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KGGP Progress Report 2013-14

Korea Green Growth Trust Fund



Korea
Green Growth
Partnership

ABBREVIATIONS

AFR	Africa	LAC	Latin America and Caribbean
BBL	Brown Bag Lunch	LCC	Low-carbon cities
CO₂	Carbon dioxide	LEDS	Asia Low Emission Development Strategies
CoP	Communities of Practice	LH	Korea Land and Housing Corporation
CPS	Country Strategic Partnership	LX	Korea Cadastral Survey Corp.
DPL	Development policy loan	MAFDA	Ministry of Agriculture, Food and Rural Affairs
EAP	East Asia and Pacific	MNA	Middle East and North Africa
ECA	Europe and Central Asia	MoE	Ministry of Environment
EMS	Energy management systems	MoLIT	Ministry of Land, Infrastructure and Transport
ESW	Economic and sector work	MoLIT	Ministry of Land, Infrastructure and Transport (MoLIT)
GDP	Gross domestic product	MoSF	Ministry of Strategy and Finance
GG	Green growth	NREC	New & Renewable Energy Center
GGGI	Global Green Growth Institute	ODA	Official Development Assistance
GHG	Greenhouse gas	RDM	Robust decision making
ICT	Information and communication technology	Rio+20	United Nations Conference on Sustainable Development (2012)
IFC	International Finance Corporation	RoK	The Republic of Korea
ITS	Intelligent transport system	SAR	South Asia
KECO	Korea Environment Corporation	SDN	Sustainable Development Network
KEI	Korea Environment Institute	SI	Seoul Institute
KEMCO	Korea Energy Management Agency	SLC	Sudokwan Landfill Site Management Corporaiton
KEXIM	Korea EximBank	SME	Small- and medium-sized enterprises
KGGP	Korea Green Growth Partnership	SMG	Seoul Metropolitan Government
KGGTF	Korea Green Growth Trust Fund	TAL	Technical assistance loan
KGID	Korea Green Innovation Days	TTL	Task Team Leader
KICOX	Korea Industrial Complex Corp	UNDP	United Nations Development Programme
KOTI	Korea Transport Institute	UNEP	United Nations Environment Programme
KRIHS	Korea Research Institute for Human Settlements	UNFCCC	United Nations Framework Convention on Climate Change
K-WATER	Korea Water Resources Corporation	WBG	World Bank Group

KGGP Progress Report 2013-14



The Korean Green Growth Trust Fund (KGGTF) strengthens cooperation between the Government of Korea and the World Bank Group to support inclusive sustainable development. The Trust Fund Secretariat oversees management of all programs and projects, including Korean Green Growth Partnership (KGGP) knowledge programs and exchanges with the World Bank Group and its client countries.

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KGGP is the program managed under the KGGTF Secretariat

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EXECUTIVE SUMMARY

PROMOTING GLOBAL GREEN GROWTH FROM KOREA'S EXPERIENCE

Korea has learned valuable lessons applicable to sustainable economic development through its journey from low-income country in the 1960s to one of the most dynamic economies in the world. Once plagued by air pollution and high energy imports, Korea positioned its program of resource management and climate change as an opportunity for socially inclusive economic growth. Projects implemented across sectors in Korea—urban planning, transport, ICT, water and waste management, carbon financing, and others—are not only reducing greenhouse gases (GHG), they are also promoting broad prosperity while making Korea more resilient to both economic shocks and natural disasters.

Korea's interest in promoting green growth does not stop at its own borders. Established in 2011, the USD \$40-million four-year KGGTF's over-arching goal is to share knowledge and lessons based on their experiences and to build green growth planning capacity in WBG client countries. The KGGTF finances green growth programs, projects, and knowledge activities in partnership with the World Bank Group (WBG)—the Korean Green Growth Partnership (KGGP).

FUNDING GREEN GROWTH KNOWLEDGE DISSEMINATION FOR PRACTICAL RESULTS

KGGTF projects show how sustainable development works on the ground, and how cities and regions can benefit economically, socially, and environmentally from green planning. The KGGTF funded 23 projects in FY13, and another 25 in FY14, affecting over 30 countries. Through the KGGTF, Korea has hosted government officials from five countries, helping them shape their own green growth strategies.

Examples of the Knowledge Exchanges supported by the KGGTF in the past year include:

- » Korean experts from the Ministry of Land, Infrastructure and Transport and other Ministries joined with Korean land administration and industrial developers to visit counterparts in Turkey for three days in March of 2014. The knowledge exchange initiated a long-term collaboration between Turkey and Korea to help mainstream green growth into Turkish policies, strategies, and investments, focusing especially on urban transformation and land-use planning.
- » When the Indonesian Government expressed a strong desire to implement greener economic management policies, in April of 2014 a Korean green growth committee hosted WBG East Asia and Pacific (EAP) staff for four days in Seoul. The exchange enhanced WBG staff capacity to help client countries such as Indonesia put green growth into action. Korean experts from the Prime Minister's Office and the Finance, Environment, Agriculture, Trade and Industry, and other Ministries joined Korean water, transport, ICT, waste management, agriculture, and climate experts to outline key success factors, policies, and techniques.

KOREA AND THE WORLD BANK GROUP: DISSEMINATING KNOWLEDGE TO NURTURE SUSTAINABLE GROWTH

The World Bank Group (WBG) and the Republic of Korea share a common vision: Economic growth, while vital, is not all that matters for people's well-being. Ultimately, **"inclusive green growth" is about people and improving lives.**

Along with its traditional role of providing development financing to its client countries, the World Bank Group (WBG) is becoming a "Solutions Bank" for development knowhow, not only creating knowledge but also connecting countries that have knowhow to share with those seeking it.

In line with WBG goals to connect knowledge providers with knowledge seekers, the KGGTF supports and facilitates knowledge exchanges between Korean experts and counterparts in other countries. KGGP knowledge and learning events and activities reached about 1,500 people during the last fiscal year. Key initiatives at the World Bank headquarters in Washington, DC included Korea Green Innovation Day (KGID), as well as five KGGP Brown Bag Lunches (BBL).

Customized knowledge exchanges between Korean experts and WBG staff and client country representatives have emerged as key learning and knowledge sharing tools. KGGP also introduced the "Green Growth in Action: KGGP Knowledge Note Series", while membership in the KGGP community of practice (CoP) virtual platform for knowledge dissemination and sharing expanded significantly.

Through the KGGP, the Trust Fund Secretariat also seeks to promote and "mainstream" green growth throughout WBG lending and operations, including development of a knowledge base and building WBG staff capacity to promote and implement green growth investments.



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KGGTF supported knowledge exchange results thus far include having helped:

- » India plan the building a 1,800-km freight railway corridor that will bring jobs, economic growth, and shared prosperity to 480 million people in the country's poorest region.
- » Ethiopia develop its urban growth strategy that will protect the environment, create jobs, and improve public transportation.
- » Rio de Janeiro implement pioneering efforts to put low-carbon cities development program into action with partners across Brazil and the world.

GOING FORWARD

KGGTF's projects continue to emphasize multi-sector strategies for implementing green growth. The urban, transport, and information and communication technology (ICT) sectors work together to solve inter-connected green growth challenges.

Sample projects underway across sectors include:

- » ICT projects for greener cities in Africa, greener overall development in Guatemala, and increasing connectivity in poor areas in Kosovo.
- » Transport projects to improve transport and energy efficiency, and social inclusivity in Africa, India, and Bhutan, and Manila, the Philippines.
- » Urban planning and waste management in Tunisia, Turkey, Colombia, Argentina, and the Latin American region.

ACKNOWLEDGMENTS

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Questions and comments regarding this report may be e-mailed to kggtfsecretariat@worldbank.org

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A MESSAGE FROM THE DONOR

THE REPUBLIC OF KOREA

Policy makers in Korea are overseeing a “greening” of Korea’s production and economic systems—a deep restructuring of the Korean economy. Korea’s approach recognizes the importance of the quality of growth along with the quantity of growth, and that rapid economic expansion should take into account environmental and quality-of-life factors. “Green Growth” approaches are not only reducing Korea’s carbon footprint, they also promoting broad prosperity, while making Korea more resilient to economic shocks and natural disasters, and preserving environmental resources for future generations.

In 2008, the Government of Korea committed to an environmentally sustainable national economic growth strategy that would improve the lives of all citizens. Since then Korea has implemented a range of green growth initiatives in urban and housing development, transport, water & sanitation, waste management. Many of these initiatives require the integration of information and communication technologies. Together the initiatives have created hundreds of thousands of jobs, while transforming toxic rivers and landfill sites into revenue-generating economic and social hubs, reducing municipal waste and greenhouse gas (GHG) emissions, restructuring public transit systems, building new towns powered by renewable energy—and saving cities billions of dollars.

In pursuing green growth, Korea set three mutually reinforcing goals: 1) responding to the 2008 financial and economic crisis, 2) reducing the country’s energy dependency, and 3) rebalancing the economy toward green sectors to achieve greater resilience. For the country’s five-year plan starting in 2008, Korean policymakers budgeted USD \$31 billion for fiscal stimulus, 80% of which they earmarked specifically for green-growth initiatives—more perhaps than any country in the world. Most of the green investment targeted three areas: river restoration, expansion of mass transit and railroads, and energy conservation in villages and schools.

Korea’s commitment to development does not stop at its own borders. Among the top 25 donors to the World Bank, Korea’s has contributed over \$500 million since 2005 while the country’s official development assistance (ODA) has increased four-fold to \$800 million in 2008.

The Korean Ministry of Finance and Strategy has pledged USD \$40 million for practical knowledge sharing between RoK and the World Bank Group (WBG) through the Korean Green Growth Partnership Trust Fund (KGGTF). The KGGTF has supported 23 projects in FY14 and another 25 in FY15 in over 30 countries totaling USD \$18.4 million to support to results on the ground.

In consultation with the World Bank, the KGGTF decided to prioritize the Urban and Transport sectors because these sectors are prone to policy “lock-in”. They are also leading sectors for green initiatives where Korean institutions have strong knowledge and global partnerships.

Through the Korean Green Growth Partnership (KGGP) with the World Bank Group, Korean institutes and ministries have opened their doors and invited counterparts from around the world to see green growth in action, and to benefit from the lessons Korea has learned. Countries around the world are participating in knowledge exchanges with Korean experts and key government agencies and institutes.

“Korea has a wealth of experience and technical knowledge to share with cities, regions, and countries that seek practical, sustainable solutions to urban planning, transport, carbon financing, and other critical green growth issues.

– **Korean Ministry of
Strategy and Finance**

Through the partnership, WBG client countries are benefiting from Korean knowledge. These are only a few examples:

- » Smart grid development (India);
- » Macro level greening strategies, urban, transport, ICT, water, climate and environment (Indonesia);
- » Urban development and redevelopment (Pakistan, Turkey);
- » Green growth macro policies and transport strategies (East and Central Asia region).



PHOTO | WBS WEBSITE

Former World Bank President Robert B. Zoellick and Jaewan Bahk, Minister of Strategy and Finance, Korea, signing the MoU.

The World Bank and the Government of Korea have signed an agreement to work together to help developing countries shift to a “green” development path that reduces poverty while maintaining the ability of future generations to meet their own goals. *SEPTEMBER 22, 2011*

Korea’s governmental agencies, institutes, and experts offer tried and tested experiences about what has worked—and, importantly, what has not worked—in transforming unsustainable practices into innovative and lasting environmental, economic, and social solutions to pollution, poverty, and improved quality of life. These exchanges allow countries to actually see green growth in action and exchange knowledge first-hand with the implementers.

Implementing inclusive green growth is complex and multi-dimensional, but the potential rewards are enormous. Countries of course need to tailor national strategies to their circumstances, but by sharing its green growth knowledge, Korea can help other nations avoid infrastructure investment “lock-in” and help some to leap frog into green infrastructure and development. In some countries, including Turkey and Indonesia, the knowledge exchanges have good potential to grow into major long-term engagements helping those countries to adopt nationwide green growth approaches in their economic planning.

In other cases, the Korean knowledge and funding is supporting efforts with potential to scale and grow globally. In providing US\$ 500,000 to fund a Global Training Hub for Green Transportation, for instance, the KGGTF supports the development of a training curriculum to help governments around the world invest in greener transportation systems in cooperation with Korea’s Transport Institute and the Ministry for Land Infrastructure and Transport. In another example, the KGGTF has committed US\$ 1.37 million over three years to develop a City Climate Planner Certification program that will reach an estimated 150 cities when it certifies its first group of professionals.

The Bank and Government of Korea have agreed that they may add sectors of mutual interest. The partners also agree that predictable multi-year funding encourages good long-term results. Going forward, Korea will continue to support on-going projects started in FY14 and FY15, and will fund new green growth projects.

“Eye opening- gained lots of experience and knowledge on green growth”

--WBG STAFF IN INDONESIA

“Korea has a wealth of experience and technical knowledge to share with cities, regions, and countries that seek practical, sustainable solutions to urban planning, transport, carbon financing, and other critical green growth issues.

KEY KOREAN GREEN GROWTH TECHNICAL PARTNERS:

- » Eximbank (KEXIM)
- » Korea Environment Corporation (KECO)
- » Korea Environment Institute (KEI)
- » Korean Industrial Complex Corporation (KICOX)
- » Korea Energy Management Corporation (KEMCO), New & Renewable Energy Center (NREC)
- » Korea Transport Institute (KOTI)
- » Korea Land and Housing Corporation (LH)
- » Korea Cadastral Survey Corp. (LX)
- » Korea Research Institute for Human Settlement (KRIHS)
- » Seoul Metropolitan Government (SMG)
- » Seoul Institute (SI)
- » Sudokwan Landfill Site Management Corporation (SLC)
- » Korea Water Resources Corporation (K-Water)
- » KAIST Graduate School of Green Growth.

“Managing sustainable, equitable economic growth challenges require that leaders recognize the inefficiency in current growth patterns, and leaders in low- and middle-income countries must learn how to implement smart green planning approaches.”

-Korean Ministry of Strategy and Finance



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The driving force behind the Korea Green Growth program of activities is to eradicate poverty and promote economic prosperity, but in an environmentally responsible and socially inclusive manner.

ABOUT THE KOREA GREEN GROWTH TRUST FUND AND PARTNERSHIP

A PARTNERSHIP FOR GREEN GROWTH WITH THE WORLD BANK GROUP

The Republic of Korea (RoK) and the World Bank Group (WBG) established the Korea Green Growth Trust Fund (KGGTF) in September 2011 to help client countries shift to a “green” development path that reduces poverty while maintaining the ability of future generations to meet their own goals.

The KGGTF coordinates a \$40 million fund (2013-2017) for green growth projects. In partnerships with the WBG, KGGTF supports knowledge activities that help WBG client countries plan and implement green growth strategies, initiatives, and investments.

KGGTF SECRETARIAT WHAT WE DO



MANAGE, COORDINATE, MONITOR TRUST FUND GRANTS

As of July 2014,
48 KGGTF Funded grant activities
totaling \$18.4 million



AGGREGATE, FACILITATE, LEVERAGE GREEN GROWTH KNOWLEDGE & LEARNING

Knowledge Promotion
Knowledge Creation and Development
Knowledge Communication
and Exchange



TANGIBLE OUTCOME

Changes in Policies of Clients
Changes in Ongoing Projects
Tangible and Meaningful Indicators

LEARNING FROM KOREA

Korea has learned valuable lessons applicable to sustainable economic development through its journey from a low-income country in the 1960s to one of the most dynamic emerging economies in the world. Korea positioned its program of resource management and climate change as an opportunity for socially inclusive economic growth, and implemented innovative technology and institutional approaches in a phased approach from which other countries can learn. Importantly, the Korean Government was not afraid to experiment and integrate findings and innovations into overall policies. The program of action implemented in Korea is already reducing greenhouse gases, but it is also creating broad economic opportunities.

Through the KGGTF, RoK is sharing knowledge and lessons from their experiences. Countries around the globe are already benefiting from Korea's Green Growth macro policy, institutional operational policies and implementation approaches.

SECTION
4

WHAT WE DO

The KGGTF Secretariat has two key roles:

- 1 Program Management: Manage, coordinate and monitor KGGTF-funded projects;
- 2 Knowledge Creation and Sharing: Aggregate, facilitate, leverage green growth knowledge & learning on green growth and thereby institutionalizing global knowledge sharing to achieve scale and promote sustainable economic development.

HOW WE WORK

The KGGTF Secretariat manages and administers the Trust Fund, guides activities, monitors results, and maintains day-to-day operations. The Secretariat further supports WBG teams and client countries to identify opportunities to mainstream climate action, aggregating lessons from green growth implementation best practices, and disseminating them at the global, regional, national and municipal level.



The World Bank Group (WBG) and the Republic of Korea share a common vision for economic governance: Economic growth, while vital, is not all that matters for people's well-being. Ultimately "inclusive green growth" is about people and improving lives.

WHY KOREA AND WBG PARTNER TO ESTABLISH THE KGGTF

Korea, among the first countries to enshrine green growth in its national development strategy, has made impressive progress since 2008 in adopting green growth policies and institutional arrangements, and in implementing a wide range of projects. But Korea's emphasis on green growth does not stop at its own borders: The country is committed to playing a bridging role between advanced and emerging countries. Korea is eager to share vital and practical lessons from its green growth projects in transport, urban planning, water and sanitation, and other critical areas with other countries.

Along with its traditional role of providing development financing to its client countries, WBG, is moving swiftly to becoming a "Solutions Bank" for development know-how, not only by creating knowledge, but also by connecting countries that have know-how to share with those seeking to build capacity. Recognizing Korea's achievements in green growth, the WBG and the Government of Korea established the Korea Green Growth Trust Fund (KGGTF) in 2011. The KGGTF aims to pursue the shared goals of helping developing countries to achieve sustainable and inclusive green growth through a broad projects and programs including knowledge programs, exchange and collaboration.

THE STEPS THE KOREAN GOVERNMENT TOOK TO IMPLEMENT GREEN GROWTH INSPIRED THE WORLD BANK

Korea redirected its national strategy towards a greener, more inclusive economic growth model. Recognizing the urgency of sustainable and resilient growth, the World Bank Group recognized that Korea's transformational approach to economic governance is working, and that the country has a great deal of know-how based on experience to offer other countries.





PROJECT SELECTION AND CRITERIA

PROPOSAL SELECTION

Initially, at the request of the Sustainable Development Network (SDN) Council (as of FY14), the Urban, Transport, and ICT Sector Boards led the selection process for the activities and countries. The Urban and Transport Boards collected and reviewed proposals and selected the countries and types of activities for implementation in each country. Proposal submission to the KGGTF Secretariat is open to the entire WBG, but the Secretariat particularly encourages IFC submissions since green growth implementation works best when there is cooperation between the private and public sectors.



PROJECT SELECTION CRITERIA FOR 2013 PROJECTS

THE KGGTF SECRETARIAT OUTLINES THE FOLLOWING PROJECT SELECTION CRITERIA ALIGNED WITH DONOR'S INTEREST ON VISIBLE RESULTS-DRIVEN KGGTF PROJECTS.

All regions are eligible, but proposals focused on low-income and lower-middle income economies receive priority.

All proposals must include at least one of the three thematic donor specified areas: Urban, Transport, and/or ICT. Proposals that combine one or more of the KGGTF thematic areas are encouraged.

Proposals for grants can cover multi-year projects, but Trust Fund approval will be for the first year only. The Trust Fund will consider further support in subsequent years based on the results and performance of first-year activities.

THE KGGTF PREFERS TO SUPPORT PROJECTS THAT:

Operationalize green growth holistically across multiple sectors.

Outline green policies and projects that increase national and/or private sector productivity and job creation receive priority.

Demonstrate results-orientation by providing clear and specific technical concept and activity planning.

Have the potential to become large-scale follow-up projects led by WBG or client countries.

PROJECT SELECTION PROCESS FOR 2013 SUBMISSION IS AS FOLLOWS*:

Please note for annual selection of inception year (2013) and year 2 proposals, the selection procedure required identification and suggestion of proposals through Sector Boards, as follows:

- 1 The KGGTF secretariat shares a proposal application and a guidance note with WBG Staff through announcements and internal KGGTF webpage.**
- 2 Sector Board Chair or Leads announce call for proposals World Bank Group wide (WB and IFC).**
- 3 The KGGTF Secretariat works with TTLs to support project design and give feedback as requested.**
- 4 All proposals are submitted to one of the KGGTF relevant sector boards. The sector boards or management team review and prioritize considering corporate, portfolio, and country strategy alignment.**
- 5 KGGTF Secretariat works with the Sector Board for any consultation before submission to the Secretariat.**
- 6 The Sector Board Principals and Management team complete the reviews and assure strategic WBG operational and technical fit, then send to the KGGTF Secretariat.**
- 7 The KGGTF Secretariat coordinates with the Sector Boards/Management Team to request any additional or missing information, or clarifications that the Donor may request.**
- 8 The KGGTF secretariat completes review of the proposals to ensure alignment with the KGGTF objectives and program criteria before sending to the Donor.**
- 9 The Donor approves the proposals.**

**While the principles remain the same, this is being revised to reflect the new structure of the Bank.*



The Government of Indonesia (GoI) wants to promote green economic growth as part of its next five-year plan (2015-2019), and in its 20-year Master Plan for the Acceleration and Expansion of Economic Growth (2005-2025). The Government of Indonesia requested WBG advice and support to adopt a green growth development approach including integrated policy advice, technical assistance, and capacity building for key economic development planning and budgeting agencies.

FINDING SOLUTIONS TO PLAN GREENER INDONESIA

JOINT EAP - KGGP KOREA GREEN DEVELOPMENT KNOWLEDGE EXCHANGE STUDY VISIT TO THE REPUBLIC OF KOREA, APRIL 7-11, 2014

To support client countries, WBG staff needed to gain greater knowledge about how to put green growth into action, and how Korea could help in this effort. In April of 2014, the Korea Green Growth Trust Fund Secretariat designed and facilitated a five-day Knowledge Exchange program between WBG East Asia and Pacific (EAP) staff and Korean technical experts in the Republic of Korea. Korean government officials from the Prime Minister's Office and the Finance, Infrastructure, Agriculture, Trade and Industry Ministries joined Korean water, transport, ICT, waste management, agriculture, and climate experts to outline key success factors for Korea's green growth, and enhance WBG staff knowledge to help Indonesia and other East Asia and Pacific countries and cities.

The EAP-KGGP Green Development Knowledge Exchange Program deepened WBG staff knowledge on all aspects of Inclusive Green Growth, including analytical insights, practical lessons on green investment implementation, and critical medium to long-term green development strategies. In the 2014 knowledge exchange in the Republic of Korea, WBG staff learned about the crucial elements to the success of Korea's Green Growth, including strong support from top country leaders, the importance of interagency coordination, and critical role of constant stakeholder engagement. Through this knowledge exchange visit, KGGTF Secretariat was also able to introduce WBG staff to the many Korean experts, organizations, institutions, and universities that can help other countries to plan and implement integrated, multi-sector green growth strategies.



“Eye opening! All the presentations and site visits were very useful to understand how Korea implemented its green growth strategy for the welfare of the people”



SECTION 6





KGGTF PROJECTS

YEAR 1 AND YEAR 2 KGGTF APPROVED PROPOSALS

YEAR 1 URBAN	YEAR 2 URBAN
YEAR 1 TRANSPORT	YEAR 2 TRANSPORT
YEAR 1 SDN	YEAR 2 ICT

GLOBAL

- Capacity Building for Green Urban Growth
- Low carbon green city planning
- Green Smart City Development with Citizen Participation
- Capacity Building for Leaders in Energy Efficient Urban Transport Planning
-

Quantifying Tradeoffs of the Water-Energy Nexus

- Infrastructure Resilience and Robust Decision Making
- City Credit Worthiness Academy and City Climate Planner Certification Program (Low Carbon Livable Cities Initiative)
- Solid Waste Management Policies and Technologies

LAC

- Regional Resource Recovery and Recycling
- Implementing Green Solution for Waste Management in LAC Region
- Training Hub "Transportation for Green Growth"





SHARE GREEN GROW KNOWLEDGE

International development experts and institutions now widely accept green growth, but good examples of successful green growth projects remain scarce. Knowledge to translate green growth concepts into action is critical, and countries need to learn from real implementations. The Korea Green Growth Partnership (KGGP) between Korea and the World Bank Group (WBG) promotes, creates, and communicates knowledge about green growth approaches and projects based on the real-world experience of policy makers and green growth technical practitioners in Korea. The KGGP gathers and shares evidence-based practical knowledge, and connects Korean experts with WBG staff, WBG client countries, and other interested parties. Emerging key areas of interest regarding Korean green growth experience include:

- 1 CREATING AND IMPLEMENTING GREEN GROWTH POLICIES AND STRATEGIES;
- 2 DESIGNING GREEN GROWTH PROJECTS;
- 3 EXECUTING CROSS-SECTOR PROJECTS, INCLUDING IMPLEMENTATION SCHEMES AND INSTITUTIONAL ARRANGEMENTS;
- 4 MONITORING AND ASSESSING GREEN PROJECT

TH

KGTF SECRETARIAT GREEN GROWTH KNOWLEDGE IN ACTION: AGGREGATE, FACILITATE, LEVERAGE GREEN GROWTH KNOWLEDGE & LEARNING



KNOWLEDGE PROMOTION
 KGGP Internal Community of Practice
 Korea Green Innovation Day
 KGGP Brown Bag Lunch

KNOWLEDGE COMMUNICATION AND EXCHANGE
 Study Visit & Rapid Response
 Partnership Development

KNOWLEDGE CREATION AND DEVELOPMENT
 Green Growth in Action Publications & Reports
 Knowledge Note Series



HIGHLIGHTS

World Bank and Korea Green Growth Partnership (KGGP) knowledge and learning events and activities reached about 1,500 people during FY14. Key initiatives included:

KOREA GREEN INNOVATION DAY (KGID)



presented green growth implementation lessons from Korean experts to 250 WBG staff and client participants, (173 WBG internal participants, 77 external participants). The very successful event (over 90% of respondents gave 4+ out of maximum 5 rating for content quality) raised awareness and support for the KGGTF within the WBG and with green growth policy makers, helping to promote the mainstreaming of green growth practices into WBG operations.

GREEN GROWTH IN ACTION

KGGP Knowledge Note Series publications introduced.



Intended primarily for WBG staff and client countries, the KGGP Knowledge Note Series captures and disseminates good practice examples for implementing green growth. The KGGTF Secretariat distributed the Notes to 630 WBG staff and clients and participants at external conferences and seminars, such as the 2014 Asia Low Emission Development Strategies (LEDS) Partnership (a regional session of the LEDS Global forum).

KGGP KNOWLEDGE EXCHANGE STUDY VISITS AND RAPID RESPONSE.



have emerged as key learning tools to share technical knowledge with WBG staff and clients. Knowledge exchange specialists designed and customized six knowledge exchanges for 172 total participants in 2013-2014 around specific sectors and topics as requested by clients. These consistently highly rated events connected WBG clients to Korean technical experts from 38 Korean institutions. The customized, hands-on approach of the exchanges ensures that knowledge recipients gain technical and operational knowledge to create green growth policies and prioritize the right investments. Country practitioners participate in practical learning. In one knowledge exchange, for instance, city planners from Addis Ababa helped create a new green growth master plan for their city. In another event, WBG staff demonstrated new knowledge gained when they proposed innovations to Indonesia representatives, such as the use of “T-money”, rechargeable cards and “smart” devices used for paying transportation fares in Korea.

KGGP BROWN BAG LUNCHES (BBL)

are casual knowledge and information sharing sessions held at the World Bank. The KGGTF Secretariat organized five BBLs at the WBG attended by about 200 people on:

OUTREACH SIZE

200

(cumulative)

- Green ICT for Sustainable Development;
- WBG-Korea Partnership on Infrastructure Development;
- KGGP Presentation in Indonesia;
- Turning the Green Growth Concept into Reality
 - National Strategy & Transport;
 - A Glimpse of Korea's Green Growth in Urban & Urban Waterfront Development.

Presenters and discussants in these BBLs included Korean experts, such as representatives from the Korea National Information Society Agency and Embassy of Korea, as well as WBG staff. The popular BBLs raised awareness among WBG staff about green growth and KGGTF's mission to mainstream it into WBG operations, while increasing the visibility of Korea as a green growth leader.

KGGP COMMUNITY OF PRACTICE (COP) VIRTUAL PLATFORM EXPANDED.

The KGGP CoP web-based platform facilitates access to internal and external green growth operational and technical information, and disseminates Korea's expertise to CoP members. During FY14 the CoP membership quadrupled to include 75 members. The plans for the platform include transition to be a "one-stop-shop" knowledge platform. It will also serve as a future incubator for thematic sub-CoPs.

INTERNAL NETWORK SIZE

75

(as of Sept. 2014)



The knowledge exchange initiated a long-term collaboration between Turkey and Korea to help mainstream green growth into Turkish urban development policies, strategies, and investments.

TURKEY

COLLABORATING TO TRANSFORM URBAN INFRASTRUCTURE IN EMERGING METRO MUNICIPALITIES

Turkey faces a number of urban development challenges as people from rural area have increasingly migrated to Turkish cities in search of jobs and better lives. Turkish leaders in main cities such as Istanbul, Ankara, Izmir, as well as in secondary and coastal cities, need to improve municipal capacity to form policies and strategies, including for planning transport network systems, using land more efficiently, and providing affordable housing. Among many of its challenges, Turkey needs to improve land registration cadastral systems for accurate calculation of property pricing and taxation. Turkey also needs to improve coordination between agencies as urban development overlaps among many ministries.

To support Turkey to promote sustainable cities, Korean experts from the Ministry of Land, Infrastructure and Transport, Korea Land and Housing Corporation, Seoul Institute, Korean Cadastral Survey Corp, Korea Industrial Complex Corp. visited counterparts in Turkey for three days

in March of 2014. After a day of brainstorming on Turkey's challenges, the Korean delegation delivered presentations and workshops on urban redevelopment. The combined Turkish and Korean delegation then visited Turkey's Dikmen Valley and Saracoglu District of Ankara to see current Turkish urban transformation planning and practices.

The knowledge exchange initiated a long-term collaboration between Turkey and Korea to help mainstream green growth into Turkish urban development policies, strategies, and investments. The knowledge exchange has already led to a KGGTF two-year, \$500,000 project to create a green growth information platform, including creating green growth indicators and collecting baseline data to analyze land use, housing, transport, energy efficiency, and infrastructure. The project team will also prepare sustainable city action plans using the new information platform.



A NEW PARADIGM FOR GREENER GROWTH

During the fiscal year 2014, the KGGTF awarded about \$7 million USD for 23 green growth initiatives in urban, transport, and climate resilience. KGGTF year-1 projects supported climate change mitigation, and promoted green growth knowledge sharing and technology implementations, helping WBG client countries progress from recognition of problems to actual solutions.

The following are brief summaries of KGGTF Year-1 projects, organized by theme, sector, scale, and country.



GLOBAL GREEN GROWTH CLIMATE POLICY

Global: Decision-making under Uncertainty

Robust Decision Making (RDM) is a state-of-the-art method for making sound investment and planning decisions in the face of uncertainties, such as climate, economic conditions, population, technology, and regulations. Used extensively in many countries—for instance, in making water and energy investment decisions—RDM uses new analytical tools to help stakeholders understand investment options and evaluate

future scenarios. The multi-year project investigates new decision-making methodologies addressing climate change risks and uncertainties, and applies the methods in pilot projects. The pilots will test and validate the decision-making tools for possible use in appropriate KGGTF-supported investment programs.

GLOBAL GREEN GROWTH URBAN PLANNING AND INSTITUTIONALIZATION

Global: Low-carbon Green City Planning

Developing and applying low-carbon green planning systems will help cities move towards sustainable economic growth, but reducing greenhouse gas (GHG) emissions must take place in the context of comprehensive urban development, and financial incentives play a key role. A global joint effort of the World Bank, UEA, Gwangju City (Korea), UNEP, UNFCCC, KRIHS, KEI and University Seoul, low-carbon green city planning

aims to integrate low-carbon development into urban planning frameworks, opening carbon finance opportunities for local governments. It increases financial opportunities using a new approach that builds on best practices in GHG inventories and climate mitigation strategies, and on city experiences of carbon finance, including Amman, Jordan and Rio de Janeiro, Brazil.

Global: Capacity Building for Green Urban Growth

With more than half of the world living in cities, and with urban populations expected to double in developing countries in a generation, rapid urbanization poses one of the greatest challenges of the century. The project sees also this as an opportunity to implement new approaches, new markets, new technologies, and new values for green economic growth. The project aims to build and strengthen green growth strategic, practical and technical knowhow to improve urban land

use planning, and contribute to resilient, participatory environmentally and socially inclusive urban growth. The project will contribute to global knowledge by developing and piloting practitioner e-learning training modules on cutting-edge urban land use planning and management techniques. The KGGP also seeks to facilitate peer-to-peer learning through knowledge exchange workshops and virtual practitioner networks.

REGIONAL GREEN GROWTH INNOVATIVE ECO-SOLUTIONS

Latin America and Caribbean: Regional Resource Recovery and Recycling

Many countries are moving away from disposal-focused approaches to solid waste management by reducing the volume of solid waste through reuse and recycling. The project is developing knowledge products that foster innovation and highlight best practices for policies, technologies, and practices to support and apply green and inclusive growth strategies in the LAC region's solid waste and green city initiatives. Applying those tools in pilot countries will help enable greening of waste management, benefiting more than 40 projects in a variety of sectors.

Global: Quantifying Tradeoffs between Water and Energy Investments

Morocco is leading by implementing green growth principles. This project is facilitating knowledge exchanges between the water and the energy sectors, advocating globally and regionally for optimizing energy-water interdependency. Drawing from international experience in China, Korea, and South Africa, this project will develop models, a series of technical tools, and policy materials and guidance that will assist planners, energy specialists, and the private sector to integrate energy-water planning into green growth plans. The project will assess economic and social tradeoffs in Morocco resulting from water, energy, and power expansion, and will demonstrate the importance of integrated planning of energy, food, and water investments. The project will contribute to global knowledge through the Green Growth Knowledge Platform, providing a water-energy nexus toolkit to help integrate water and energy resource planning.



NATIONAL GREEN GROWTH URBAN PLANNING AND IMPLEMENTATION

Mexico: Growing Green Cities with Redevelopment Tools

Mexico's 383 cities, home to 78% of Mexico's population, are engines of economic growth and prosperity, but rapid urbanization, decades-old low-density urban growth, and decaying infrastructure have led Mexican officials to pursue green growth strategies. To help address unsustainable urban expansion, the Mexican Government initiated the DUIS (Desarrollos Urbanos Integrales Sustentables; integrated sustainable urban development program) whose methodology and incentive package are geared towards green field initiatives through smart-growth and sustainable principles. The **instruments for urban redevelopment under the DUIS Program** project aims at strengthening intra-urban redevelopment projects through

support for a framework and package of incentives, including funding, subsidies, guarantees, access to equity funding, and/or technical advice. Complementing the project by offering cities alternatives to urban expansion, the SHF (Sociedad Hipotecaria Federal; Federal Mortgage Corporation) and CONAVI (Comisión Nacional de Vivienda; National Housing Commission) also are evaluating offering intra-urban redevelopment incentive packages. Together, the **Mexico Urban and Housing PA** project supports Mexico to promote compact cities by helping planners develop methodologies and use green urban spatial design tools to assess environmental, social, and economic implications of various urbanization designs.

India: Studying Options for Developing the Eastern Freight Corridor

This multi-year project for Indian officials, including the Ministry of Urban Development, analyzed economic and physical development opportunities associated with connectivity improvements through a 1,839-km corridor. Already embarking on low-carbon transition, the project also identified options to maximizing those opportunities, including

good policies and programs. The team also summarized the socio-economic and demographic profile of the six states lining the corridor, and identified the most promising three sub-regions in the state of Uttar Pradesh as potential industrial and logistic hubs for continued in-depth studies.

MUNICIPAL GREEN GROWTH URBAN PLANNING

Brazil: Greening Rio de Janeiro

Spatially constrained and environmentally fragile, the Rio metropolitan area has made the Rio Stage region susceptible to environmental disaster. To support sustainable economic growth and implementation of Rio de Janeiro's ISO-certified low-carbon city program, two innovative projects are helping Brazil's second largest metropolitan area to improve social services and decrease environmental degradation. The first of its kind, the low-carbon city development program is providing tools to quantify and track GHG emissions, helping Rio to promote resource efficiency while creating green jobs. The new harmonized approach leverages financial and technical tools to help structure and implement future municipal low-carbon investments. Meanwhile, the green vision for the Rio de Janeiro metropolitan region project aims to build a foundation for long-term sustainable planning and governance. The project provides technical assistance to build urban planning capacity, and develops and disseminates urban green growth knowledge products and lessons learned in partnership with the Seoul Metropolitan Government.



Panama: Developing a Green Metropolitan Growth Strategy

To help Panama cope with uncoordinated urban sprawl fueled by population growth, the project enhances government capacity to manage green urban planning. The project supports development of an analytical framework and policy guidelines for sustainable urban growth built on principles of high density, mixed land use, smart growth, transit-oriented development, and environmental considerations. Korean experts are sharing their lessons and experiences in urban and transit development, and financing instruments for mixed land use.

Ethiopia: Technical Assistance to Promote Integrated Green Urban Planning in Addis Ababa

With a population of 3 million, and growing 4% per year, Addis Ababa faces rapid urbanization that strains its infrastructure and services, posing serious challenges to the city's development and its decade-old Master Plan. The project is providing technical assistance to the city's Urban Planning Institute (UPI) to help revise and implement the Master Plan. The project supports an international conference that builds planners' capacity by highlighting the experiences of similar cities, and which pays for local and international consultants to work on Master Plan revisions. Bringing together the Addis

Ababa and Seoul municipal administrations along with the UPI and the Korean Research Institute for Human Settlements, the project also facilitates Korean Transport Institute (KOTI) training programs on public bus systems, transport strategies, and related issues for stakeholders, including the Addis Ababa Transport Branch, Roads Authority, Oromiya Roads Authority and the Federal Ministry of Transport. The project links to the World Bank transport sector support project and the urban local government development project.

Africa: Enhancing Green Urban Development

Rapid urbanization is a welcomed continent-wide trend in Africa. This project aims to assist cities anticipating to use green growth principles and innovations. New rapidly growing cities can avoid the severe consequences stemming from inefficiencies, pollution, and other related factors, and could benefit from early interventions to enhance economic and spatial growth. Assisting national and local governments of cities in Ghana, Kenya, Mozambique, Senegal and Tanzania, the project is helping to identify and diagnose key bottlenecks and constraints to sustainable, green development. It is also promoting and strengthening integration of sustainable management, environmental and green development initiatives and activities in future development strategies.

Indonesia: Sustainable and Inclusive Urban Green Growth

Many cities in Indonesia are promoting green growth by improving weak databases and spatial planning. The sustainable urban growth analytics and planning systems project team is identifying trends in cities' spatial expansion to assist local governments improve urban spatial planning. The project analyzes the determinants of spatial growth patterns and implications for green urban growth, and outlines sustainable infrastructure investments in three cities. The program will also host a national workshop with governments to discuss policy implications stemming from the study results, and to provide local officials with hands-on planning training. Meanwhile, the inclusive green growth for East Asia-Pacific cities project is helping address rapid urbanization in the city of Surabaya by helping the Government learn good practices in green growth planning. Incorporating methodologies developed from Korea's inclusive green growth experience, the project will help Surabaya leaders choose energy-efficient solutions for infrastructure and develop a sustainable urban energy and emissions plan. Participation will help Surabaya leadership promote Surabaya's low-carbon city development agenda, leading to a virtuous cycle: improved capacity for policymaking and urban energy and green investment management should in turn attract private sector investments to improve the local economy. The approach will be useful to other cities in other countries facing similar challenges.



Pakistan: Putting Karachi's Development Plan into Action

With a metropolitan population of 17 million, which is expected to rise to 28 million by 2030, Karachi contributes 20% of the GDP and nearly 45% of the national economic value-added, despite many challenges to competitiveness and livability. The Karachi Strategic Development Plan (KSDP) 2020 lays a foundation for future policy and investment planning. The Plan is guided by principles safeguarding quality of life, promoting inclusivity, and fostering sustainability, and includes green initiatives in transport, drainage, solid waste management, and other sectors. The project aims to support analytical work and knowledge exchange on master infrastructure investment planning to move the KSDP along from simply a vision to a true operational business plan.

GLOBAL GREEN GROWTH TRANSPORT INSTITUTIONALIZATION

Global: Capacity Building for Energy Efficient Urban Transport Planners

Cities are important engines of economic growth, but rapid urbanization also can cause severe congestion, poor air quality, increased road accidents, and rapid increases in energy consumption. Transportation is a critical issue that affects people's health, economic prospects, and well-being—and the sustainability of cities. The project aims to help connect, share and develop technical capacity among leaders, including senior decision makers who influence urban transport policies, to apply green transport principles and methods to promote economic growth.

NATIONAL GREEN GROWTH TRANSPORT PLANNING

Georgia: Greening Freight Transport and Logistics

Georgia remains heavily reliant on imported energy to meet its transportation needs, and road transport is a significant contributor to the country's air pollution. Georgia's post-conflict strategy includes using green growth strategies to improve transport connectivity and increase private sector efficiency and trade. The project includes exploring policy and investment options to "green" freight transportation by increasing use of cleaner, lower-carbon transportation modes, such as fuel-efficient and low-emission trucks. The project is helping Georgia develop a national strategy for freight transport and logistics using green logistics for road-to-railway and multimodal

freight corridors. The project supports the client in developing an investment program for the freight corridors, strengthening fiscal and pricing measures, and improving collaboration with key trade partners. Expected results include creating an implementation timeframe, evaluating technology and transshipment options, strengthening technical institutions, developing logistics centers, and expanding container terminals and/or other cargo-handling capacity. The Korea Transport Institute (KOTI) has been sharing its national sustainable transport strategy and cutting-edge research experience in green freight and railway transport and logistics.

Morocco: Promoting Climate Resilient Roads

Climatic events can create major disturbances to economic activity resulting in substantial direct and indirect consequences. This KGGP project will support the Moroccan Ministry of Transport to analyze green transport technologies and assess critical road sections, while providing examples of good green transport options. The project will produce technical recommendations that reflect climate resilience measures to sustain national transport systems. The technical audit/assessment

examines vulnerability to climate variables, including intense precipitation, flooding, and landslides, as well as structure and substructure, hydraulic works, geotechnical characteristics, and alignment. The assessment will propose detailed cost-effective solutions for rehabilitation and maintenance work, which could include use of different materials, slope stabilization techniques, revision of dimensioning hydraulics, and use of vegetation for slope stabilization.

Lebanon: Studying Traffic Congestion in Beirut

About half of the country's 1.2 million vehicles operate in the Greater Beirut Area, where most citizens travel with private cars. Over half of country's energy consumption stems from urban transport. The project is conducting a detailed study of Beirut's most congested corridor to improve traffic conditions, improve energy efficiency, rationalize transport demand, and reduce GHG emissions. Recommended improvements for the

corridor will inform authorities' plans for a new mass transit project, and guide the implementation and scaling of practical solutions to alleviate congestion. The project will also review transport pricing—including gasoline, taxi fares, and tariffs for the planned transit system—as well as review social implications, especially for the poor.

MUNICIPAL GREEN GROWTH TRANSPORT PLANNING AND IMPLEMENTATION

Philippines: Green Transport Information and Communication Technologies

With safer and more efficient transportation networks, people living in large cities benefit from reduced travel times, accidents, and emissions. Linked to a road safety data-collection-and-analysis platform, this project promotes innovative approaches to build the capacity of transport

agencies to use the data platform to improve transport planning and management. The project aims to strengthen sustainable and inclusive city growth by helping develop the open-source platform, and will build university-level technical capacity.

Poland: Piloting Green Transport Solutions for City Transit Authorities

Energy efficient measures and integrated transport networks support sustainable development in cleaner and greener cities and regions. The project aims to improve public transport management in cities where newly established transit authorities want to improve inter-municipal

coordination, increase the use of public transportation, and encourage city-level CO2 emission accounting. The project will incorporate Korean experience with reducing transport CO2 emissions in line with European Union energy and climate guidelines for sustainable urban mobility.

Ukraine: Sustainable Urban Transport for the City of Kyiv

Kyiv, the capital of Ukraine and the 8th largest city in Europe, faces a number of urban transport challenges. Public transport systems—including metro, municipal and private buses, trams, and trolley buses—operate often near capacity on poorly maintained, Soviet-era legacy systems. The city's transportation infrastructure has deteriorated due to lack of investment and weak system integration. Furthermore, city plans do not reflect spatial expansion of the city, the growing use of motorized vehicles, and changing passenger mobility patterns. Traffic congestion has increased travel time and costs, traffic

accidents, while contributing to deteriorating air quality and declining productivity. The City Development Strategy identified transport as a top priority, pointing to enhanced traffic management and improved urban mobility as key to strengthen the city's economic competitiveness. To support Kyiv's City Strategy, the program i) assesses and benchmarks the city transport systems; ii) recommends improvements in public transport; iii) strengthens city administration transport planning capability; and iv) develops an integrated city traffic management scheme.





FINANCIAL PORTFOLIO ANALYSIS

PORTFOLIO OVERVIEW: GEOGRAPHICAL AND SECTORIAL DISTRIBUTION FISCAL YEAR 2014

In its first year, KGGTF provided over USD\$ 6.6 million in financial support for sustainable urban green-growth initiatives and related transportation, water and cross-sector issues. In partnership with the WBG and key Sector Boards, the Trust

Fund directed two-thirds of 2014 financial support to urban development knowledge and capacity building initiatives for 15 cities in six different regions across the global South.

TABLE 1 SECTORIAL DISTRIBUTION OF KGGTF PORTFOLIO (% OF APPROVALS)

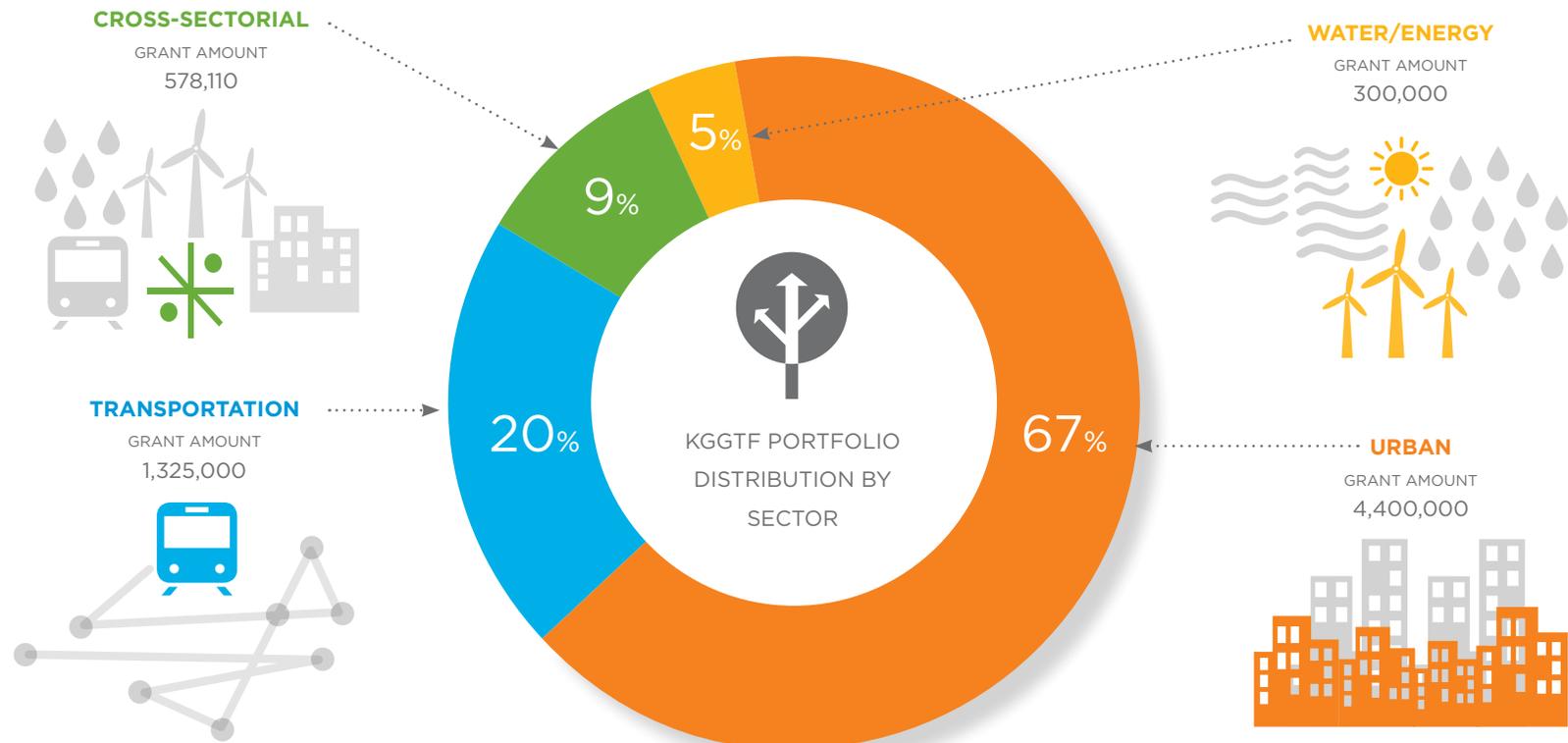


TABLE 2 GEOGRAPHIC DISTRIBUTION OF KGGTF PORTFOLIO (% OF APPROVALS)

KGGTF PORTFOLIO DISTRIBUTION BY GEOGRAPHICAL ACTIVITIES

Region	Grant Amount	Projects
Global	1,978,110	7
LAC	1,050,000	6
EAP	925,000	3
Africa	850,000	2
ECA	600,000	2
MNA	400,000	2
SAR	800,000	2
Total	6,603,110	24

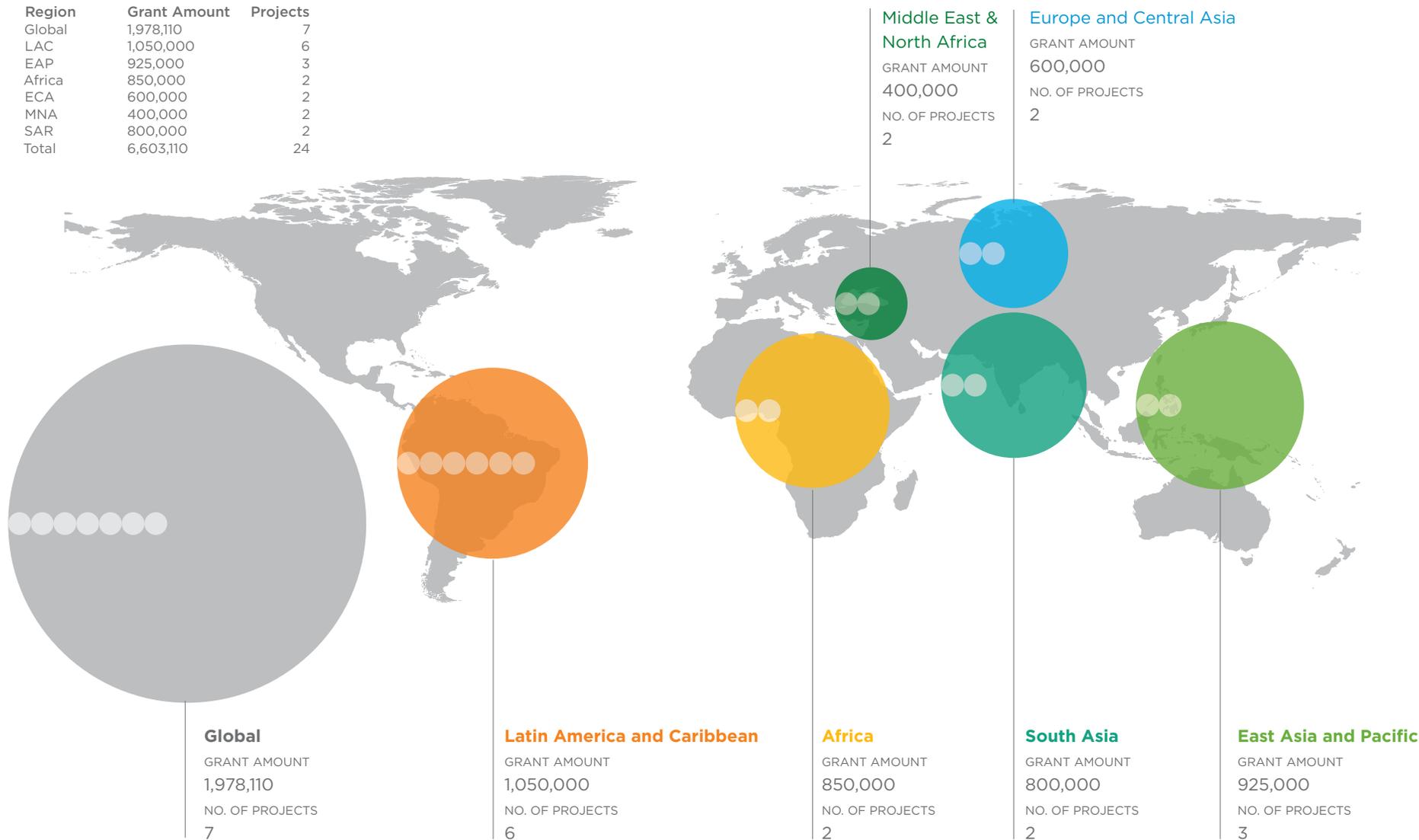




TABLE 3 FY14 KGGTF PORTFOLIO SIZE AND NUMBER OF PROJECTS BY SECTOR

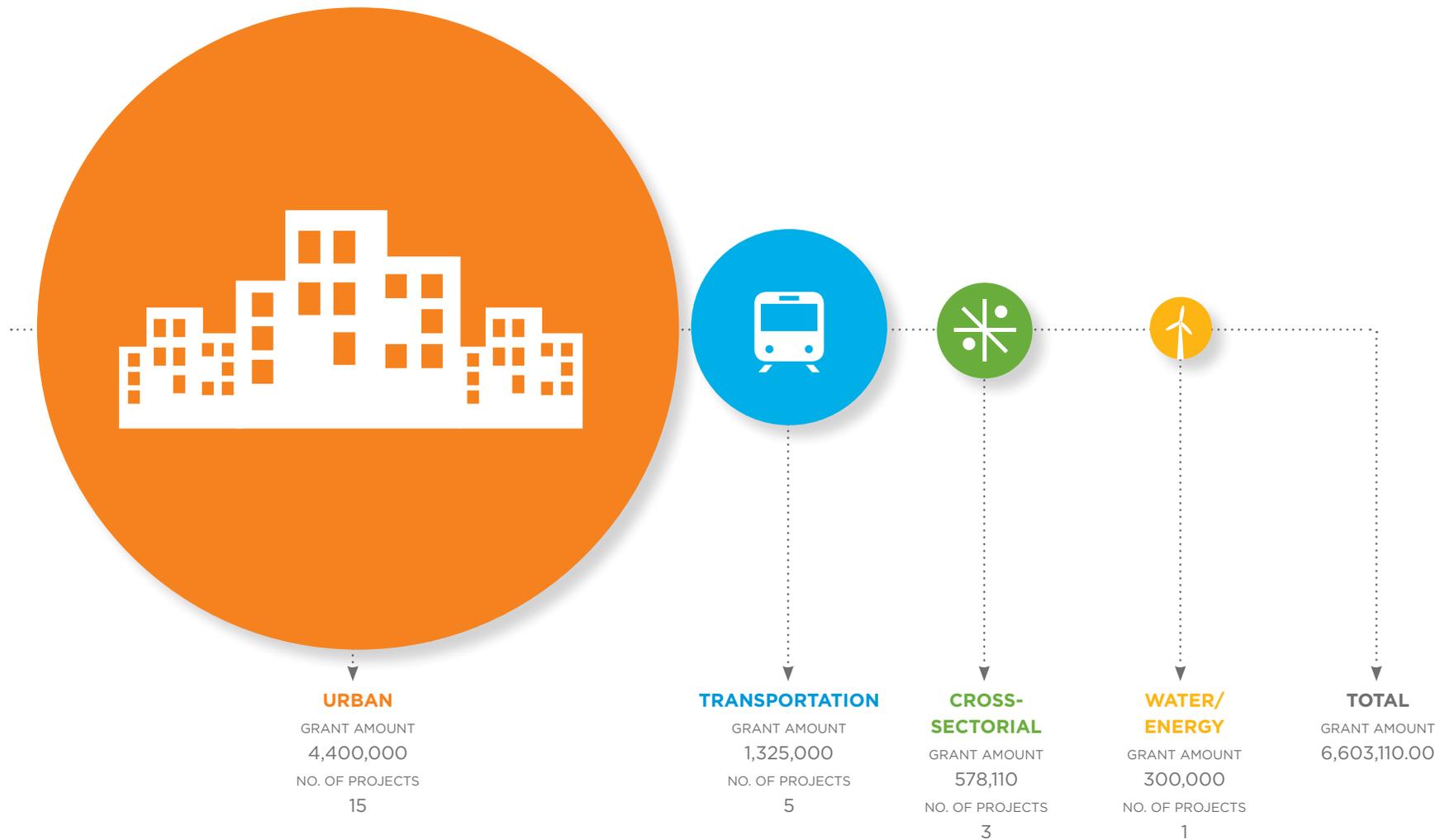
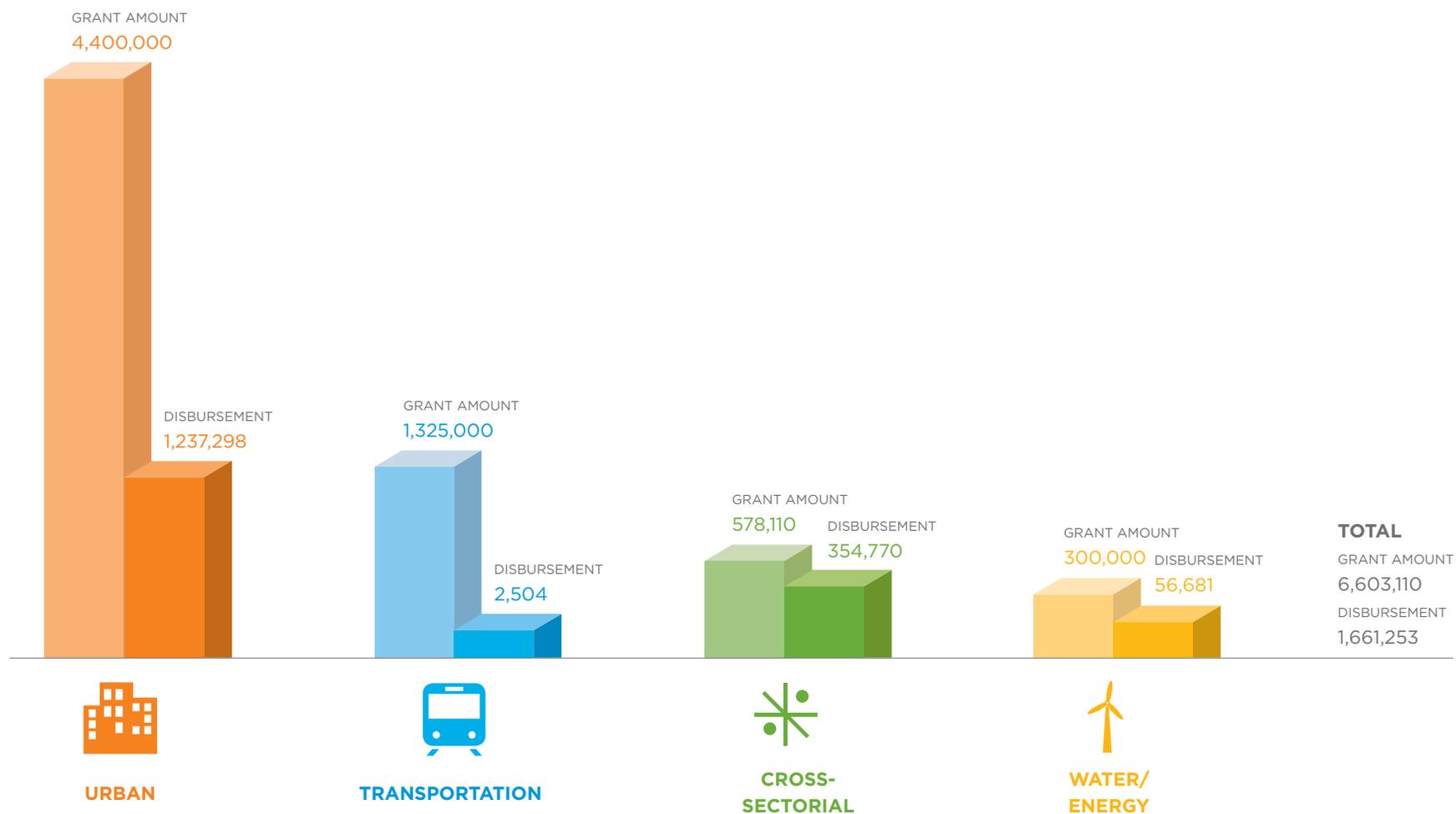


TABLE 4 APPROVALS AND DISBURSEMENT BY SECTOR





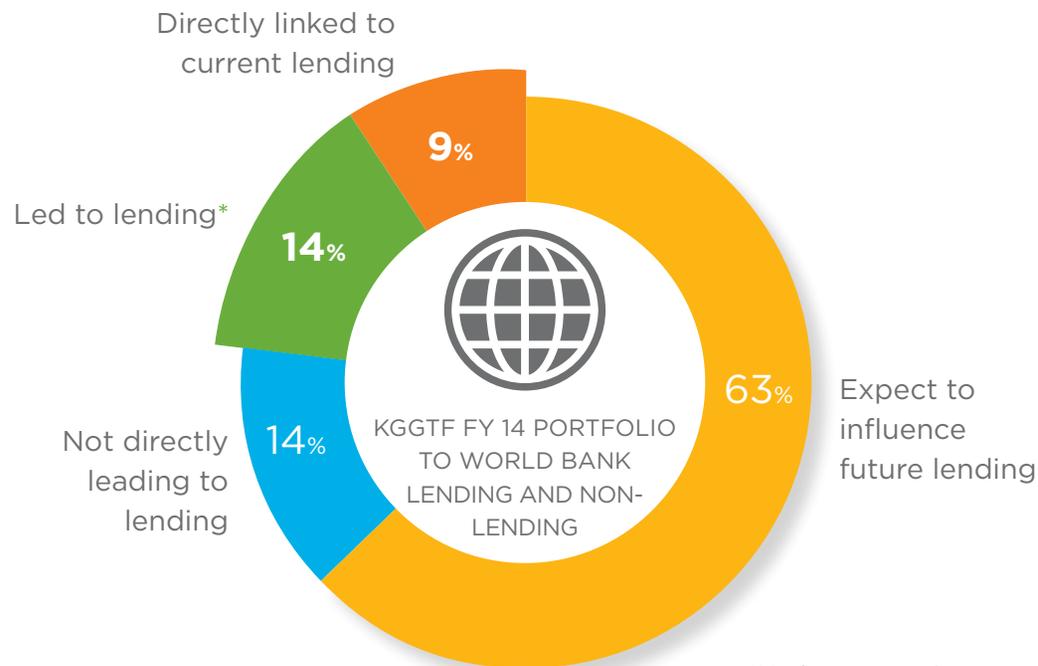
KGGTF OPERATIONAL PORTFOLIO ANALYSIS

FISCAL YEAR 2014 (COVERS CALENDAR YEAR JUNE 2013-JUNE 2014 • BASED ON GRANT ACTIVITY INFORMATION)

KGGTF-supported projects are making a strong contribution to helping the WBG disseminate practical tools and knowledge to help clients develop sustainable green-growth strategies and

plans. Over 80% of year 1 KGGTF-supported projects link to current or future WBG lending in support of urban, transport, energy, or climate development goals.

KGGTF FY 14 PORTFOLIO TO WORLD BANK LENDING



*Under preparation

Two of 23 inception year KGGTF awarded projects from FY 2014 are directly influencing World Bank lending projects which total up to approximately USD \$825,000. In addition, another global project on capacity building for urban green growth is directly supporting the capacity building component of a lending project in Vietnam with the total value of USD \$270 million.

- » MENA: Implementing congestion reduction measures in Beirut
- » LAC: A Sustainable Vision for the Rio de Janeiro Metropolitan Region
- » Global: Sustainable Urban Land Use Planning - Capacity Building for Urban Green Growth

Moreover, 11 of 23 inception year KGGTF awarded projects from FY 2014 have helped client countries and cities to identify and prioritize green infrastructure investment opportunities that are most optimal and sustainable in the long run, through:

- » Identification of policy and technology gaps
- » Preparation of an investment plan
- » Country, or city-specific environment assessments
- » Capacity building of stakeholders (policymakers, government, practitioners, etc.)

KGGTF KNOWLEDGE EXCHANGE ACTIVITIES

65% of KGGP inception year projects under FY 2014 have actively organized, participated, or planned to hold knowledge exchange activities that provide opportunities to exchange and share challenges and solutions in implementing green growth operational projects. Through the knowledge exchange, project leaders (TTL) have accelerated in-time-knowledge-transfer to clients.

PARTNERS AND COLLABORATIONS

KGGTF awarded TTLs are collaborating with various internal and external partners in order to design and implement holistic multi-sectoral projects that maximize their green growth potential and to identify and share lessons learned.

WBG Internal Partners (through Secretariat and Grant activities)

- » Global Practice of Social, Urban, Rural and Resilience
- » Global Practice of Transport & ICT
- » Global Practice of Energy
- » Global Practice of Water
- » Global Practice of Trade & Competitiveness
- » Leadership, Learning and Innovation Unit (Past: WBI)
- » Water Partnership Program (WPP)
- » The Energy Sector Management Assistance Programme (ESMAP)
- » Public-Private Infrastructure Advisory Facility (PPIAF)
- » The Global Road Safety Facility (GRSF)
- » The Global Partnership on Wealth Accounting and the Valuation of Ecosystem Services (WAVES)

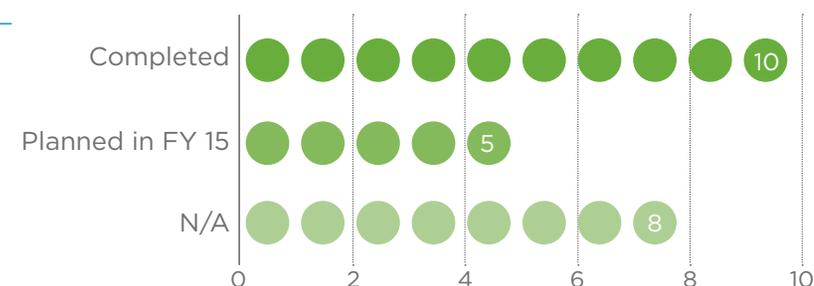
External Partners from Korea (through Secretariat and Grant activities)

- » Ministry of Land, Infrastructure and Transport (MOLIT)
- » Seoul Metropolitan Government (SMG)
- » Seoul Institute (SI)
- » Korea Human Settlements Research Institute (KRIHS)
- » Korea Land & Housing Corporation (LH)
- » Korea Transport Institute (KOTI)
- » Inha University, Graduate School of Logistics
- » Sudokwon Landfill Site Management Corp. (SLC)

External Global Partners (through Secretariat and Grant activities)

- » Government of Indonesia, BAPPENAS (Indonesian Ministry of National Development Planning), Ministry of Home Affairs, several local governments
- » AFD, Embarq, LTA Singapore, CEPT Ahmedabad, Moroccan Ministry of the Interior
- » ONEE (Moroccan Ministry of Energy, Mines, Water), a private sector reference group (Alstom, Abengoa, EDF, Veolia)
- » Decision Making under Uncertainty (DMU) community of practice
- » The AusAID INIS Trust Fund
- » Georgian Ministry of Economy and Sustainable Development, Georgian Technical University, Georgian Logistics Association
- » The International Union of Public Transport (UITP)
- » EMBARQ (The WRI Center for Sustainable Transport), Urban LandMark
- » The Department of Transportation and Communications, Philippines
- » The state government of Rio de Janeiro, Brazil
- » National and local government agencies in Africa

Green Growth Knowledge Exchange



Building Green Growth Institutions

52% of the 23 inception year KGGTF awarded projects from FY 2014 have helped client countries to strengthen their institutions by:

- » Providing technical assistance in planning and implementing development strategy
- » Sharing knowledge and experiences from international partners on best practices
- » Developing and providing customized learning or training programs

Green Growth in Action Creating Jobs and Impacts

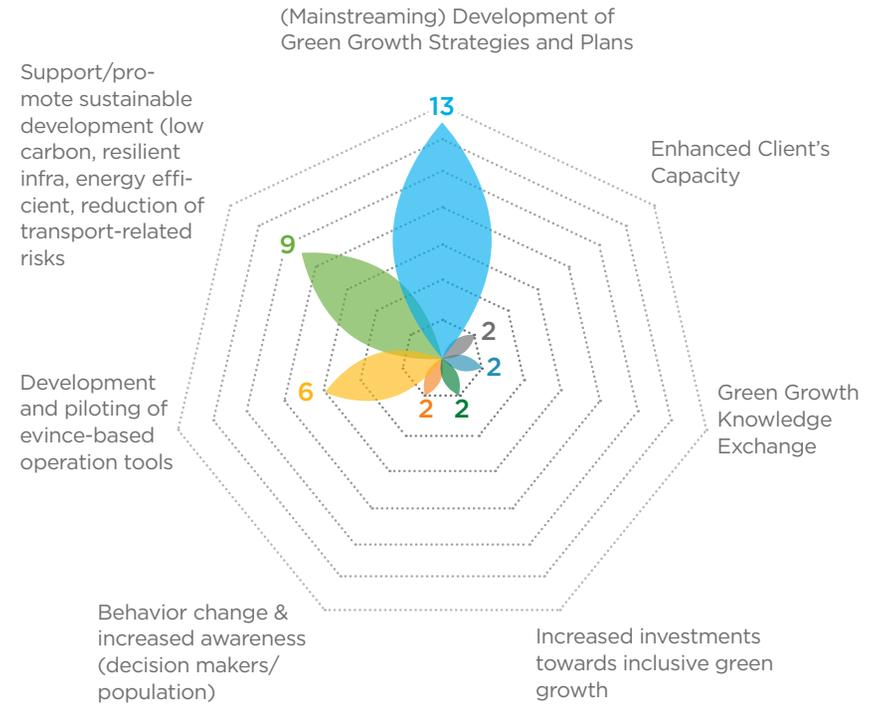
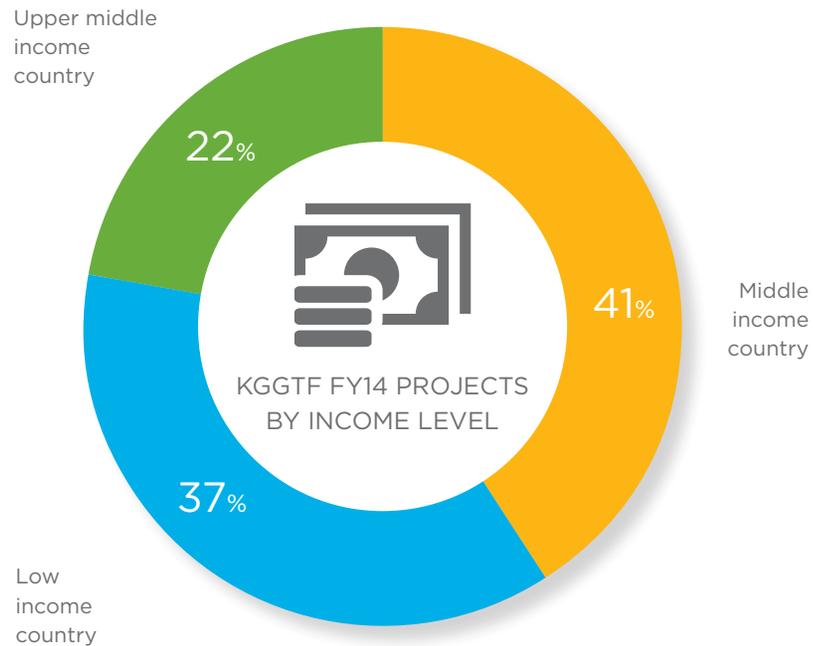
Three of 23 inception year KGGTF awarded projects from FY 2014, directly and indirectly, have had positive impacts on incremental job growth through grant activities. Although it is difficult to measure the impact precisely, the following KGGTF programs have influenced and are expected to provide an impact on job creation in the short, medium, and longer terms.

- » EAP: Sustainable Urban Growth Analytics and Planning Systems
- » ECA: Georgia Green Freight Transport and Logistics
- » EAP: Green Transport ICT



KGGTF FY14 PROJECTS BY COUNTRY INCOME LEVEL

78% of 23 inception year KGGTF awarded projects from FY 2014 programs targeted low and middle income countries.

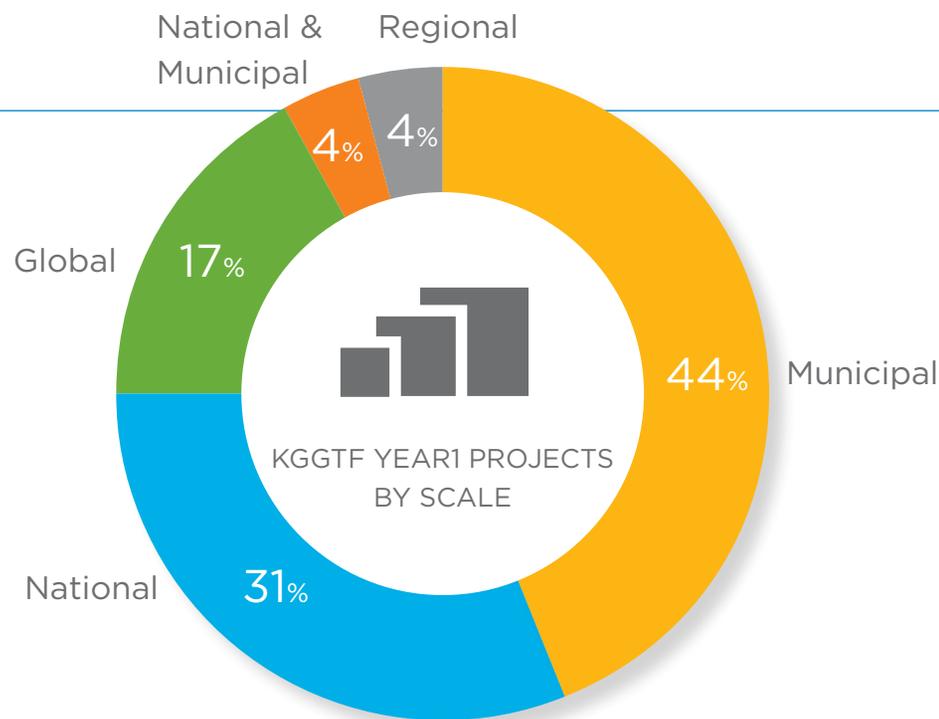


SPECIFIC IMPLEMENTATION GOALS OF KGGP INCEPTION YEAR (YEAR1) PORTFOLIO

As the KGGP set its goal to mainstream green growth, many of KGGP Year1 activities aimed to support client countries to develop their own green growth agenda for sustainable future.

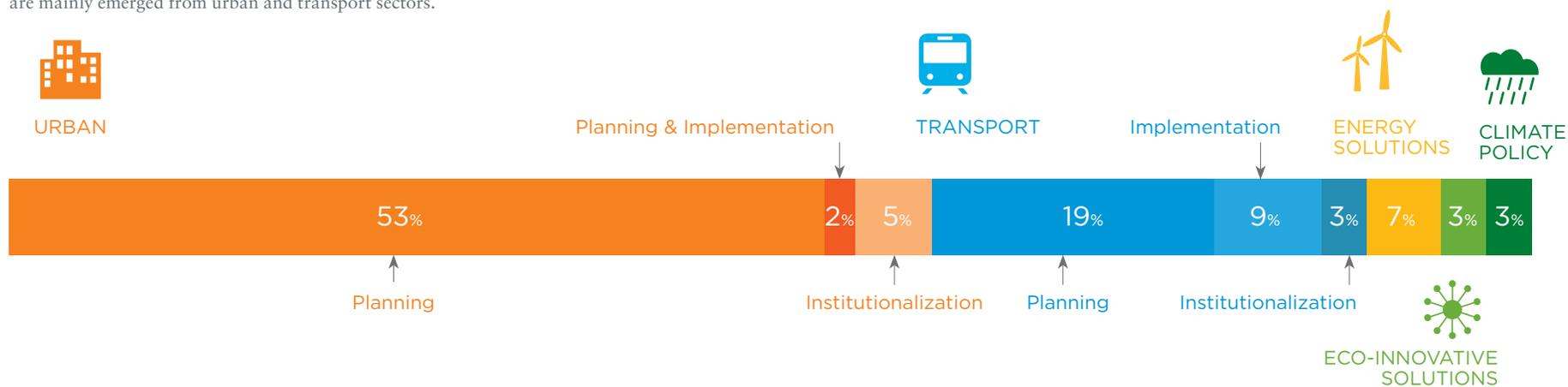
KGGTF YEAR1 PROJECTS BY SCALE

This chart shows the distribution of KGGP Year 1 projects by targeted scale level. 79% of KGGP Year 1 projects engaged with national and municipal counterparts to deliver on its goals of promoting sustainable development, enhancing green growth knowledge and technology, and institutionalizing green development elements.



KGGTF YEAR 1 DISBURSEMENTS BY THEME

Focusing on sustainable development in the context of infrastructure, KGGP Year 1 Project themes are mainly emerged from urban and transport sectors.





KGGTF KEY PROJECT FEATURES

ETHIOPIA City-to-city learning, Addis Ababa pairs with Seoul to foster green growth

TECHNICAL ASSISTANCE ON GREEN TRANSPORT AND URBAN PLANNING



ETHIOPIA

SNAPSHOT

Duration Multi-year	Grant approval June 2013
Grant amount \$450,000	Status In progress

Green growth knowledge partners: Addis Ababa and Surrounding Oromia Integrated Development Planning Project Office (AASOID), Addis Ababa Road and Transport Bureau, (Federal) Ministry of Transport, Seoul City Administration, KRIHS, KOTII

Background

Addis Ababa is Ethiopia's capital, and the seat of the Africa Union and the UN Economic Commission for Africa. The city of 3 million will lead Ethiopia's transition into a middle-income economy, but the metropolitan region's population growth rate of 4% annually is increasing demand for urban infrastructure and services, and hampering development. Addis Ababa's decade-old Master Plan is no longer adequate to address urbanization challenges.

Opportunity

Ethiopia's Vision for a Climate Resilient Green Economy (CRGE Vision) is to manage Addis Ababa to be the economic engine to transform Ethiopia into a middle-income country by the middle of the next decade—but to do so in a low-carbon and climate-resilient way. Addis Ababa's rapid growth presents challenges, but it is also an opportunity to integrate inclusive green growth principles into the city's update of its Master Plan. Integrating energy efficient transport systems and urban land use at the start of a development plan can build the city's resiliency, while promoting shared prosperity, and helping reach the bottom 40% of poor citizens.

KGGP IN ACTION

Under the lead of the Ethiopian Government and its CRGE Vision, the KGGP's technical assistance on green transport and urban planning project complements Ethiopia's related sector projects with the World Bank. The project is helping to fill gaps in the AASOID's Master Plan revision. AASOID is preparing and analyzing relevant data and proposing solutions with technical assistance from the project team and KGGTF. The KGGP Secretariat is connecting Ethiopia with successful Korean green growth examples, and with other local and international experts.

- » Partner with Addis Ababa's AASOID (KRIHS).
- » Assist AASOID planners by financing local and international consultants to help revise the Addis Ababa Master Plan, including connecting global experts at an international conference on green growth strategies.

- » Match experts in Seoul with counterparts in Addis Ababa to share green technical knowledge.
- » Provide technical support and capacity building for city agencies, including the Addis Ababa Road and Transport Bureau, the Addis Ababa Land Administration and Management Bureau, and the Federal Ministry of Transport.
- » Conduct training programs (KOTI) in urban transport planning and management.

MOVING FORWARD

- » **PARTNERING** The project will deepen work with various actors involved in Addis Ababa metropolitan development – Addis Ababa Road and Transport Bureau, the Federal Ministries of Transport and Urban Development – including expand training programs offered by KOTI.
- » **SUSTAINING** Addis Ababa City Government, the Federal Ministry of Finance and Economic Development, and the World Bank have agreed on the outlines of master plan implementation, particularly regarding strengthening transport and land-use integration over the next few years. The partners have already prepared an investment after this engagement. Ethiopia has committed USD \$ 150 million IDA to green growth pilot project.

GEORGIA Private-sector growth fueled by greening freight transport system

GREENING FREIGHT TRANSPORT AND LOGISTICS



SNAPSHOT

Duration Single year	Grant approval June 2013
Grant amount *250,000	Status In progress

Green growth knowledge partners: Georgian Ministries of Economy and Sustainable Development, Infrastructure and Regional Development, Finance, and Environment, Georgian Railways, Georgian Technical University, Georgian Logistics Association, Asia-Pacific School of Logistics of Inha University (APSL), Korea Transport Institute (KOTI)

Co-financing: N/A

Background

Reflecting and triggering the country's economic growth, Georgia's trade volume has significantly intensified over the last decade. Georgia's heavy dependence on imported energy for transportation, however, diminishes the countries balance of trade. Furthermore, while Georgia's road transport sector is the country's main engine of economic growth, it is also the main and fastest growing source of air pollution, emitting the vast majority of key local pollutants—about 90 percent of CO and 75 percent of NO in 2009.

Opportunity

The transport sector in Georgia is critical for economic growth, so the country's transportation goals go beyond environmental concerns to include improving transport efficiency to facilitate trade and promote growth and shared prosperity.

Various policy and investment options can “green” the country's freight transport and logistics sector by increasing the use of cleaner and lower-carbon transportation modes, such as fuel-efficient and low-emission trucks and rail-based transportation systems. Georgia has the opportunity to implement an approach that lowers the overall costs transportation costs while simultaneously reducing GHG emissions and improving its competitiveness as a transport hub.

KGGP IN ACTION

Georgia is leading the development of a green strategy for freight transport and logistics that increases railway use through better inter-transport mode connections, fiscal and pricing measures, and collaboration with key trading partners. The strategy focuses on improving connectivity and efficiency, and establishing an investment program for transshipment technologies at major ports, container terminals, and railways.

As Georgia creates its green strategy, the project provides technical assistance and supports partnerships with key stakeholders to share knowledge and build capacity.

- » Train policymakers and potential trainers.
- » Build capacity in public and private sectors to support implementing green freight transport and logistics policies and measures.
- » Build capabilities to gather accurate baseline data, perform multimodal diagnostic analysis, and conduct market forecasts and risk assessments.

- » Pair Georgia's Ministry of Economy and Sustainable Development and leading Georgian academic institutions such as Georgian Technical University and Batumi Maritime University, with Korea's Inha University Graduate School of Logistics to share knowledge about degree programs and professional capacity-building programs.
- » Support long-term capacity building with Inha University to nurture freight transport and logistics policymakers and private sector professionals.
- » Mobilize experts in the field, including policymakers in the Korean Government, KOTI researchers, and leading private firms, and by facilitating a knowledge-exchange through a study tour in Korea in September 2014.

MOVING FORWARD

The Georgian counterparts, who were actively involved in the knowledge sharing visit in Korea, are eager to capitalize on this experience. Both parties agreed to maintain the partnership and agreed on the following:

- » **PARTNERING** Inha University will share samples of memorandums of understanding (MoU) with the Georgian academic institutions, to be adapted to the local context. Inha University will introduce GLA (Georgian Logistics Association) to the national logistics association and the Korean Railway Research Institute for further discussions. The team will also connect both Korean and Georgian governments. Georgia's strategy also includes forging partnerships with neighboring countries.
- » **SUSTAINING** The Green Freight Transport and Logistics Project aims to develop a comprehensive national strategy and identify necessary investments. Seeing the potential to improve energy efficiency in road freight transport and to boost the country's economy, the World Bank team recommended that the Georgian Government maintain bilateral dialogue and share knowledge on innovative measures, as well as on the process of implementation.



GLOBAL Planning Greener Cities

LOW-CARBON GREEN CITY PLANNING

SNAPSHOT

Timeframe Multi-year **Grant approval** June 2013
Grant amount \$500,000 **Status** In progress

Green growth knowledge partners: Client governments, pilot test cities, Gwangju city (Secretariat of UEA), KRIHS, KEI, UN-Habitat, C40 Cities, ICLEI, World Resources Institute.

Co-financing: Japan International Cooperation Agency (JICA), PPIAF-SNTA, Rockefeller Foundation, Findeter

Background

The World Bank is part of a joint global initiative supported by UEA, Gwangju City (Korea), KRIHS, KEI and other international institutions to promote low-carbon cities. There are many factors that can drive low-carbon growth in cities, but two of the most critical prerequisites are access to knowledge resources capable of carrying out low carbon planning, and financial management practices that enable a city to make or attract the necessary investments. This project seeks to develop new training programs and analytic methods that will build capacity in cities around the world, thereby delivering greener growth that provides both local and global benefits.

Opportunity

Planning cities with social, environmental and resilient initiatives stimulates economic growth and helps to eradicate poverty and improve quality of life. Countries can plan “green” cities from the start by using innovative approaches in various sectors, such as environmentally sound waste collection and treatment strategies, renewable energy solutions, and efficient transport systems. The relevant solutions can vary widely by city, reflecting local market conditions, the local economic base, climate, historic infrastructure investment decisions, and the national policy environment.

Cities making low-carbon growth plans must use innovative and inclusive approaches to promote green economic growth, create jobs, share prosperity, and reach the poorest by improving their mobility, health, and incomes.

KGPP IN ACTION

The project will help cities reduce carbon emissions by sharing knowledge and mainstreaming green growth into urban planning and local financial management frameworks. It took the city of Gwangju in Korea five years to “green” its policies to tackle unsustainable growth, pollution, and inadequate climate resilience. The project team is taking lessons learned in Gwangju to create new systems and training protocols that help cities critically analyze local conditions and craft planning and investment roadmaps capable of delivering low carbon and green growth.

This initiative provides training and technical assistance to cities in developing countries looking for green solutions to common challenges.

- » Support pilot cities in assessing where the most critical opportunities for change exist given local conditions.
- » Assist with mainstreaming low-carbon green city development into urban planning and financial management frameworks.
- » Develop financial modeling tools for local governments.
- » Facilitate participation of global experts to ensure that a wide range of perspectives are included in the program design. For example, the Korea Development Institute School of Public Policy and Management and the World Bank hosted 44 representatives from 11 Asian countries at the City Creditworthiness Academy in Seoul in April 2014. Each participating city left the Academy with a strategy detailing steps it must take to improve its financial management practices. It may take several years to fully implement the strategy, but once completed the city will have a dramatically improved ability to finance various green growth investments.

- » Produce and disseminate a strategy paper containing results of a market assessment, gap analysis, and road-map for developing professional certification programs designed to support low-carbon green city planning.
- » Develop, as part of the project’s professional credentialing initiative, a training program on how to conduct city-scale GHG emission inventories.

MOVING FORWARD

Key partners will convene to discuss committing financial resources and identifying roles to take the program forward.

Throughout the summer of 2015, city climate planning professionals worldwide will continue to support the development of a new professional credentialing program, contributing information and ideas about the specific knowledge that is required to conduct low carbon planning in a city. This information, conducted as part of a formal “job task analysis”, is the foundation of a new training program that will be rolled out during the summer. The job task analysis is also an essential part of the examination development process, which is occurring concurrently. The credentialing exam assesses an individual’s expertise in this area. The current goal is to have the first city climate planner credentials awarded by early 2016.

New creditworthiness academies serving cities in MENA and West Africa are scheduled to be held during spring and summer 2015. Cities from these and prior academies will receive additional technical support implementing their post-Academy roadmap on an as-needed basis.



SECTION 12

FIVE YEARS TO GREEN GROWTH

Gwangju's climate plan has made a huge positive difference for its citizens—and the world is taking notice. “Green” innovations in the city’s 2008 to 2013 plan have radically improved the quality of life for the areas 1.5 billion residents, saving the city more than \$1.1 billion annually while decreasing pollution, food waste, and energy use—and boosting economic growth and shared prosperity.

Gwangju’s city plan replaced unsustainable approaches with cross cutting, multi-sector innovations. Renewable energy and food waste powers this sprawling eco-friendly urban area, reducing emissions and transforming landfills into revenue-generating green spaces, while also creating jobs.

The city also uses a bottom-up “carbon point cards” approach that creates economic incentives for households to decrease resource consumption. This “carbon banking” approach helps families slash household energy spending, propelling participation to more than 280,000 Gwangju households in 2012, up from around 20,000 when the program started in 2008. About 54% of participating households reduced electricity, gas, and water consumption. In the process, CO2 emissions plummeted by a huge 84.2 kilotons. Project leadership is expecting all Gwangju households to join the program in 2015.





GLOBAL Tailoring blueprints for green urban growth and transport

CAPACITY BUILDING FOR GREEN URBAN GROWTH; CAPACITY BUILDING FOR LEADERS IN ENERGY EFFICIENT URBAN TRANSPORT PLANNING

SNAPSHOT

Duration Urban: Multi-year; Transport: Single year	Grant approval Urban: June 2013
Grant amount Urban: \$500,000 Transport: \$325,000	Transport: December 2013 Status Urban: In progress Transport: In progress

Green growth knowledge partners: Cities in developing countries, Korea Transport Institute (KOTI), LTA (Singapore), CEPT University (India), AFD (France), Embarq (Mexico), Monterrey Tech (Mexico), Seoul Metropolitan Government, World e-Governments Organization of Cities and Local Governments, Korean Research Institute of Human Settlements (KRIHS), Korea Land and Housing Cooperation/Land and Housing Institute

Co-financing: N/A

Background

The World Bank supports cities searching for sustainable development solutions. More than half of the people in the world live in cities, and experts expect urban populations in developing countries to double by 2030. This is posing difficulties, especially small and medium-sized cities where leadership skills and knowledge is typically inadequate to manage major urban challenges. Where there is rapid urbanization, the ability for people to move around their city, “urban mobility”, becomes critical to quality of life for citizens, and to the sustainability of towns and cities.

Opportunity

While cities are often engines of economic growth, many face severe challenges as they grow, such as increase in congestion, road accidents, and energy consumption, and a decrease in air quality. Rapid population growth can also be an opportunity to promote knowledge sharing to apply green economic growth solutions to address challenges. Many cities are in the process of finding sustainable approaches to harness growth in innovative, green, and inclusive ways.

KGPP IN ACTION

Urban land use planning can help address urban growth challenges when leaders base plans on informed policies and sustainable development principles, and when cities manage initiatives and investments well. Two KGPP projects urban initiatives are helping to build skills to promote resilient, participatory, and environmentally and socially inclusive growth. The urban growth project aims to develop and strengthen practical and strategic knowledge and skills for officials in charge of urban planning and management. The urban transport project specifically supports senior urban transport decision makers to influence comprehensive green growth policies.

To promote application of green growth, the project teams are producing knowledge products based on real examples of implemented, innovative, and inclusive projects. Examples include how the city of Dar es Salaam engages citizens in planning and decision making using ICT crowd-sourcing tools and community mapping. Another example demonstrates how Seoul’s model e-Government initiatives—such as using data to map optimal night bus routes, and implementing taxi “matchmaking” —are enhancing quality of life and reducing GHGs. Showing stakeholders real examples, rather than just telling them, best demonstrates how to turn green growth strategies into action.

KGPP initiatives include:

- » Produce monthly Smart Cities webinar showing how innovative ICT solutions can make cities more sustainable. <http://einstitute.worldbank.org/ei/webinar/themes/smart-cities>
- » Author several step-by-step guides on land market assessment, land readjustment, land value capture, transit oriented development, and risk-sensitive land use planning in flood management.
- » Manage a collaboration platform to make it a gateway for advice on transport-related issues.

- » Conduct marketing and outreach on transport issues through flyers, booklets, and a film.
- » Update World Bank e-learning course on sustainable urban land use planning and management to incorporate the latest knowledge and practices related to green growth.
- » Train transport sector decision makers worldwide using materials based on eight new case studies and self-study modules, with tailored versions for cities at early stages of growth.
- » Offer urban land use course in select countries (Vietnam and India), and deliver faculty development workshops including writing and teaching using case studies.
- » Create customized, cutting-edge e-learning modules for urban land use planners to facilitate peer-to-peer learning through knowledge exchanges and virtual practitioner networks.
- » Partner with the KRIHS and SMG to produce several case studies on Korea’s experience with urban land use planning and management for green growth.

MOVING FORWARD

The urban growth project is seeking partnerships with Korean institutions to develop Korean case studies on the various topics covered in the step-by-step guides, and to share their experiences with partners in developing countries such as Vietnam and India.

INDIA Urban, trade & competitiveness, and transport practices join to explore inclusive green growth solutions with Indian leaders

GREEN URBAN DEVELOPMENT ALONG INDIA'S EASTERN DEDICATED FREIGHT CORRIDOR

SNAPSHOT

Timeframe Single-year **Grant approval** June 2013
Grant amount \$400,000 **Status** Completed

Green growth knowledge partners: Indian state authorities, Department of Economic Affairs, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, Ministry of Urban Development and the Uttar Pradesh Department of Infrastructure and Industrial Development, Korea Research Institute for Human Settlements (KRIHS), World Bank Partnership for South Asia,

Co-financing: Australian Agency for International Development (AusAID)

Background

Part of the World Bank Country Partnership Strategy FY13-17 support for India includes a loan for three phases of construction of a 1,839 km railway through the Eastern Dedicated Freight Corridor. The new railway line together with related urban and industrial developments intends to promote large-scale job growth and shared prosperity in one of the country's most densely populated, rapidly growing, and poorest areas, while relieving road congestion and reducing GHG emissions.

Opportunity

Development along the new railway corridor should integrate land use and eco-friendly urban transportation planning. Rail investments should combine with investments in health care, childcare, and education to ensure that social, economic, and environmental gains from the corridor reach the 480 million people living in the bordering states. Improvements in transport infrastructure and connectivity represent an opportunity to integrate sustainable green growth principles.

KGGP IN ACTION

In response to a request from India's Department of Economic Affairs, KGGP's project supports mapping of sustainable growth options to decrease poverty and promote shared prosperity in the states bordering the corridor (i.e. Punjab, Haryana, Uttar Pradesh, Bihar and West Bengal).

Operating under the umbrella of a regional urbanization program, the project provides technical assistance and information needed to evaluate green growth options.

- » Partner officials from India with Korean counterparts with green city development experience such as in Sejong, help guide India to review options.
- » Facilitate mission of Korean experts to Uttar Pradesh. A representative of the KRIHS presented Korea's experience to senior officials of the Government of India's Department of Industrial Policy and Promotion, and a professor from Hong-ik University in Korea was instrumental in designing the Economic Potential Index (EPI) to identify sub-regions with high development potential.
- » Produce a *Demographic and Economic Overview of the Corridor States and Leveraging Spatial Development Options*. Together, the studies outline challenges, propose solutions, and identify three sub-regions in Uttar Pradesh with the highest economic potential for industrial and related development for further in-depth studies..

MOVING FORWARD

A detailed regional economic assessment of the three sub-regions in Uttar Pradesh will identify economic linkages, impediments, and growth potential of economic clusters. The infrastructure and investment strategy will include economic structure, patterns of industrial clustering, and an assessment of infrastructure, industrial, and logistic hubs. An integrated approach for economic development, urban planning, and transportation will incorporate green growth, including improved efficiency, greater resilience, and increased competitiveness.



MEXICO Building stronger, greener cities as engines for growth

GREEN GROWTH STRATEGIES FOR MEXICAN CITIES; INSTRUMENTS FOR URBAN REDEVELOPMENT



SNAPSHOT

Timeframe Strategies: Single year; Instruments: Single year	Grant approval Strategies: December 2013; Instruments: June 2013
Grant amount Strategies: Strategies: \$250,000; Instruments: \$150,000	Status Strategies: in progress; Instruments: in progress

Green growth knowledge partners: Mexico's Ministry for Urban, Rural and Territorial Development, *Sociedad Hipotecaria Federal* (Federal Mortgage Corporation) and *Comisión Nacional de Vivienda* (National Housing Commission), Korea Research Institute for Human Settlements (KRIHS), Seoul Metropolitan Government, Global Green Growth Institute
Co-financing: N/A

Background

The World Bank supports Mexico's sustainable urban development program. Mexico is the second largest economy in Latin America, and while Mexican cities are engines of economic growth and prosperity, low-density spatial urban growth patterns over the last few decades have had negative

consequences. Most new urban areas lack connectivity to city centers, resulting in urban sprawl. Typically, low-income families who rely on public transportation often live far away from job opportunities and services. At the same time, dwindling downtown areas are experiencing increased crime and violence. City governments are scrambling to invest to improve poor, inefficient infrastructure in urban centers, and connect distant settlements.

Opportunity

Recognizing these challenges, the Government of Mexico launched an important policy reform agenda for the urban and housing sectors in February 2013 to promote more sustainable, equitable, and compact urban growth. The Mexican Government's commitment to implement innovative development approaches as part of the reform process represents an opportunity to foster green, efficient, socially inclusive, innovative solutions to address pressing urban challenges.

KGTF IN ACTION

Two KGTF projects are helping the World Bank Group team to provide technical assistance and to bring together key national actors in the urban and housing sectors in Mexico. The projects complement a range of analytical activities under the umbrella of the Bank's Urban and Housing Programmatic Approach for Mexico. The KGTF green growth strategies project supports the development of innovative spatial planning instruments to measure and reduce the carbon footprint of Mexican cities, and promote more compact, efficient, and socially inclusive urban development. To this end, the WBG collaborates with the Mario Molina Center (CMM)—a leading Mexican research institute and policy think-tank—to generate a web-based metropolitan profile tool for comparing key indicators for the country's main 59 metropolitan areas.

The tool will allow the national and local governments, as well as the wider public, to understand the implications of urban spatial growth scenarios on socio-economic and urban sustainability. They will be able to compare the environmental, social, and economic effects of different urban spatial growth scenarios, and their implications for key variables, such as the cost of infrastructure provision and maintenance costs, CO₂ emissions, energy consumption, and the fiscal situation for each metropolitan area. The collaboration with CMM supports creation of the visualization tool, as well as development of a rigorous and standardized assessment methodology to model various urban growth scenarios. The project team expects to complete its work by December 2015.

Through the instruments for urban redevelopment project, the World Bank Group team provides technical assistance and advice to the National Housing Commission to strengthen its capacity to promote green and compact growth in Mexico City and other cities. Knowledge sharing has focused on the institutional, financial, and technical aspects of piloting public-private partnership models to support high-density, mixed-use urban regeneration projects in Mexican city centers. As part of the support, Korean experts shared Korean and other countries' experiences with Mexican officials regarding inner-city redevelopment projects, best practices, and lessons learned, particularly in the areas of institutional frameworks, incentives, and financing tools.

MOVING FORWARD

Project plans included a study tour to Korea by a high-level delegation of Mexican Government officials, including representatives from the National Housing Commission (CONAVI), the Ministry of Urban Affairs (SEDATU), the Ministry of Finance (SHCP), INFONAVIT, and others. This study tour will help advance the Bank's discussions with the Mexican Government on a possible new loan for an inner-city affordable housing redevelopment project.

POLAND Piloting green transport solutions for cities and regions

PILOTING GREEN TRANSPORT SOLUTIONS FOR SUBNATIONAL GOVERNMENTS



SNAPSHOT

Duration Multi-year	Grant approval July 2013
Grant amount \$600,000	Status In progress

Green growth knowledge partners: Municipal governments, regional authorities (voivodeship), Ministry of Infrastructure and Development, Korea Transport Institute (KOTI)

Co-financing: N/A

Background

The World Bank Country Partnership Strategy and the Subnational Cooperation Action Plan supports Poland's National Development Strategy for 2007-2015, which prioritizes the need for green growth technical assistance to regional and municipal authorities. The transport sector in Poland is a major contributor to CO2 emissions. With car ownership rising sharply, authorities are introducing new, clean, and green public transport services to promote switching to alternative transport, and environmental, social, and economic sustainability.

Opportunity

Slowing the growth of emissions is emerging as a key priority for many small and medium-sized Polish cities. Poland aims to achieve its green goals by reversing suburbanization. These include promoting use of public transport, and enabling urban transport authorities to use intelligent transport systems (ITS) and new performance management methods. Polish urban growth provides an opportunity to apply green economic growth principles and technical innovations to influence investments, promote urban mobility, and control emissions, while also increasing jobs.

KGGP IN ACTION

The project supports subnational governments as they pilot green transport solutions. The World Bank is employing its Urban Transport Data Analysis Tool to assess institutional and planning arrangements and legal and regulatory frameworks. The project helps integrate green urban mobility approaches to existing transport and land planning investments.

Through visits to four Polish cities—Rzeszow, Lublin, Bialystok and Olsztyn—the project team assessed urban mobility, public transportation, and CO2 emissions as estimated by the European Pollutant Release and Transfer Register (E-PRTR). To assess inter-municipal cooperation on urban transport and spatial planning, the team also met with authorities in Katowice and Gdansk, and with key inter-regional transportation companies providing services across the 16 Polish regions.

- » **Partner (KOTI) with municipal and regional authorities in Poland to share experiences and offer innovative green transport options.**

- » **Conduct knowledge exchanges for Polish officials, for instance Polish officials from urban transport and municipal authorities from the four pilot cities visited Korea in October 2014 for a knowledge exchange to experience technical green growth examples first hand.**
- » **Make recommendations to the Polish Ministry of Infrastructure and Development in partnership with the WBG.**

MOVING FORWARD

The project team planned to review a draft report assessing the urban transport sectors in four cities, with plans to present the findings in workshops in each city. Polish authorities and the WBG also planned to select one or two pilot cities to engage in a second phase of this project once having completed the first phase and its workshops. Finally, the project also includes a knowledge exchange for Korean urban transport authorities to meet with a Polish delegation, including Polish research institutes, to share best urban transport management practices.



LATIN AMERICA AND THE CARIBBEAN

Innovative ways to manage waste and tackle poverty

REGIONAL RESOURCE RECOVERY AND RECYCLING

SNAPSHOT

Timeframe Single year **Grant awarded** July 2013
Grant amount \$150,000 **Status** Completed

Green growth knowledge partners: Secretariat of Environment and Sustainable Development, City of Mar del Plata, Municipality of Salta and Municipality of Rosario in Argentina; Ministry of Housing, Cities, and Territories in Colombia;

[Please indicate what partners to include.]

Co-financing: N/A

Background

The World Bank is engaged in incorporating solid waste management best practices into the design of new programs in Latin America. Projects range from demand-driven municipal investments in urban drainage and slum upgrading, to regional urban infrastructure and national solid waste management.

Opportunity

Implementing new innovative strategies can redefine waste management and have a transformational impact, saving city governments millions of dollars, improving quality of life, reducing GHG emissions, and spurring sustainable economic growth. Millions of tons of solid waste reach landfills and dumpsites each year in the Latin American and Caribbean (LAC) region.

LAC countries are beginning to look at waste as not just a management issue but also as a source of green economic growth. This represents an opportunity to increase knowhow on greener technology approaches to waste management.

KGPP IN ACTION

The project provides options to address barriers to green solutions, in line with ongoing discussions on a regional solid waste management strategy. The approach also promotes social inclusion for the vast, marginalized informal waste sector. Connecting a network of practitioners and promoting South-South exchanges, the project helps countries pursue green growth through: i) a series of knowledge products, including implementation case studies, that foster innovation; ii) identification for strategic issues for adoption of technology in LAC region; and iii) highlight best practices for policies and technologies. The project:

- » Reviewed global practices in technologies for waste treatment and resource recovery;
- » Reviewed technologies and programs for collection systems, source segregation, and social inclusion in the waste sector;
- » Drafted case studies to demonstrate these elements - covering cases from all over the world including two in Korea (Gwangju City's food waste treatment and Wonju City's resource recovery facility);
- » Identified strategic technologies and approaches that are appropriate for implementation in the LAC region.

MOVING FORWARD

A second Phase of the project, "Implementing green solutions for waste management in Latin America and the Caribbean", engages client in the LAC region to put into practice some lessons learned in Phase 1. Phase2 will particularly focus on enabling financing, adapting and implementing promising technical solutions identified in Phase 1. Phase 2 is focusing on technical solutions that were identified in phase 1, namely solutions for food waste management, improved segregation, more efficient collection, and social inclusion. These solutions have been a basis for dialogue, project development, supervision and planning. Implementation on the ground has begun at the national-level in Colombia, at the state-level in Paraiba, Brazil, and at local-level in Jamaica and in cities of Mar del Plata, Salta, Rosario, and Mendoza, Argentina.

Overall, this work has supported the solid waste portfolio in LAC, which includes more than 40 World Bank projects. It has specifically supported the preparation of a development policy loan for sustainable development in Colombia (project amount 700 mn USD) and the preparation of investment lending projects in Paraiba (50 mn USD) and Fortaleza of Brazil (73 mn USD), and Cusco Regional Development (35 mn USD) in Peru. The work also provided support to supervision of Argentina National Urban Solid Waste Project (50 mn USD), Colombia Solid Waste Program Project (20 mn USD), and Jamaica Integrated Community Development Project (42 mn USD), while providing substance to facilitate policy discussion and new project development in Argentina, Ecuador, and Peru.



“When we started talking about the bag fee system it was fascinating, I was asking a lot of questions as it is a good solution to what we are dealing with in our Municipality”.

– **Normando Zuñiga**

Undersecretary Public Services and Environmental Control Municipality of Salta, Argentina





Y2 GREEN

GROWING MOMENTUM FOR GREEN GROWTH

Korea Green Growth Trust Fund's Year two projects continue to emphasize multi-sector strategies for implementing green growth. Urban, transport, and information and communication technology (ICT) sectors work together to solve inter-connected challenges. KGGTF's Year 2 projects continue to represent the KGGTF's vision for sustainable, climate resilient societies that promote shared prosperity and help eradicate poverty. That vision is crystalizing into a new model for economic growth. Using examples of green economic growth—initiatives that have created jobs, improved lives, built climate resilient cities, and moved countries towards energy independence—KGGTF's Y2 projects are gaining momentum, helping cities and nations achieve sustainable development.

It's green growth. It makes sense.



INFORMATION AND COMMUNICATION TECHNOLOGY

AFRICA ICT-enable Industries for Green Cities

Cities and their industries drive economic growth, but industrial cities also consume vast quantities of energy and resources, and generate huge waste. This two-year USD \$600,000 project improves efficiency in industrial processes in African cities, while enhancing climate and environmental resilience. Using Korean experience and expertise, the money saved by increasing efficiency frees energy,

natural, and fiscal resources for other areas of urban development. The project analyzes material flows, reviews and consolidates resource-use audits, and identifies ICT measures to improve efficiencies in target cities. The project will also sequence and coordinate public and private initiatives and investments on green measures for urban industries.



GHANA AND SOUTH AFRICA “Negawatt” Challenge for Energy Efficiency

Africa’s rapid urbanization is deteriorating air quality, while African economies are losing an estimated 2.1% of GDP to power shortages every year. Mayors worldwide (C40 cities) are supporting innovative solutions to achieve “Negawatts”, or negative energy consumption. Following the successful 2013 World Bank-supported “hackathon” to improve access to clean drinking water and toilets, KGGTF’s three-year USD \$500,000 negawatt “hackathon” and “makeathon” initiatives engage stakeholders in South Africa and Ghana to identify innovative interventions for key problem areas. The initiatives challenge local, national, and global problem-solvers to create and collaborate on targeted, implementable solutions that combine indigenous knowledge with international expertise. The project supports technology-enabled entrepreneurship, job creation, technology transfer, and energy efficient appliances and services.

Going beyond related World Bank initiatives, the project is pioneering an open innovation model for private sector engagement and investment in energy technology development and adaptation. Korean technology transfer and private sector knowhow project is also promoting a robust start-up eco-system in emerging energy and technology sector communities. The project also aims to lower the cost of getting information on energy efficient technology options and services to consumers and service providers. After engaging stakeholders in Accra and Johannesburg—including the Ministries of Power and Energy, Private Sector Development, and the Investment Bureau and city authorities—the project will scale up in two additional cities.



GUATEMALA Using ICT to Increase Green Competitiveness in Guatemala

Supporting national programs to promote efficient industries, KGGTF’s two-year USD \$605,000 project is providing technical assistance to implement Guatemala’s energy policy. The project will stimulate small- and medium-sized enterprises (SMEs) to adopt clean production protocols and technologies, while improving SME competitiveness. Project activities include stimulating demand, improving supply, and linking SME’s through an ICT market exchange, open-source platform for service providers.

The project will also support pilot implementation of energy management systems (EMS) in selected clusters. The smart systems will use sensing technology to enable real-time performance monitoring across production processes.



ICT

KOSOVO

Innovative and Green Growth for Rural Areas

Kosovo's Government recognizes that broadband connectivity enables growth. KGGTF's two-year USD \$485,000 project aims to produce guidelines and a pilot program to support the Government. The project team will provide technical assistance and advice to help Kosovo design a rural broadband program to give access to everyone in selected underserved areas. Together, they will identify pilot opportunities to save costs and increase revenue by applying green ICT in rural areas in both the public and private sectors. The project will serve as a model for rollout of broadband services in other countries facing similar connectivity challenges.

MONGOLIA

Civic Innovations Solve Old Problems in New Ways

With two-thirds of the country living in urban areas, demand for services outpaces supply. KGGTF's two-year USD \$230,000 project supports the Government's efforts to find green options. The project engages the country's technical community through a "hack-a-thon" to identify innovative solutions to problems and challenges. The project will increase the use of digital technologies, open data, and on-demand information to improve public and private services and to save time and money. Self-reporting, real-time data and embedded sensors can enable an information infrastructure that alleviates congestion from increased traffic. The measures can save citizens time and reduce gas costs by an estimated USD \$115 billion. Those methods can increase detailed understanding about the effects of transportation on city sustainability. Phase one will focus on the city of Ulaanbaatar, and phase two will turn to other urban areas across the country.

TRANSPORT

GLOBAL

Training Hub for Green Growth Transportation

Sustainable transport practices seek to avoid investment "lock-in" in high energy-use, high-pollution transport modes. To promote adoption of low-emission transport technologies at a time of rapid urbanization, the KGGTF's two-year USD \$500,000 project spans the transport, trade, and energy sectors. In cooperation with KOTI and the Ministry for Land, Infrastructure and Transport, the project is developing and delivering a curriculum to train governments to build green transport systems. The project will create seven training sessions for stakeholders in client countries, while policy makers and executives will learn to apply the project's sector analytical work. The training includes learning to use tools to evaluate technology futures, mitigate risk, and quantify the value of reduced environmental damage, including reduced GHG emissions, health costs, and accidents. Green transport also reduces the social costs of transport, with far-reaching benefits to poor households in developing countries, including increased mobility and improved access to jobs, markets, and public health and education. Participants will also learn how incentives can open fiscal space to finance transition to a green economy.

AFRICA

Sustainable Transport Forum

Poor intra and inter-regional connectivity severely constrains Africa's development. Traditional transport projects rely on major infrastructure investments, but Africa needs sustainable transport systems that address connectivity while promoting inclusive, shared prosperity. The KGGTF's three-year USD \$1 million Africa Sustainable Transport Forum (ASTF) project aims to provide African cities with tools to foster resilient and sustainable green growth transport policies—policies that encourage environmentally sound, low-carbon, inclusive, transport solutions. The KGGTF project is providing technical assistance and Korean experience consistent with World Bank initiatives as well as Rio+20 commitments to provide USD \$175 billion for sustainable transport projects globally over 10 years.

The project will share knowledge and tools to help Africans create and implement policies, programs, and demonstration pilots for regional, national, and city strategies. The tools include African public continental data and statistics; a non-motorized transport training and policy toolkit pilot in Uganda; and an investment cost-benefit analysis tool that considers environment, road safety, and accessibility. The project will also support the development of policies to reduce particulate emissions from heavy-duty diesel vehicles, and help facilitate access to funding. The project will present Korean examples of successful transport initiatives at workshops in 2015, and at the 2016 High-level Conference for the Action Plan for Sustainable Transport in Africa. Partners in the development and implementation of the ASTF include UNEP and the African Transport Policy Program.

AFRICA

Streets as Drivers of Green growth and Urban Prosperity in Africa

In many cities in developing countries, people living take 40-60% of all trips by walking to public transport. Pedestrian space is often not separate from the road, and walkers compete with street vendors, shops, parked cars, motorcycles, and bicycles. Government statistics rarely measure the pedestrian environment, which causes leader to neglect it in plans and policies. Pedestrian unfriendly cities tend to affect most negatively the economically and socially excluded, the people least likely to have access to efficient motorized transport. To promote sustainable urban prosperity and green growth, the project aims to increase safety, reduce travel time, and improve access to socio-economic services. The project assesses and improves pedestrian access and connectivity in the three selected African cities: in Dar es Salaam, Tanzania; Kampala, Uganda; and Abidjan, Ivory Coast.

BHUTAN Green Transport Initiative

Bhutan is a low-income country with a USD \$2,400 per capita GDP, but GHG emissions are increasing along with vehicle ownership. Fossil fuel, food, and other imports consume much of the nation's foreign exchange earnings. The Government of Bhutan aims to make the country self-reliant, improve its balance of payments, and make the country inclusive and green. Along with plans to expand hydropower generation, Bhutan would benefit from better energy use efficiency, and by decreasing the use of non-renewable fuels. The KGGTF's two-year, USD \$300,000 project will help improve urban transport in Thimphu, Bhutan's capital and largest city. The project will provide green growth case study examples of transport systems that can lower emissions for the city's 100,000 citizens. Cost-benefit analysis and technical assistance will help

EASTERN AFRICA

Developing Skills to Support Transport and Logistics in Sub-Saharan Africa

Increasing the competitiveness of logistics sectors to transport vast oil, gas, and mineral resources is a critical factor in shaping green growth strategies in many countries. Working with the Ugandan Government, KGGTF's USD \$400,000 project is providing technical assistance to improve African competitiveness. The project is assessing Ugandan skills needs in transport and warehousing, including jobs emerging from implementation of green technologies. The project is also developing a regional methodological framework for assessing skills needs and skills supply as countries increasingly incorporate green methods, such as retrofitting and maintaining hybrid vehicles for urban transport.

operationalize green transport, including introducing low-emission buses citywide. The project will also present a roadmap for electric vehicle implementation, including short and medium-term investment in vehicle charging stations. Improved public transportation and travel efficiency, including enabling walking and cycling, will benefit the poor, while creating a new model for national economic growth, enhancing national competitiveness and promoting tourism in Thimphu .

KOTI's has experience with similar challenges to help Thimphu, which in turn will provide examples for other emerging markets. The project is also working with a number of other partners, including Korea Grid/Power Utility Company, the Asian Development Bank, and the UNDP.





URBAN

GLOBAL

City Creditworthiness Academy and City Climate Planner Certification Program

Goals to improve efficiency, resilience, and competitiveness are driving the building of greener cities. Sustainability need not come at the expense of growth, but the building of sustainable cities requires knowledge of challenges and GHG emissions expertise.

KGTF's urban portfolio continues efforts started in Y1 by building human resource capacity to help cities plan sound climate projects based on green growth implementation standards. The three-year USD \$1.37 million project, which will reach 150 cities by mid-2015, has completed a strategy paper and roadmap for developing a City Climate Planner Certification programs. The project team has finalized an emission inventory training program, and the partners will meet to commit financial resources and identify roles to take the program forward. The program will certify its first group of professionals in the summer of 2015.

The project is also helping build cities' capacity to access private capital to finance low-carbon, climate resilient infrastructure. The Low-carbon Livable Cities initiative's City Creditworthiness Academy held five-day workshops in Colombia, Tanzania, and Korea in 2014 for municipal finance officers from several dozen regional cities. The project will hold its final regional event in Senegal in 2015. Project staff will summarize outcomes from participating cities in a 2015 report.

GLOBAL

Green Smart City Development with Citizen Participation

Cities face a number of challenges to green urban development, including poor land cadastre systems (a comprehensive land ownership register), poor public services and living environments, and high unemployment and poverty-related violence. These challenges call for innovative, tested urban management solutions that promote shared prosperity and reach the poorest 40% of citizens.

Following on the heels of the World Bank's e-Government project on ICT for urban management, the KGTF project tackles city challenges. Among its goals, the two-year USD \$800,000 project will develop a national master plan to enable Tunisian authorities to access digital land information. It will also pilot ICT innovations to help authorities address urban challenges in Mumbai, India's capital, and a city of 19 million people.

The World Bank project provides examples for cities on how to overcome economic growth obstacles. Using Korean experiences from Seoul, a global leader in e-Government, the KGTF will create a case study to help Tunisia acquire data for its cadastre system. The project will also share knowledge on Korean land management to Tunisia and other developing countries. For Mumbai, KGTF project training workshops will demonstrate best practices to government officials. The project will also study establishment of a civil participation system (CPS) for Mumbai, including piloting CPS applications for the Mumbai Municipal Corporation, whereby Citizens will be able to submit information through mobile-phone-based surveys, hotlines, and user-generated maps. Applications will also include community mapping for urban disaster risk management.

The Green Smart City project is part of a larger effort in partnership with the 72-member World e-Government Organization of Cities and Local Governments, Seoul Metropolitan Government, and the Korea Ministry of Land, Infrastructure and Transport.

GLOBAL

Leveraging Korea's Experience in Solid Waste Management Policies and Technologies

Dealing with solid waste is an enormous challenge for many countries facing rapid urbanization and economic growth. In many countries, solid waste management contributes significantly to social stratification: "waste pickers" descend on waste sites in poor urban areas with especially poor solid waste management services.

Governments can harness "waste" to generate profits, lower GHG emissions, and contribute to shared prosperity, while reducing poverty and improving quality of life. Green waste management can also save billions of dollars for citizens, cities, and nations. Countries such as Korea have used technology to harness solid waste management to tackle similar challenges since the 1960s. Peer-to-peer learning is one way the KGTF's USD \$225,000 project is sharing knowledge about how governments can manage waste and promote economic growth and prosperity. Korea will "pay forward" lessons from its experience for the benefit of the countries of China, Benin, and the Central African Republic.

The project team will first assess the needs of participating cities before producing case studies outlining lessons learned and best practices, translated into multiple languages and delivered over an online platform. Topics covered by the case studies will include describing the solid waste value chain, from collection and transport, through to disposal, diversion and energy recovery. The project team is also organizing knowledge events, webinars, workshops, and learning visits for authorities facing acute solid waste management challenges. The case studies combined with technical knowledge will help city authorities put plans into action. As the cross-sector collaboration strengthens knowledge related to common challenges, the project will support on-going World Bank initiatives, including municipal and global solid waste management programs, a regional and city improvement project, the Benin emergency urban environment project, and the Benin cities support project.

LATIN AMERICA AND THE CARIBBEAN REGION

Green Solutions for Waste Management

To support LAC regional initiatives that have already reduced open dumps by an estimated 20% in the last decade, KGGTF's two-year USD \$400,000 project is providing technical assistance to review global case studies and select best practices in greening solid waste management. Working with Colombia and Argentina, the project team will produce options to help authorities make strategic decisions, policies, and investments. The project will also help countries put lessons learned into practice. This includes improving data resources for solid waste management, creating national green solid waste management investment programs, modeling management packages, creating source segregation and collection systems, and providing training for food waste management.

PHILIPPINES Metro Manila Citywide Slum Upgrading

Metro Manila is home to 12 million people, accounting for one-third of the population of the Philippines, and half of the country's economic output. Regular flooding affects 2.4 million in Manila, creating an urgent need for safe shelters for the city's 100,000 informal settler families. To promote inclusive growth and bolster flood resilience, KGGTF's USD \$350,000 project supports citywide development under the National Informal Settlement Upgrading Strategy. Piloted in three of seven cities in Metro Manila, and reaching 400,000 citizens living in vulnerable slums, a citywide shelter plan will guide new construction and create jobs. Participatory, community-led planning, mapping, and surveying approaches also will empower residents. Once tested, authorities can replicate the project in other cities. Partners already supporting the KGGTF project include the Asian Coalition for Housing Rights.

RWANDA

Enhancing Green Economic Development in Rwanda's Secondary Cities

The Rwandan Government's 2013 Economic Development and Poverty Reduction Strategy envisions urbanization as a driver of growth. The KGGTF's multi-year USD \$650,000 project is providing technical assistance to Rwanda to develop the green growth economic potential of secondary cities. Rwanda needs a network of secondary towns to absorb rural migrants as the Government expects the agricultural workforce to decrease to 30% in 2040 from 50% in 2020. At the Government's request, the World Bank had assessed investment priorities in six target cities. The KGGTF project will, in part, support further investment prioritization.

SRI LANKA

Spatial Transformation

As the Sri Lanka moves ahead with its Strategic Cities Program to catalyze growth and reduce poverty, KGGTF's two-year USD \$500,000 project is working with the Government to create a spatially differentiated development strategy that encompasses green growth principles. The strategy will include policy recommendations and targeted investments to develop a system of well-planned and sustainable cities by 2020. The project complements World Bank efforts in support of the Sri Lankan Government's urban vision.

TURKEY

Strategies for Emerging Metro Municipalities

As Turkey embarks on a national effort to promote sustainable cities, KGGTF's two-year USD \$500,000 project is providing technical assistance to create a green growth information platform. The platform will include green growth indicators and collect baseline data to analyze key urban planning variables, including land, housing, transport, energy efficiency, and infrastructure. The project team will also prepare sustainable city action plans using a framework informed by the platform. The project will prepare a report for Turkey modeled on the Korean Industrial Complex Corporation. The report will present options for the Government to transform industrial zones into eco-friendly areas.

VIETNAM

Demonstrating Green Growth in Industrial Zones

Vietnam's consumption of electricity has increased by 400% over the last decade, in part due to low efficiency, obsolete industrial technologies. Government studies show that the cement, textile, steel, and food processing sectors could use at least 20% less energy if managed efficiently. Using examples from Korea and International Finance Corporation (IFC) experience in Bangladesh and China, the KGGTF's two-year USD \$750,000 project is creating a scalable model for Vietnam's industrial zones. The project team will demonstrate clean, efficient energy usage in multiple neighboring factories to show local authorities, the private sector, zone management companies, and Turkey's Ministry of Planning and Investment how to create low-carbon industrial parks. Through workshops with these stakeholders, the project will share case studies and raise awareness about innovative technologies for greening industrial parks. Interventions planned for pilot cities will reduce CO2 emissions by 100,000 metric tons while decreasing freshwater use by 500,000 m3 annually.



MULTI-SECTOR KGGTF GREEN DEVELOPMENT PACKAGE FOR INDIA

One of the world's fastest growing economies, India has a myriad of opportunities to apply resilient, sustainable, and inclusive growth. Building on the success of Year1 projects, KGGTF is supporting six cross-sector Year2 initiatives in India. Collectively, those efforts are building greener cities, greening transport systems and recycling toxic materials, while promoting inclusive prosperity, creating jobs, and improving quality of life, including for the poorest 40% of the population.

INFORMATION AND COMMUNICATION TECHNOLOGY

ICT office equipment is the fastest growing source of energy usage in the world. The ICT sector consumes 15% of global electricity today, with electricity usage from ICT projected to increase to 30% of total global electricity usage by 2020. However, the ICT sector also offers huge potential for providing environmental benefits, including reducing carbon emissions by reducing electricity usage.

KGGTF's multi-year USD \$2.02 million ICT applications to achieve green growth project aims to share knowledge for greening cities to improve quality of life and reach the poorest people, while optimizing energy use, reducing GHG emissions, and helping cities apply cost-saving innovations. The project is diagnosing and assessing selected cities to enable "smart" communities, including using smart-grid technologies, smart water management systems, and intelligent city planning. Korean technical experts will engage local city governments and stakeholders to develop green city initiatives that can grow into large-scale projects. Projected green ICT activities include implementing cloud computing, delivering services online, and enabling "e-waste management". Other activities will introduce innovative wireless street lighting, programs to safely retire and recycle ICT equipment, and solutions to address water scarcity. Lessons learned from the work will inform future projects in India and other countries.

The green growth in Damodar Valley Corporation (DVC) through use of ICT and investment in clean energy generation project represents a green growth investment opportunity. Currently a 100% thermal coal-fired power company, DVC wants to invest in solar energy to meet demands of its growing industrial customers.

The project complements a World Bank's USD \$220 million loan for the first phase of solar investments and the upgrade of DVC's transmission and distribution network to a smart grid. KGGTF's two-year USD \$600,000 project includes an assessment visit to Jeju Island and the creation of a road map for smart-grid initiatives. The project team will study options for renewable energy generation, and conduct workshops and knowledge-sharing visits to other countries.

URBAN

As its economy grows, India faces burgeoning volumes of waste from electronics (e-waste). When harnessed, "e-waste" can be a resource, creating jobs and raising incomes for informal and formal sector workers, while preventing toxic materials from harming citizens and the environment. Operationalizing the concept of green growth, KGGTF's three-year USD \$840,000 E-waste advisory project is creating the first-of-its kind E-waste take-back program. Through pilots in four cities, the project team is building a business model that India and other countries can replicate in other cities facing similar challenges. Supporting the private-sector firm Attero Recycling Private Limited to improve collection and recycling of e-waste, the project is creating jobs, reaching 4 million people through advocacy and outreach, and improving access for 1.5 million people to better infrastructure for recycling services. Attero—the first company to which the UNFCCC awarded carbon credits for e-waste recycling—and IFC are contributing to the projects.

The KGGTF's USD \$400,000 technical assistance project supports the Indian State Government of Tamil Nadu to design and prepare the Tamil Nadu Sustainable Urban Development Project (TNSUDP) to increase competitiveness of the state's cities. Linked to a World Bank USD \$400 million loan to co-finance the USD \$600 million TNSUDP, KGGTF technical assistance will cover a number of green urban interventions to improve urban management and infrastructure, and promote municipal financial sustainability for Urban Local Bodies (ULBs) participating in the TNSUDP. Along with improvements to sewerage and solid waste management, the project will foster greater autonomy and accountability in city management, while integrating urban planning and improving financing instruments. These improvements will in turn help cities deliver better urban services to citizens and businesses.

TRANSPORT

Continuing support for building the Amritsar-Kolkata freight corridor (previously known as the Eastern Dedicated Freight Corridor), KGGTF's USD \$400,000 regional economic and infrastructure investment strategy project integrates economic development, urban planning, and transportation. The project aims to improve efficiency, promote resilience to extreme weather, reduce urban congestion, and increase regional competitiveness. Following up on demographic and economic studies and development options produced in KGGTF's Y1 project, the Y2 project assesses selected sub-regions of poverty-stricken Uttar Pradesh, India's most populous state. The project examines economic structure and patterns of industrial clustering, infrastructure, and logistics.

The findings will help government partners to develop an implementation strategy to bolster accessibility and productivity in selected economic clusters, and reach many of the state's 200 million citizens. The project, funding by the Australia Agency for International Development (AusAid), also supports related World Bank initiatives under the umbrella of the SAR Urbanization Flagship.

India has been implementing its large road infrastructure program since 2000. The KGGTF's USD \$500,000 promoting the use of green construction technology in the road sector project addresses an urgent need for sustainable construction practices. Traditional low-productivity construction technologies use a great deal of energy and emit a great deal of GHGs, and materials such as sand and gravel deplete natural resources. The project share knowledge about options and innovative materials based on successful examples from Korea and other countries. A project pilot in Rajasthan aims to create jobs, bolster the local rural economy, and help eradicate poverty for the poorest 40% of citizens by improving transit connectivity in remote rural areas. Among options, mineral-rich Rajasthan state save money and create local "green" jobs by building roads using its large quantities of quarry waste and materials such fly ash and low-cost concrete. The project is organizing a workshop for officials from the Ministry of Road Transport and Highways, India's National Highway Authorities, National Rural Roads Development Authority and Rajasthan's Public Works Department. The project will then pilot a selection of green options for at least 10% of roads that India's national program will build.

*“Green Growth
is still a vision,
but it is the right vision,
requiring more effort.
This is a moral respon-
sibility for Korea”*

- Rep. Sung-Gon Kim

Co-chair, National Assembly Forum on Climate
Change / Member of the National Assembly



KGGP PARTNER INSTITUTIONS (AS OF SEP. 2014)

1 Government (National and City)

Government (National and City)
Prime Minister's Office
Ministry of Strategy and Finance (MOSF)

Ministry of Land, Infrastructure and Transport (MOLIT)
Ministry of Environment (MOE)
Ministry of Science, ICT, and Future Planning (MSIP)

Ministry of Trade, Industry and Energy (MOTIE)
Korea Forest Service (KFS)
Seoul Metropolitan Government (SMG)
Gwangju Metropolitan City

2 Planning and Implementing Public Agency

Korea Eximbank (KEXIM)
National Information Society Agency (NIA)
National IT Promotion Agency (NIPA)
Korea Trade-Investment Promotio Agency (KOTRA)

Korea Energy Management Corporation(KEMCO)
Korea Cadastral Survey Corporation (LX)
Korea Land and Housing Corporation (LH)
Korea Water Resources Corporation (K-Water)
Sudokwon Landfill Site Management Corporation (SLC)

Korea Industrial Complex Corporation (KICOX)
Korea Rural Community Corporation (KRC)
Korea Environment Corporation (KECO)
Korea Engineering Consultants Corp. (KECC)

3 Research Institutes

Korea Environment Institute (KEI)
Korea Transport Institute (KOTI)
Korea Institute of Energy Research (KIER)
Korea Institute of Energy Technology Evaluation and Planning (KETEP)

Korea Institute of S&T Evaluation and Planning (KISTEP)
Korea Development Institute (KDI)
Seoul Institute (SI)
Korea Rural Economic Institute (KREI)

Korea Research Institute for Human Settlements (KRIHS)
Korea Smart Grid Institute (KSGI)
Land & Housing Institute (LHI)

4 University

KAIST - Graduate School of Green Growth
Seoul National University (SNU)

Korea University
University of Seoul (UoS)

Yonsei University
Korea Development Institute School (KDI School)

5 Private Company

Korea Photovoltaic Industry Association (KOPIA)

Korea Smart Card Corporation LTD (KSCC)
POSCO E&C

CENTIOS

6 International Organizations

Centre for LivableCities Singapore
Globa Green Growth Institute (GGGI)

GTC-K (Green Technology Center-KAIST)
Urban Environmental Accords Secretariat (UEA)

Asia LEDS Partnership
Green Growth Knowledge Platform (GGKP)

KGGP KEY PARTNERS (AS OF SEP. 2014)



Korea Industrial Complex Corporation (KICOX)

KICOX, an industrial complex management and supervision agency, plays a leading role in boosting Korea's national economy and enhancing corporate competitiveness. As the knowledge economy grows, KICOX aims to promote vibrant and energetic industrial complexes through advanced industrial complex structure, creation of customized space, establishment of an academia-industry-research cooperation network, and enhancement of corporate support services.

- » Korea Green Innovation Days (February 2014)
- » East and Central Asia, and KGGP Urban Transformation workshop in Ankara, Turkey (March 2014)
- » Guatemala project team Eco-industrial Zone Study Visit in Korea (September 2014)



Korea Energy Management corporation (KEMCO)

Established in 1980, KEMCO is a government agency responsible for the implementation of energy conservation policies, energy efficiency improvements, and climate-change mitigation activities. With a primary mandate to

oversee nationwide energy management, KEMCO provides services ranging from technical and financial support to administrative services. KEMCO aims to "lead green growth and create a low-carbon energy society".

KEMCO New & Renewable Energy Center (NREC)

KEMCO established its New & Renewable Energy Center (NREC) affiliate to support and promote policies for new and renewable energy deployment. NREC's major activities include technological demand surveying, a subsidy program to promote deployment, a certification scheme for NRE systems. It also oversees a renewable portfolio agreement, NRE mandatory use for public buildings, and a renewable standard portfolio.

- » Korea Green Innovation Days (February 2014)
- » South Asia Region - KGGP Smart Energy Knowledge Exchange in Korea (April 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)



Korea Transport Institute (KOTI)

KOTI, a transport research institute in Korea, provides research and technical innovations to inform policies and strategies to maximize transport system efficiency. KOTI research covers all transport areas: road, railway, aviation, logistics, and urban transport. It also manages a national transport database. As one of the world's leading transport institutes, KOTI strengthens a number of global transport agencies.

- » Korea Green Innovation Days (February 2014)
- » East Asia and Pacific region - KGGP green development knowledge exchange (April 2014)

- » Study visit in Korea: Ethiopian delegation on urban development (April 2014)
- » East and Central Asia region - KGGP Economics of Green Growth Peer-Assisted Learning Network Seminar in Istanbul, Turkey (May 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)
- » Georgia Green Transport Technical Assistance project team and clients Study Visit in Korea (September 2014)
- » Poland Green Transport Capacity Building Study Visit (October 2014)



KGGP KEY PARTNERS (AS OF SEP. 2014)



Korea Land and Housing Corporation (LH)

Korea established the Land and Housing Corporation as a state-owned enterprise to improve quality of life and help develop the national economy. LH builds stable housing for the country's citizens and oversees efficient utilization of land. LH aims to:

- 1 Create a happy residential space for everyone;
- 2 Develop future-oriented, new growth, green cities; and
- 3 Pursue global land development through building housing, developing land, and providing capital. LH promotes public welfare by planning and developing new towns, including large-scale housing sites around large metropolitan areas (Bundang, Ilsan, and Pangyo).

LH projects, which include rental units as well housing for sale, improve land use efficiency and help resolve urban overpopulation.

- » East and Central Asia and KGGP Urban Transformation workshop in Ankara, Turkey (March 2014)
- » Technical Knowledge Sharing meeting: Ethiopian delegation on urban development (April 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)
- » Poland Green Transport Capacity Building Study Visit (October 2014)
- » Production of KGGP Knowledge Note series (In progress)



Korea Research Institute for Human Settlements (KRIHS)

KRIHS, a nonprofit organization, undertakes comprehensive research on the efficient use, development, and conservation of territorial resources. Its research contributes to balanced development and enhanced quality of life. To achieve its vision of "territory with beautiful nature and pleasant living environment", KRIHS focuses on sustainable, balanced, and knowledge-based policies. With increasing demand for new research in energy, environment, climate change, quality of life, and personal wellbeing,

KRIHS work helps integrate green technologies and policies into territorial development.

- » South Asia Region – KGGP – KRIHS Urban Development Knowledge Exchange Visit (May 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)



Seoul Metropolitan Government (SMG) & Seoul Institute (SI)

SMG is the administrative organization of Seoul, the capital of South Korea. SMG initiatives to promote Seoul's "livability" and "sustainability" include Cheong-gye-cheon, a 10.9 km long public recreation space; a rainwater circulation system; a landslide prevention system; expanded neighborhood parks; and renewable energy and energy use reduction. SMG also contributes to improved public transportation by managing Seoul's semi-private bus system, including complete recent bus re-routing. SI, SMG's research arm, is working with the KGGP on urban land use and transport planning.

- » Korea Green Innovation Days (February 2014)
- » East and Central Asia and KGGP Urban Transformation workshop in Ankara, Turkey (March 2014)
- » East Asia and Pacific region - KGGP green development knowledge exchange (April 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)
- » Poland Green Transport Capacity Building Study Visit (October 2014)



Sudokwon Landfill Site Management Corporation (SLC)

Founded in 2000 as an affiliated corporation under the Ministry of Environment, SLC converts metropolitan area waste into useful resources. SLC used new waste treatment methods to transform a former landfill site into the largest ecological park in Korea, “Dreampark” in Incheon. Using “garbage as a resource”, SLC uses landfill methane to generate power, and employs rainwater and leachate drainage technologies to minimize environmental damage. SLC’s innovations and model yield a trio of socio-economic benefits: eliminating odors, protecting the environment, and developing an alternative energy source.

- » East Asia and Pacific region – KGGP green development knowledge exchange (April 2014)
- » South Asia Region – KGGP – KRIHS Urban development knowledge exchange (May 2014)
- » KGGP Multi-project Green Growth Knowledge Exchange (August 2014)
- » Production of KGGP knowledge note series (In Progress)



Korea Water Resources Corp. (K-Water)

K-Water is South Korea’s government agency responsible for comprehensive water resource provision. K-Water manages half of the country’s water supply through 16 multi-purpose dams, integrated regional water supply systems, and 22 local supply systems. K-water is also Korea’s largest renewable energy producer, managing the world’s largest tidal power plant, and first floating photovoltaic power generation system. K-water, whose mission calls for “Water for the Happier World”, provides safe, clear water for people to enjoy.

Through ICT, automation, developing core technologies, and employing sharp minds, K-water endeavors to help solve to world’s unprecedented number of global water challenges.

- » Korea Green Innovation Days (February 2014)
- » East Asia and Pacific region – KGGP green development knowledge exchange (April 2014)
- » Production of KGGP knowledge note series (In Progress)



OVERVIEW OF KGGTF TRUST FUND PORTFOLIO GRANT AMOUNT NO. OF PROJECTS FOR FISCAL YEARS 14 AND 15 BY GEOGRAPHICAL DISTRIBUTION

Region	FY14		FY15	
	Grant Amount	No. of Projects	Grant Amount	No. of Projects
Global	2,379,172	6	2,106,435	6
Africa	2,081,250	2	1,825,000	5
Latin America & the Caribbean	1,795,000	6	660,000	2
East Asia & Pacific	925,000	3	1,080,000	3
Europe & Central Asia	875,000	2	850,000	3
South Asia	800,000	2	3,050,000	8
Middle East & North Africa	400,000	2		0
Total	9,255,422	23	9,571,435	27

ALLOCATION OF GRANT AMOUNT BY SECTORAL DISTRIBUTION (FISCAL YEAR 2014)

Sector	Grant Amount	Disbursements/ Commitments	Implementation Ratio	No. of Projects
Social, Urban, Rural and Resilience	5,081,250	2,197,274	43%	11
Transport & ICT	2,945,000	1,941,779	66%	9
Climate Change	929,172	375,784	40%	2
Water	300,000	91,635	31%	1
Total	9,255,422	4,606,472	50%	23

CONTRIBUTIONS AND DISBURSEMENTS BY GEOGRAPHICAL DISTRIBUTION (FISCAL YEAR 2014) (AS OF DECEMBER 31, 2014)

Region	Grant Amount	Disbursements/ Commitments	% of Disbursements to Total Grant Amount	% of Disbursements of Each Region to Total Disbursements
Global	2,379,172	991,517	42	22
Africa	2,081,250	896,714	43	19
Latin America & the Caribbean	1,795,000	626,358	35	14
East Asia & Pacific	925,000	614,978	66	13
Europe & Central Asia	875,000	655,467	75	14
South Asia	800,000	593,521	74	13
Middle East & North Africa	400,000	227,917	57	5
Total	9,255,422	4,606,472	50	100

DISBURSEMENTS OVERVIEW BY REGIONAL/SECTORAL DISTRIBUTION *(PROGRESS UP TO FISCAL YEAR 2014 AS OF DECEMBER 31, 2014)*

Region	Sector	Country	Grant Amount	Implementation Amount	Implementation %
Africa	Social, Urban, Rural and Resilience	Ethiopia	1,081,250	513,534	47%
Africa	Social, Urban, Rural and Resilience	Africa	1,000,000	383,180	38%
East Asia & Pacific	Transport & ICT	East Asia and Pacific	400,000	307,317	77%
East Asia & Pacific	Social, Urban, Rural and Resilience	Indonesia	375,000	246,273	66%
East Asia & Pacific	Social, Urban, Rural and Resilience	East Asia and Pacific	150,000	61,388	41%
Europe & Central Asia	Transport & ICT	Georgia	250,000	249,417	100%
Europe & Central Asia	Transport & ICT	Poland	625,000	406,051	65%
Global	Climate Change	Global	800,000	246,612	31%
Global	Climate Change	Global	129,172	129,172	100%
Global	Transport & ICT	Global	150,000	54,889	37%
Global	Social, Urban, Rural and Resilience	Global	500,000	265,178	53%
Global	Social, Urban, Rural and Resilience	Global	500,000	204,030	41%
Global	Water/Energy	Global	300,000	91,635	31%
Latin America & the Caribbean	Social, Urban, Rural and Resilience	Latin America	150,000	149,823	100%
Latin America & the Caribbean	Social, Urban, Rural and Resilience	Mexico	250,000	146,937	59%
Latin America & the Caribbean	Social, Urban, Rural and Resilience	Brazil	625,000	117,056	19%
Latin America & the Caribbean	Transport & ICT	Brazil	320,000	102,668	32%
Latin America & the Caribbean	Social, Urban, Rural and Resilience	Mexico	150,000	75,908	51%
Latin America & the Caribbean	Social, Urban, Rural and Resilience	Ecuador	300,000	33,966	11%
Middle East & North Africa	Transport & ICT	Morocco	200,000	186,174	93%
Middle East & North Africa	Transport & ICT	Lebanon	200,000	41,742	21%
South Asia	Transport & ICT	India	400,000	393,918	98%
South Asia	Transport & ICT	South Asia	400,000	199,603	50%
Total			9,255,422	4,606,472	50%



FY14 ACTUAL KGGTF PROJECTS BY REGION/SECTOR (AS OF DECEMBER 31, 2014)

Region	Sector	Country	Name of Project	Grant Amount
Africa	Urban	Ethiopia	TA to Promote Integrated Urban Planning in Addis Ababa to Foster Green Growth	1,081,250
Africa	Urban	Africa	Enhancing Green Urban Development in SSA	1,000,000
East Asia & Pacific	Transport & ICT	East Asia and Pacific	EAP Green Transport ICT	400,000
East Asia & Pacific	Urban	Indonesia	Sustainable Urban Growth Analytics and Planning Systems	375,000
East Asia & Pacific	Urban	East Asia and Pacific	Inclusive Green Growth for East Asia & Pacific (EAP) Cities	150,000
Europe & Central Asia	Cross-sectoral	Georgia	Georgia Green Freight Transport and Logistics	250,000
Europe & Central Asia	Urban	Poland	Piloting Sustainable and Green Urban Transport Solutions for Sub National Governments	625,000
Europe & Central Asia	Transport	Ukraine	Sustainable Urban Transport for the City of Kyiv	150,000
Global	Cross-sectoral	World	SDNCE: Decision Making Under Uncertainty	800,000
Global	Cross-sectoral	World	KGGTF Knowledge Promotion and Dissemination	129,172
Global	Transport & ICT	World	Capacity Building for Leaders in Energy Efficient Urban Transport Planning	150,000
Global	Urban	World	Capacity Building for Green Urban Growth	500,000
Global	Urban	World	Low Carbon Green City Planning	500,000
Global	Water/Energy	World	Quantifying Tradeoffs of the Water- Energy Nexus	300,000
Latin America & the Caribbean	Urban	Latin America	Regional Resource Recovery and Recycling-Korean Trust Fund	150,000
Latin America & the Caribbean	Urban	Mexico	Green Growth Strategies for Mexican Cities	250,000
Latin America & the Caribbean	Urban	Brazil	Rio de Janeiro Low Carbon City Development Program	625,000
Latin America & the Caribbean	Urban	Brazil	A Sustainable Vision for the Rio de Janeiro Metropolitan Region	320,000
Latin America & the Caribbean	Urban	Mexico	Mexico Instruments for Urban Redevelopment	150,000
Latin America & the Caribbean	Urban	Ecuador	Supporting Green Growth Urban Dev. Strategy in Ecuador	300,000
Middle East & North Africa	Transport & ICT	Morocco	Morocco-Climate Change Adaptation in the Road Sector	200,000
Middle East & North Africa	Transport & ICT	Lebanon	Implementing Congestion Reduction Measures in Beirut	200,000
South Asia	Urban	India	Options Study for Development Along the Eastern Dedicated Freight Corridor	400,000
South Asia	Urban	South Asia	Initial Assessment of Karachi Economy and Role as a Growth Center	400,000

FY15 APPROVED KGGTF PROJECTS BY REGION/SECTOR (AS OF DECEMBER 31, 2014)

Region	Sector	Country	Name of Project	Grant Amount
Africa	ICT	Africa	The Negawatt Challenge for Energy Efficiency	275,000
Africa	ICT	SSA	Green Cities and Low Carbon Industries Initiative	350,000
Africa	Urban	Rwanda	Enhancing green economic development in Rwanda's Secondary Cities	300,000
Africa	Transport	Africa	Africa Sustainable Transport Forum	500,000
Africa	Transport	Sub-Saharan Africa	Developing skills to support transport and logistics in Sub-Saharan Africa	400,000
East Asia & Pacific	ICT	Mongolia	SMART Government	230,000
East Asia & Pacific	Urban	Philippines	Metro Manila Citywide Development Approach to Informal Settlement Upgrading Project	350,000
East Asia & Pacific	Urban	Vietnam	Promoting Green Growth in Industrial Zones	500,000
Europe & Central Asia	ICT	Kosovo	Innovative and Green Growth for Rural Kosovo	300,000
Europe & Central Asia	Urban	Turkey	Developing Green Growth Strategies for Emerging Metropolitan Municipalities in Turkey	400,000
Global	Urban	Global	Green Smart City Development with Citizen Participation	500,000
Global	Urban	Global	Solid Waste Management Policies and Technologies	225,000
Global	Urban	Global	Low Carbon Livable Cities Initiative	500,000
Global	Transport	Global	Training Hub "Transportation for Green Growth"	300,000
Global	Transport	Global	KGGTF Technical Knowledge Promotion and Dissemination 2	281,435
Global	Transport	Global	Streets as Drivers of Green Growth and Urban Prosperity	300,000
Latin America & the Caribbean	ICT	Guatemala	Using ICT to Increase Green Competitiveness in Guatemala	410,000
Latin America & the Caribbean	Urban	LAC	Implementing Green Solution for Waste Management in LAC Region	250,000
South Asia	ICT	India	ICT-enabled Integration for Green Growth	700,000
South Asia	ICT	India	Greening the Energy Mix in Damodar Valley Corporation (DVC)	500,000
South Asia	Urban	India	Tamil Nadu Sustainable Urban Development Program	400,000
South Asia	Urban	Sri Lanka	Spatial Transformation Strategy	250,000
South Asia	Urban	India	Regional Economic and Infrastructure Investment Strategy	400,000
South Asia	Urban	India	India E-Waste Advisory Project	250,000
South Asia	Transport	Bhutan	Electric Vehicle and Green Transport Initiative	250,000
South Asia	Transport	India	Promoting the use of Green Construction Technology in Road Sector	300,000

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