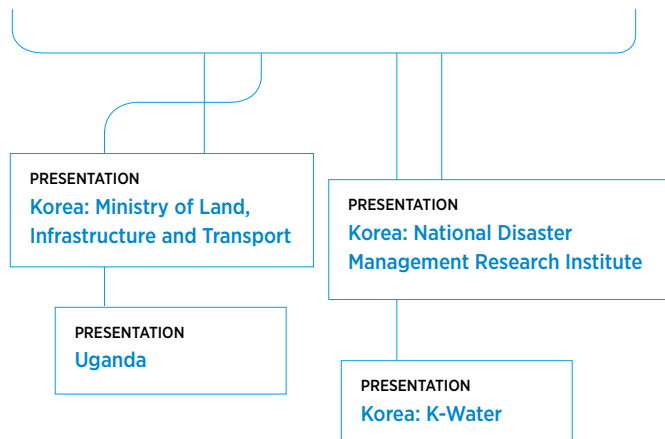
DISCUSSION WILL INCLUDE:

- Capacity building.
- Establishing a supportive regulatory environment.
- Successfully deploying new technologies.
- How to strategically engage the public.

MODERATOR

Pilar Maisterra, Practice Manager, WBG

Panel Discussion



Transport Logistics

Transportation and Logistics: Hidden Resources to Achieving Green Growth

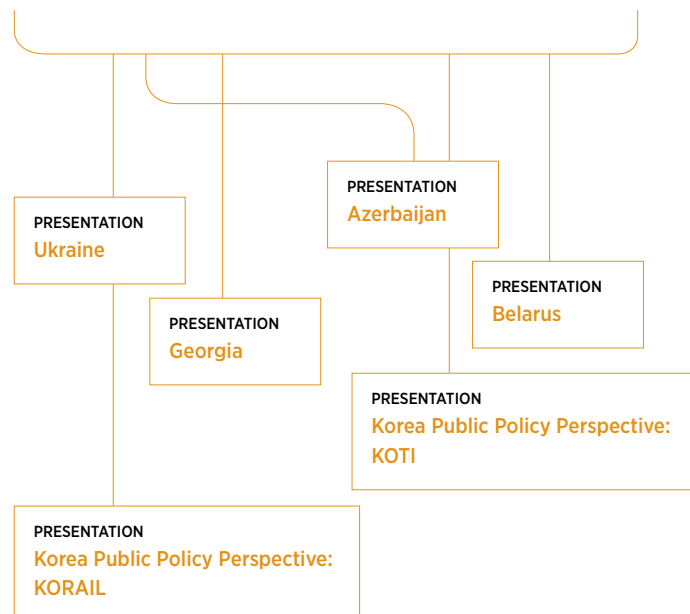
Key to unlocking a country's economic potential without damaging the environment is a robust transport and logistics network. The benefits of a clean and efficient transport system include: economic growth and stability by reducing the time and cost of freight transportation, the creation of new jobs, lower GHG emissions, and a reduction in environmental impact.

Reevaluating a country's geographical resources and constraints can often result in non-traditional solutions. This session will examine how waterways, railways and the integration of new ITS solutions provide new options for the transport and logistics sector.

MODERATOR

Juan Gaviria, Practice Manager, WBG

Panel Discussion



Energy

Energy Technology and Innovation: Guess What? It's Easier Than You Think

The world has experienced energy breakthroughs. Renewables, storage batteries and energy integration costs have decreased and are now economical options.

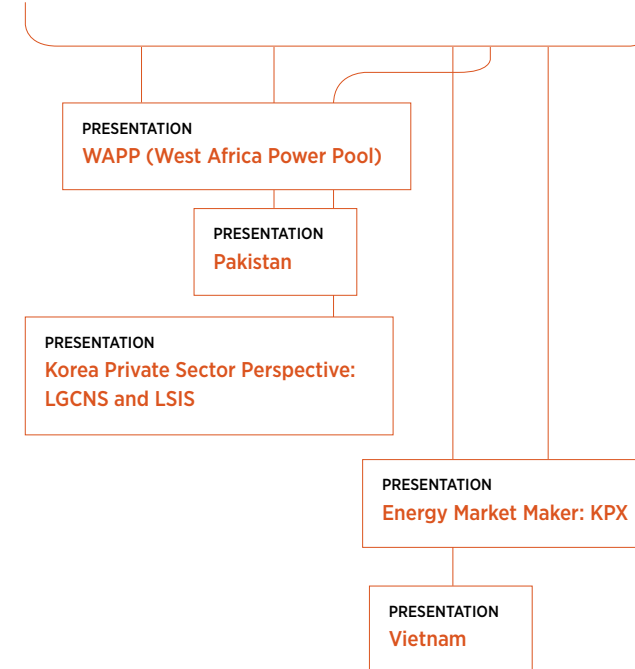
Recent projects such as shared power systems between neighboring countries, smart grids, and solar panels on homes demonstrate how countries can decrease energy costs and transition towards energy independence and sustainability. New tools allow countries to create highly tailored energy solutions.

This session will explore this energy transformation, and consider the opportunities and challenges ahead.

MODERATOR

Franklin Kofi Gbedey, Sr. Energy Specialist, WBG

Panel Discussion



Fishery

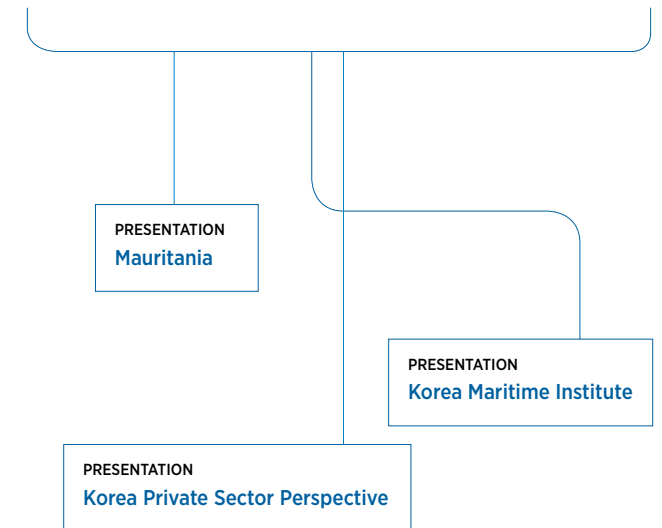
Fishing for Solutions? Tech and Policy Solutions for Effective Resource Management

Global economies now recognize effective resource management the need to integrate a long-term sustainable economic perspective. Sustainable fisheries and marine products contribute significantly to a nation's economy. Learn how integrating technology, innovation and smart policies can result in long-term sustainable development.

MODERATORS

Cristina Navarrete Moreno, Private Sector Specialist, WBG

Panel Discussion



Virtual Reality Experience

World Bank staff and leadership from emerging countries are finding Korea's approach to green economic development to be highly relevant. Over the past five years the Korea Green Growth Trust Fund has facilitated Technical Knowledge Exchange Programs for over 800 government officials and technical practitioners from around the world. Due to overwhelming feedback on the significant value of this on-site learning experience, and the demand from client countries to learn Green Growth in Action, the KGGTF is looking for new learning tools and methods to share Korea's green growth experience more widely. Using Virtual Reality technology, we hope to

offer more people around the world the opportunity to learn from Korea's pathway to green economic development.

Virtual Reality (VR) can offer people in many different locations the opportunity to experience visiting a specific site without physically traveling to it. Using this technology, government leaders, urban planners, policy decision-makers and technicians can have a visual learning experience that simulates being there in person. In this way we hope to scale the value of VR learning experience and help inform greener planning and investment decisions around the world.

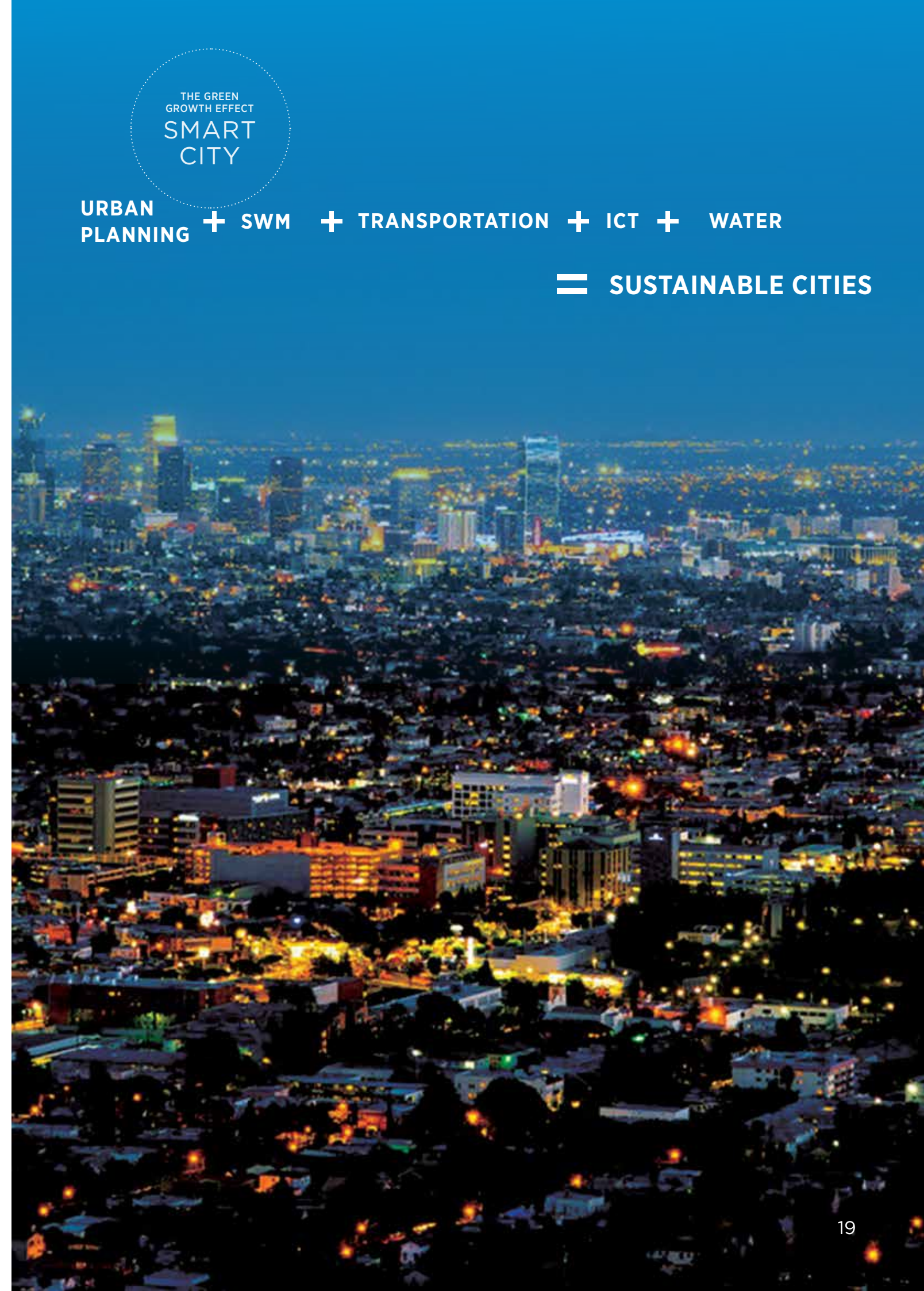


POLICY + INNOVATIVE TECHNOLOGY + COMMUNITY ENGAGEMENT = WASTE TO ENERGY



URBAN PLANNING + SWM + TRANSPORTATION + ICT + WATER

= SUSTAINABLE CITIES



Friday, May 18

Le Méridien, Seoul



LL Floor
Lower Level

8:30–9:00 am
Networking and Pre-scheduled Meetings

Sign up for Individual Meetings

9:00–9:25 am

OPENING SESSION
The 4th Industrial Revolution: Shared Economic Growth

Korea has developed innovative policies and strategic investments to position the country as a leader in the Fourth Industrial Revolution. The Presidential Fourth Industrial Revolution Committee is working to promote growth in key sectors such as: electric and self-driving vehicles, smart cities and factories, and AI-related industries based on intelligent infrastructure and green energy.

Learn how strategic policies and targeted investments encourage economic growth that is innovative and inclusive.

MODERATOR
Jaehyang So, Senior Adviser, WBG

SPEAKER
Chang Byung-gyu, Committee Chair, The Presidential Fourth Industrial Revolution Committee

9:30–10:00 am
Jobs: SMEs and Start Ups in a Green Growth Economy

Visionary leadership and long-term planning has been fundamental to Korea's rapid economic transformation. Clearly articulated government plans, accompanied by targeted investments provide the private sector with a sense of certainty that results in business investments and job creation. Learn how key policies support a thriving green economy and the opportunity to build a vibrant SMEs and start-up sector.

MODERATOR
Jaehyang So, Senior Adviser, WBG

SPEAKERS
Ministry of Small Medium Enterprises & Startups (MSS)

Kang Kwon Lee, Comento — Mentoring Platform Start Up

Environment Start Up

10:00–11:00 am
Looking Ahead: KGGTF Projects in the Works

The World Bank is often associated with large scale, capital intensive infrastructure projects and lengthy footnoted reports. This session will show World Bank projects in a different light by previewing newly awarded KGGTF grants from a number of regions that aim to test out new ideas and technologies combining multiple sectors that are designed for fast deployment. The desired effect? Environmentally sustainable and cost effective solutions that can be implemented quickly and achieve a positive scaleable effect. The aim for these pilot solutions, once proven successful, is deployment across other World Bank and client country projects.

MODERATOR
Eun Joo Yi, KGGTF, WBG

PART 1
Land and Urban Transport
HONDURAS AND PAKISTAN
Land

VIETNAM
Urban Transportation

PART 2
Energy and Water

WAPP
Energy

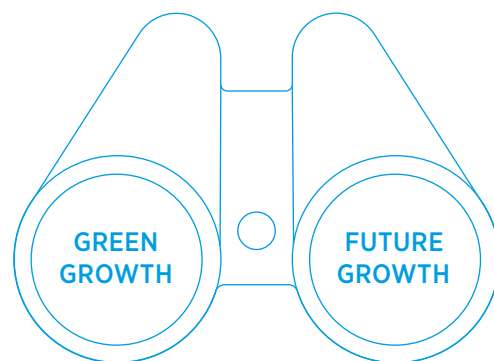
UGANDA
Water

Q & A

11:00–11:15 am
Coffee Break

Networking and Pre-Scheduled Meetings

Sign up for Individual Meetings



F Floor
4th Level



LL Floor
Lower Level

11:15 am–12:25 pm
Decision Making Under Deep Uncertainty

One challenge facing all projects is how to make decisions in a world constantly in flux. When long-term investment choices are being made how can shifting variables such as climate change, politics, and social upheaval be factored in? Infrastructure investments last for decades, therefore a badly planned investment can have costly consequences over the long term.

With funding from the KGGTF, a World Bank team developed a tool for decision-making under deep uncertainty (DMDU) that simulates the consequences of unexpected events. It considers variables such as: investment costs, potential damage to asset values, sea level rising, current discount rate, the impact of population growth, among other fluctuating variables, and highlights benefits and tradeoffs.

This session will consist of an interactive exercise in which participants will be involved in an investment decision scenario that brings the critical decision-making process to life. This will demonstrate how green growth thinking has been used to develop a methodology that is becoming a foundational World Bank tool to help standardize and manifest more robust and resilient infrastructure investments worldwide.

PRESENTATION OF DMDU
Xavier Espinet Alegre, Transport Specialist, WBG

PANEL SESSION
MODERATOR
Marianne Fay, Chief Economist, Sustainable Development, WBG

SPEAKERS
SRI LANKA
Lahiru Prasanga Handunneththi, Hydraulic Engineer, Sri Lanka Land Reclamation and Development Corporation (SLLRDC), Colombo, Sri Lanka

PERU
Ivan Rodriguez, Water and Sanitation Specialist, Water Utility (SEDAPAL), Lima, Peru

MOZAMBIQUE
Calado Ouana, Head of the Department of Road Network Management, Road National Administration (ANE), Mozambique

12:25–12:40 pm
WBG Open Learning Campus: Sharing Knowledge and Learning for Sustainable Development Goals Green Growth Knowledge Session

Margot Brown, Global Knowledge Director, WBG

12:50–1:50 pm
Lunch

Networking and Pre-Scheduled Meetings



Sign up for Individual Meetings

2:30–4:45 pm
Working Sessions F Floor, 4th Level Monet Conference Rooms

Four Working Sessions will be held each afternoon. These will be highly interactive technical discussion forums based on sectors or technical areas, where green growth experts and practitioners can discuss critical issues in-depth, find solutions to specific problems, and seek opportunities for collaboration. These sessions will run simultaneously, please choose one to attend each day.

See Next Page for Working Sessions

1:50–2:30 pm
Experience the Green Growth Effect

Networking and Multi-Media Experience

Sign up for Individual Meetings

5:00–5:30 pm
Funding the Green Growth Effect

EDCF-DFI Co-financing Program World Bank Group
Q & A

5:30–5:45 pm
Closing Remarks: Next Steps for Continual Success

6:15–8:30 pm
Award Gala: Recognition for Outstanding Green Growth Effectors
Cocktail Reception



Working Sessions

Friday, May 18 2:30-4:45 pm

F Floor, Le Méridien, Seoul



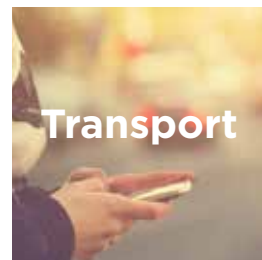
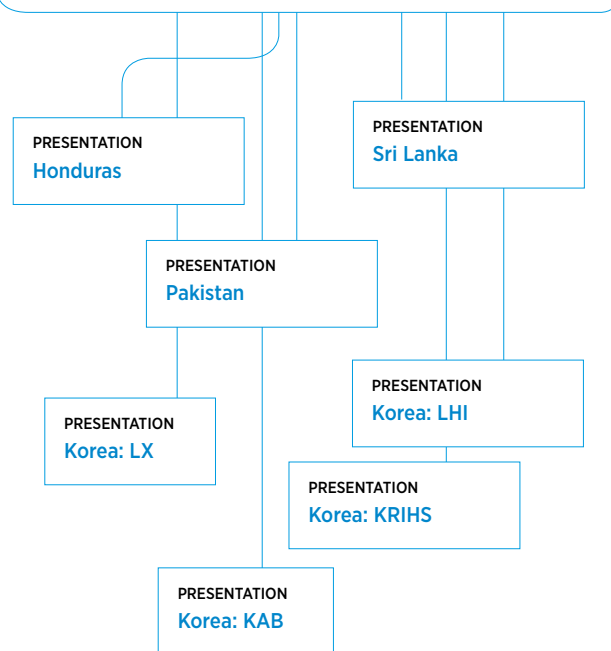
Urban Design: Data Analytics and Green Growth Policies for Smart Cities

Cities are the growth engines of economic development. This is evident in emerging countries where unplanned rapid urbanization results in numerous urban problems caused when services including housing, education, water, sanitation, transportation and solid waste management are underdeveloped and under acute strain.

Recent case studies demonstrate how green growth policies and analytics can support urban reconstruction and city planning while further delivering job creation and shared economic growth.

MODERATOR
Fernando Galeana Rodriguez, Consultant, WBG

Panel Discussion



Transport and Urban Mobility: The Backbone of a Successful Economy

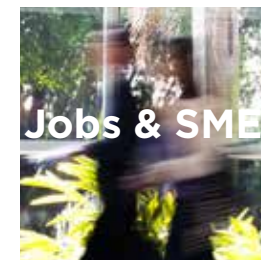
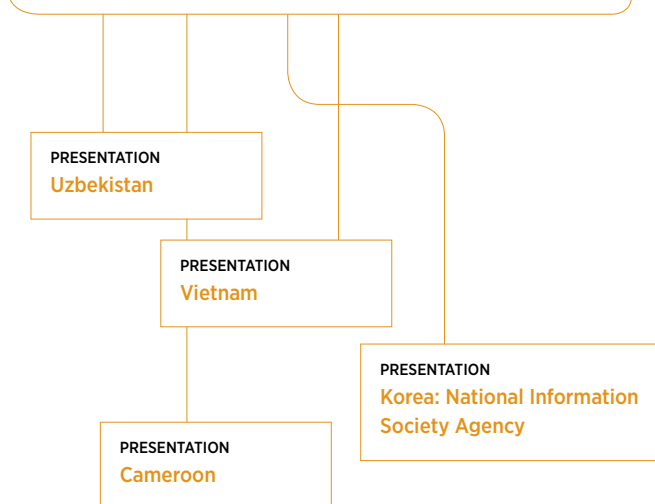
Successful cities rely on efficient transportation. Establishing the correct policies and incorporating new technologies can encourage citizens to utilize public transit and boost economic growth and future investment.

Examine the institutional arrangements, technology and standardization processes necessary to create a seamless, well-mobilized city.

- DISCUSSION WILL INCLUDE:**
- Utilizing technologies in the design and implementation of balanced urban development.
 - City mobility supporting successful urban environments.

MODERATOR
Arturo Ardila Gomez, Lead Transport Economist, WBG

Panel Discussion



SMEs Bright New Future: Clean Tech and New Processes

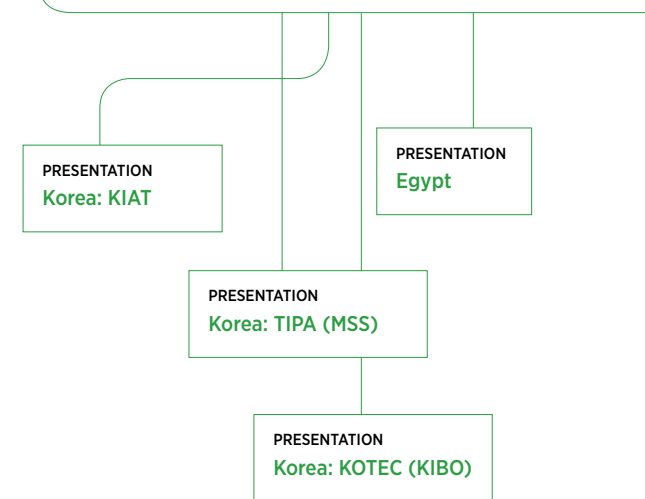
Cleaner production methods provide new opportunities for SMEs. Hear how highly targeted industrial parks and the corresponding policies encourage economic growth and the creation of new clean jobs.

DISCUSSION WILL INCLUDE:

- Cleaner technology for manufacturing.
- Industrial symbioses across sectors.
- Eco industrial parks that support SMEs.
- Policies focused on SMEs to develop innovative solutions for environmental issues.
- Supporting SMEs to undertake R&D.

MODERATOR
Farid Tadros, Sr. Private Sector Development Specialist, WBG

Panel Discussion



Knowledge, Learning and Capacity Building

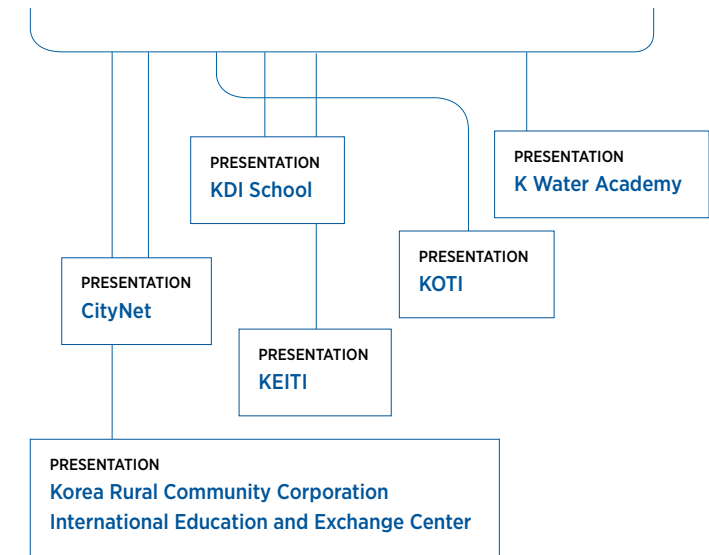
New initiatives support capacity building and create opportunities for institutions and peer networks to learn from each other. Face to face learning, study tours, e-learning, and bite sized education courses or 'micro-lessons' are just a few options now available. Examine how virtual platforms and new technology networks accelerate the reach and impact of capacity building.

DISCUSSION WILL INCLUDE:

- Capacity building for respective constituents.
- Identifying the most appropriate learning tool and methods to connect with the target audience.
- Financing models.
- Opportunities and pitfalls of customization.
- How technology and social media can strengthen learning.

MODERATOR
Sheila Jagannathan, Lead Education Specialist, WBG

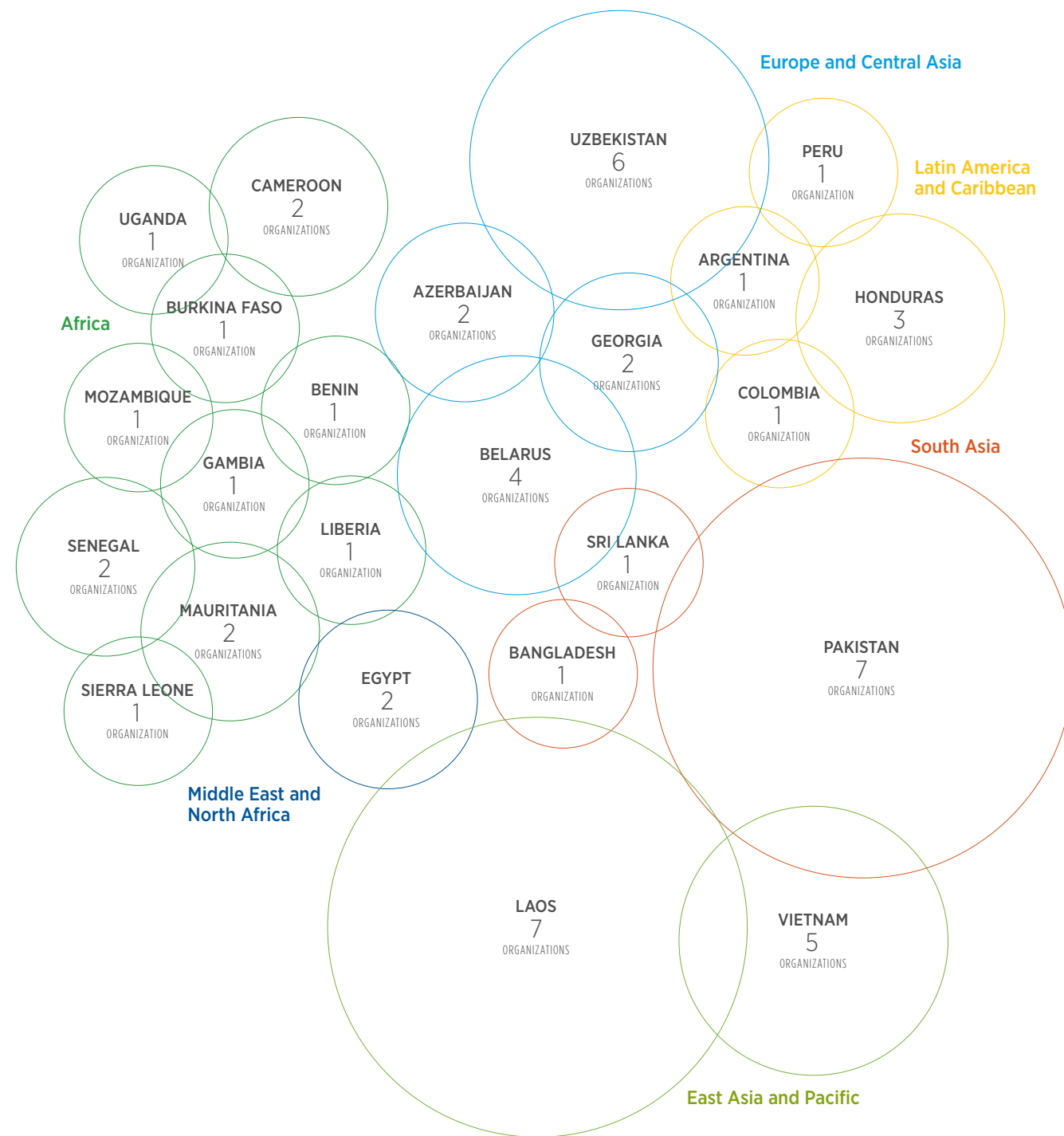
Panel Discussion



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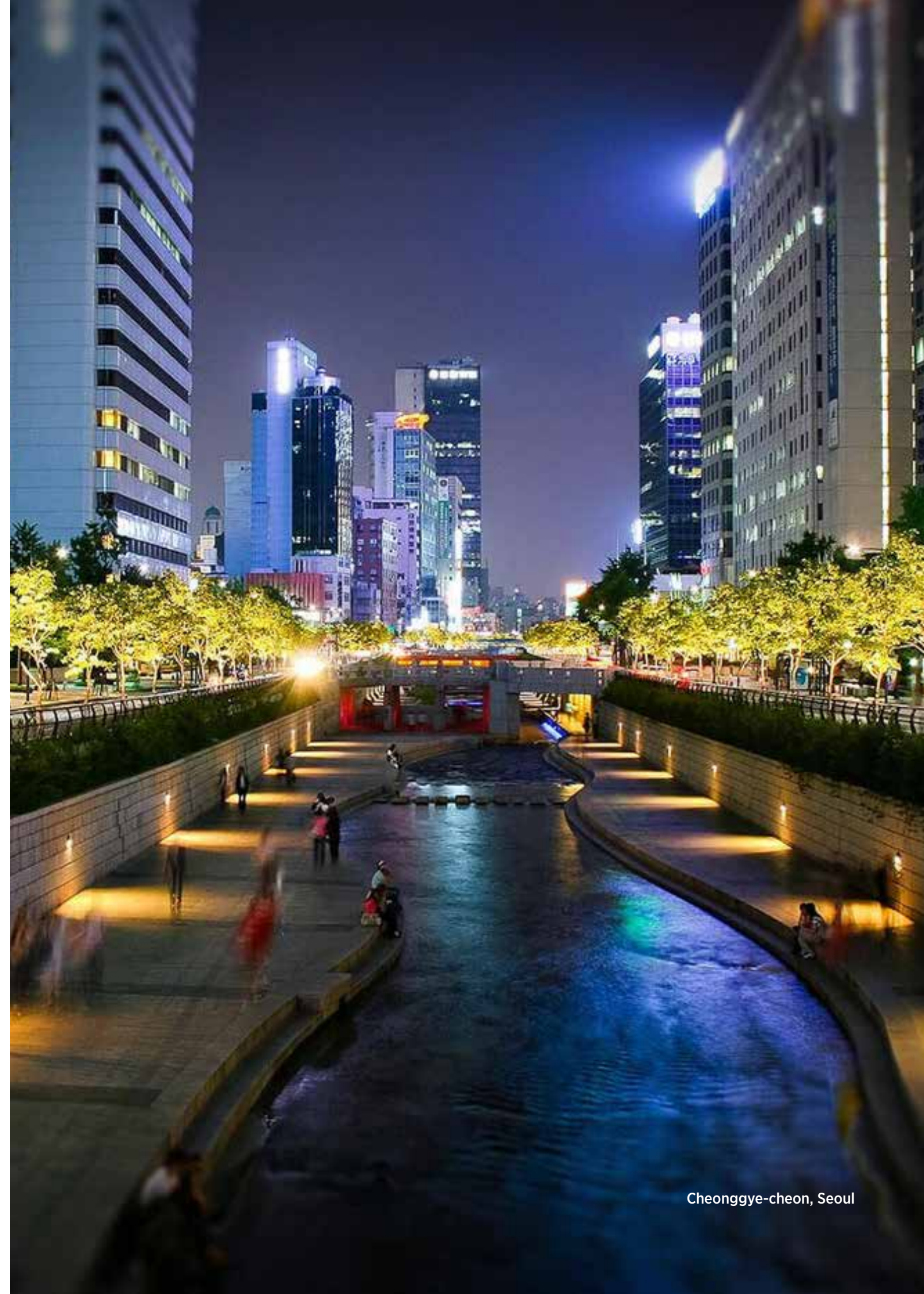
Participating Countries

Countries around the world are implementing green growth principles. Decision-makers, government officials and technical specialists from over 24 countries will come together to exchange ideas and best-practices at KGID 2018. If you are interested in meeting with representatives or World Bank staff from specific countries engaged in green growth activities please speak to a member of the KGGTF team.



This information is correct as time of going to print but is subject to change prior to and during the event.

ALL PHOTOS ARE FROM THINKSTOCK UNLESS NOTED.



Cheonggye-cheon, Seoul



KGTF is committed to sharing technical knowledge and first-hand experience of implementing integrated green growth solutions that contribute to sustainable development and shared economic prosperity.

To learn more about us visit www.wbgkgtf.org and for enquiries about grant applications please contact the Country Management Unit at your local World Bank office www.worldbank.org.