



# Green Growth Sector Knowledge Sharing Workshops

12 – 13 March 2013

Abu Dhabi, United Arab Emirates

## WORKSHOP PROGRAMME



ENERGY, CLIMATE  
AND SUSTAINABLE  
DEVELOPMENT



Korea Environment Institute



# Green Growth Sector Knowledge Sharing Workshops

12 – 13 March 2013  
Abu Dhabi, United Arab Emirates



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# PARTNERS

## **GLOBAL GREEN GROWTH INSTITUTE (GGGI)**

is an international, treaty-based organization, working with partners in the public and private sector in emerging and developing countries. It has been established by several forward-thinking governments to maximize the opportunity for “bottom up” (i.e., country- and business-led) progress on climate change and other environmental challenges within core economic policy and business strategies.

GGGI grew out of the green growth experience of the Republic of Korea. Launched in June 2010, the institute aims to create an international platform for evidence-based learning and policy innovation that helps to illuminate practical opportunities for country-led and industry-led progress on the twin imperatives of economic development and environmental sustainability. Through its country, industry and research activities, it seeks to serve as a bridge between developed and developing countries, the public and private sectors, and practitioners and scholars, respectively.

**UNEP Risø Centre (URC)** is a leading international research and advisory institution on energy, climate and sustainable development. As a United Nations Environment Programme (UNEP) Collaborating Centre, URC is an active participant in both the planning and implementation of UNEP’s Climate Change Strategy and Energy Programme.

Through in-depth research, policy analysis, and capacity building activities, URC assists developing countries in a transition towards more low carbon development paths, and supports integration of climate-resilience in national development.

URC is located in Denmark at the Danish Technical University (DTU) Risø Campus and boasts of a team of 45 scientists and economists from 16 countries. Through this location the centre has access to a wide range of energy scientists and specialists leading in energy technology development areas such as wind, solar, smart grids and biofuels.

**THE KOREA ENVIRONMENT INSTITUTE (KEI)** was established in 1992 and is one of the public research institutes of the Korea Council of Economic and Social Research Institutes under the Office of the Prime Minister. As Korea’s leading environmental research institute, with over 240 researchers of various disciplines, its main objective is to provide science-based policy advice for government, public sector and civil society.

Based on its expertise in social and natural sciences, KEI engages actively in the research and development of environmental policies and technology in the areas of climate change, water quality, waste management, ecosystem protection and sustainable development. Furthermore, KEI is mandated to review the statement of environmental impact assessment on the major development projects.



**PETRAD** is a non-profit Norwegian government foundation established in 1989 to facilitate knowledge and experience transfer about petroleum management, administration and technology between managers and experts in governments and national oil companies.

The foundation organises tailored programmes and activities on a wide range of topics relating to the management of petroleum resources. It draws on key personnel and lecturers from the whole Norwegian and international petroleum industry. Lasting from one day to 10 weeks, these programmes are staged in Norway and abroad. All PETRAD's courses and seminars have a practical focus. Over 300 courses and seminars have been staged by PETRAD, attracting more than 10 000 participants from 90 countries. Training needs assessments (TNAs) and assistance with institutional development are also offered by the foundation.

**HOLMBOE CONSULTING** is an independent consultancy company located in Copenhagen, Denmark. The services provided focus on strategic planning, environment, economic analysis and political strategies. More than 30 years of experience from projects in Denmark, Egypt, Estonia, India, Malaysia, Malta, Morocco, Poland, Romania, Russia, Slovakia, Spain, South Africa, Swaziland and Sweden provides the basis for solid and robust solutions for the clients. The clients cover a broad range of national governments, international organisations and/or private enterprises. Training, capacity development and quality assurance of project outputs is an integrated part of many projects – starting with development of strategies and continuing with capacity development to secure sustainable solutions.

**THE UNITED NATION'S ENVIRONMENT PROGRAMME'S SUSTAINABLE BUILDING AND CLIMATE INITIATIVE (UNEP-SBCI)** is a partnership of major public and private sector stakeholders in the building sector, working to promote sustainable building policies and practices worldwide. It works to present a common voice for building sector stakeholders on sustainable buildings and climate change, and draws on the UNEP's unique capacity to provide a global platform for collective action.

# WORKSHOP PROGRAMME

TIME	TUESDAY 12 MARCH 2013					
8.30 – 9.00	Registration and Coffee					
9.00 – 9.15	<b>Opening Ceremony</b> Dr. Thani Al Zeyoudi, Ministry of Foreign Affairs Ms. Aisha Abdullah Al Abdooli, Ministry of Environment and Water Dr. Byung Wook Lee, President of KEI and former Vice Minister of Ministry of Environment in Korea Dr. Chanho Park, GGGI					
9.15 – 9.30	<b>Workshop overview</b> Ms. JinYoung Kim, GGGI Dr. Karen Holm Olsen, UNEP Risø coordinator for the knowledge sharing workshop					
9.30 – 10.30	<b>Plenary 1: New technologies for green growth and jobs</b> Jørgen Fenhann, Senior Researcher, UNEP Risø Adarsh Varma, Principal Consultant, Ricardo-AEA and co-author of ILO report 'Assessing Green Jobs Potential in Developing Countries: A Practitioner's Guide'					
10.30 – 11.00	Coffee Break					
<b>SECTORAL WORKSHOPS</b>	<b>OIL &amp; GAS, WATER &amp; ELECTRICITY</b> Sector facilitators: Anne-Grethe Ellingsen, Energy and Management AS & Jørgen Fenhann, UNEP Risø Centre	<b>TRANSPORT</b> Sector facilitators: Subash Dhar and Xianli Zhu, UNEP Risø Centre	<b>BUILDINGS</b> Sector facilitators: Curt Garrigan, UNEP-SBCI & Rajat Gupta, Oxford Brookes University	<b>INDUSTRY</b> Sector facilitator: Søren Lütken, UNEP Risø Centre	<b>WASTE</b> Sector facilitator: Birgit Holmboe, Holmboe Consulting	<b>LANDUSE AND AGRICULTURE</b> Sector facilitators: Prof. Kwi-Gon Kim, Prof. Hyo Guen Park, Dr. Sang Woo Lee
11.00 – 12.00	<b>Session 1</b>	<b>Session 1</b>	<b>Session 1</b>	<b>Session 1</b>	<b>Session 1</b>	<b>Session 1</b>
12.00 – 13.00	Lunch Break					
13.00 – 14.00	<b>Session 2</b>	<b>Session 2</b>	<b>Session 2</b>	<b>Session 2</b>	<b>Session 2</b>	<b>Session 2</b>
14.00 – 14.30	Coffee Break					
14.30 – 15.30	<b>Session 3</b>	<b>Session 3</b>	<b>Session 3</b>	<b>Session 3</b>	<b>Session 3</b>	<b>Session 3</b>
15.30 – 16.00	<b>Plenary 2: Green growth indicators</b> Dr. Sang-in Kang, UN Office for Sustainable Development					



**TIME**

**WEDNESDAY 13 MARCH 2013**

8.30 – 9.00

Registration and Coffee

9.00 – 10.00

**Plenary 3: Energy efficiency and clean, renewable energy**

- Girish Sethi, Director and Senior Fellow, Industrial Energy Efficiency Division, The Energy and Resources Institute(TERI), India
- Hugo Lucas, Director, Policy Advisory Services and Capacity Building, International Renewable Energy Agency (IRENA)

10.00 – 10.15

Coffee Break

**SECTORAL WORKSHOPS**

**OIL & GAS, WATER & ELECTRICITY**

Sector facilitators: Anne-Grete Ellingsen, Energy and Management AS & Jørgen Fenhann, UNEP Risø Centre

**TRANSPORT**

Sector facilitators: Subash Dhar and Xianli Zhu, UNEP Risø Centre

**BUILDINGS**

Sector facilitators: Curt Garrigan, UNEP-SBCI & Rajat Gupta, Oxford Brookes University

**INDUSTRY**

Sector facilitators: Søren Lütken, UNEP Risø Centre

**WASTE**

Sector facilitator: Birgit Holmboe, Holmboe Consulting

**LANDUSE AND AGRICULTURE**

Sector facilitators: Prof. Kwi-Gon Kim, Prof. Hyo Guen Park, Dr. Sang Woo Lee

10.15 – 12.00

**Session 4**  
(GGIN Exercise)

**Session 4**  
(GGIN Exercise)

**Session 4**  
(GGIN Exercise)

**Session 4**  
(GGIN Exercise)

**Session 4**  
(GGIN Exercise)

**Session 4**

12.00 – 13.00

Lunch break

13.00 – 14.00

**Session 5**

**Session 5**

**Session 5**

**Session 5**

**Session 5**

**Session 5**

14.00 – 14.30

Coffee Break

14.30 – 15.30

**Session 6**

**Session 6**

**Session 6**

**Session 6**

**Session 6**

**Session 6**

15.30 – 16.00

**Closing Session: Cross sectoral coordination & next steps**

- Dr. Chanho Park, GGGI
- Dr. Olsen, UNEP Risø coordinator for the knowledge sharing workshop
- Dr. Hyun Woo Lee, Korea Environment Institute

# SESSIONS OVERVIEW

## Guidelines

**PLENARY SESSIONS:** Plenary sessions are reserved for high-level speakers (a panel of 2-3 experts). These sessions will take place in Pearl Room at Yas Rotana Hotel, Yas Island, Abu Dhabi, UAE.

**WORKSHOP SESSIONS:** To be organized by sector facilitators using PPT presentations and facilitate discussion of issues. The sessions shall be interactive with the audience and give the opportunity for sharing of knowledge on global trends, methodologies and best practices for green growth technologies in the sector. These sessions will take place in break-out rooms at Yas Rotana Hotel, Yas Island, Abu Dhabi, UAE.

**GGIN EXERCISE:** The Green Growth Idea Note (GGIN) template is introduced to invite stakeholders to develop and share their own ideas for green growth in the organizations, where they work. Sector facilitators will explain the GGIN and facilitate discussions during Session 4 to enable stakeholders to develop their own green growth ideas, the background for the action and the objective of the action plan.





## Plenary Sessions

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### DAY 1

9.00 – 9.15

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#### OPENING CEREMONY

*Speakers:*

- Dr. Thani Al Zeyoudi, Ministry of Foreign Affairs
- Ms. Aisha Abdullah Al Abdooli, Ministry of Environment and Water
- Dr. Byung Wook Lee, President of KEI and former Vice Minister of Ministry of Environment, Korea
- Dr. Chanho Park, GGGI

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### DAY 1

9.15 – 9.30

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#### WORKSHOP OVERVIEW

*Speakers:*

- Ms. JinYoung Kim, GGGI
- Dr. Olsen, UNEP Risø coordinator for the knowledge sharing workshop

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### DAY 1

9.30 – 10.30

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#### PLENARY 1

*Title:* New technologies for green growth and jobs

*Summary:* The transition towards a resource-efficient, low-carbon economy requires clean energy and green technologies, new skills and green jobs to be developed:

- 1) The UNEP Emissions Gap Report 2012 outlines how far we are from staying below 2 degrees of global warming. The Danish Climate Commission in 2010 described a roadmap to be independent of fossil fuels in 2050. Technologically it is possible using clean and green technologies for energy efficiency, renewable energy, intelligent energy systems, transport based on electricity and bio-fuels and reducing emissions from other sectors. Inspired by international and Danish experiences the presentation will present a tool for low carbon development in the Emirates highlighting options for green growth actions across sectors.

- 2) Green jobs are decent jobs that contribute to preserving and restoring the quality in the environment. The resource-intensive development model of the past and present will lead to rising costs and loss of productivity. A green and sustainable economy will create millions of new jobs. The presentation will focus on the potential for new jobs in a green economy based on analysis of skills needs and assessment of challenges relevant to the Emirates.

*Moderator:* Andrew Turley, GGGI

*Speakers:*

- Jørgen Fenhann, Senior Researcher, UNEP Risø Centre (URC)
- Adarsh Varma, Principal Consultant, Ricardo-AEA

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### DAY 1

15.30- 16.00

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#### PLENARY 2

*Title:* Green growth indicators

*Summary:* Indicators are a tool to identify, prioritize and track progress and challenges towards a transition to green growth. The presentation will explain the concepts and thinking by GGGI to develop a coherent methodology to measure sustainability and progress for green growth.

*Speakers:*

- Dr. Sang In Kang, Senior Specialist, United Nations Office of Sustainable Development, Incheon, Republic of Korea

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### DAY 2

9.00 – 10.00

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#### PLENARY 3

*Title:* Energy efficiency and renewable energy

*Summary:* Energy efficiency, demand-side management and renewable energy technologies play a key role for the transition to green growth across sectors:

# SESSIONS OVERVIEW

- 1) India has launched the National Mission on Enhanced Energy Efficiency (NMEEE) as a part of its National Action Plan on Climate Change. The Perform, Achieve and Trade (PAT) scheme of NMEEE creates a market for support to energy efficiency across eight large industry sectors; aluminum, chlor-alkali, textile, pulp and paper, iron and steel, fertilizer, cement and thermal power plants. The scheme covers 478 facilities, setting plant-specific targets for energy reductions with the average reduction target being 4.8%. The presentation will share India's experience and discuss whether the provisions under the NMEEE are an attractive model for the Emirates.
- 2) Few fundamental technical limits exist to the integration of a majority share of renewable energy, but advancements in several areas are needed, such as transmission and distribution infrastructure, energy storage technologies, demand side management and improved forecasting of resource availability. The presentation will discuss the role of the most promising RE technologies for a transition to green and sustainable growth in the Emirates.

*Moderator:* Hannes Reinisch, GGGI

*Speakers:*

- Girish Sethi, Director and Senior Fellow, Industrial Energy Efficiency Division, The Energy and Resources Institute (TERI), India
- Hugo Lucas, Director, Policy Advisory Services and Capacity Building, International Renewable Energy Agency (IRENA)

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**DAY 2**

**15.30 – 16.00**

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## **CLOSING SESSION**

*Title:* Cross-sectoral coordination and next steps

*Summary:* Sector representatives will share the green growth ideas discussed in the sector workshops using one slide and two minutes per sector. The presentations will highlight the needs for cross-sectoral coordination. The next steps for capacity building towards the second round of sectoral workshops later in 2013 are explained.

*Moderator:* Dr. Chanho Park, GGGI

*Speakers:*

- Representative for oil, gas, water and electricity
- Representative for transport
- Representative for industry
- Representative for waste
- Representative for buildings
- Representative for landuse and agriculture
- Dr. Chanho Park, GGGI
- Dr. Karen Holm Olsen, UNEP Risø Centre
- Dr. Hyun Woo Lee, Korea Environment Institute

## Parallel Sectoral Workshops

### OIL & GAS, WATER & ELECTRICITY

*Sector facilitators:* Anne-Grete Ellingsen, Energy and Management AS & Jørgen Fenhann, UNEP Risø Centre

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**DAY 1** **11.00 – 12.00**

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#### SESSION 1

*Title:* Understand the connection between climate change and use of fossil fuels

*Summary:* The session will address the following questions and issues: Why focus on green growth and energy? Energy and development as driving forces for green growth. The UNFCCC development of a new Global Climate Change Agreement. The energy & water system in the UAE.

*Format:* Lectures and discussion

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**DAY 1** **13.00 – 14.00**

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#### SESSION 2

*Title:* The political and economic framework and strategies for choosing investment programs for renewables

*Summary:* The session will address strategies and actions for green growth using two examples; the largest oil exporter versus the largest oil importer. Learning from CDM experience an overview is presented of the possible options in energy efficiency and renewables

*Format:* Lectures and discussions

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**DAY 1** **14.30 – 15.30**

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#### SESSION 3

*Title:* The difference between investments in fossil fuels and renewable energy, describing different schemes for renewable investments

*Summary:* Issues raised include the following: 1) Financing and creating incentives for investments in renewables, 2) Oil and gas sector versus renewable sector

*Format:* Lectures and discussions

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**DAY 2** **10.15 – 12.00**

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#### SESSION 4 (GGIN EXERCISE)

*Title:* Green Growth Idea Note Exercise (GGIN) – oil, gas, water and electricity

*Summary:* The GGIN template asks stakeholders to reflect upon the following issues: 1) Green growth idea for action at organizational/project level, 2) sectoral or national level, 3) background for the green growth action, 4) objective of the action, 5) measures to be taken, 6) impacts of the action for sustainable development, 7) impacts of the action for GHG emission reductions, 8) technological or capacity building support needed, 9) action plan

*Format:* GGIN template, individual/group work, discussions and sharing of experience

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**DAY 2** **13.00 – 14.00**

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#### SESSION 5

*Title:* Renewable technologies and energy efficiency, deployment and costs. Challenges to investments in renewables

*Summary:* The session will focus on renewable technologies regarding state of the art, costs and development, addressing the following issues: 1) Wind and offshore, 2) Solar and 3) Green Growth options available in the GACMO model

*Format:* Examples, film, lectures and discussion

# SESSIONS OVERVIEW

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## DAY 2 14.30 – 15.30

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### SESSION 6

*Title:* Politics, strategies and challenges connected to local sustainable development: value and job creation etc.

*Summary:* Issues addressed include: 1) Local sustainable development such as job creation, presenting the UNEP Risø sustainable development tool, 2) Challenges to investments in renewables such as gas and coal/CCS, the US shale gas and oil revolution, coal/CO<sub>2</sub>, flaring and enhanced recovery and R&D.

*Format:* Lectures and discussion

## TRANSPORT

*Sector facilitators:* Subash Dhar and Xianli Zhu, UNEP Risø Centre

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## DAY 1 11.00 – 12.00

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### SESSION 1

*Title:* Introduction to transport technologies for green growth.

*Summary:* The introduction covers: Technologies and practices for green growth in transport, including urban transport, vehicles, demand management, aviation and water ways.

*Format:* Presentations and discussions

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## DAY 1 13.00 – 14.00

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### SESSION 2

*Title:* Prioritising sub-sectors and technologies – the process and indicators.

*Summary:* The session aims to understand how to do sub-sector selection and technology selection for sub-sectors in transport; which indicators can be used to compare the different technology options

for green growth in the transport sector, and the measurement of the indicators

*Format:* Presentations

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## DAY 1 14.30 – 15.30

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### SESSION 3

*Title:* Hands on training on Technology Selection

*Summary:* The participants will be provided with a case for a given subsector in transport for which technology options are already enumerated. They will be encouraged to make use of an Excel tool, and a Guidebook titled Technologies for Climate Change Mitigation to evaluate the options.

*Format:* Group work using MCA tool for transport

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## DAY 2 10.15 – 12.00

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### SESSION 4 (GGIN EXERCISE)

*Title:* Green Growth Idea Note Exercise (GGIN) – transport.

*Summary:* The GGIN template asks stakeholders to reflect upon the following issues: 1) Green growth idea for action at organizational/project level, 2) sectoral or national level, 3) background for the green growth action, 4) objective of the action, 5) measures to be taken, 6) impacts of the action for sustainable development, 7) impacts of the action for GHG emission reductions, 8) technological or capacity building support needed, 9) action plan

*Format:* GGIN template, individual/group work, discussions and sharing of experience

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## DAY 2 13.00 – 14.00

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### SESSION 5

*Title:* Identify the barriers for green growth in the transport sector.

*Summary:* The participants will be given an introduction to barrier analysis based on the barrier

## Parallel Sectoral Workshops

analysis guidebook and thereafter they will go through a case of using the market mapping process for electric vehicles (EVs)

*Format:* Presentations and the URC TNA Barrier Guidebook

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### DAY 2 14.30 – 15.30

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#### SESSION 6

*Title:* Policies and measures, and funding requirements and mechanisms

*Summary:* The session aims to understand the different policies and practices for green growth in the transport sector and the funding requirements and mechanisms for different green growth policies and practices. Success stories with different green growth policies and practices will be shared.

*Format:* Lectures, questions and answers

## BUILDINGS

*Sector facilitators:* Curt Garrigan, UNEP-SBCI & Rajat Gupta, Oxford Brookes University

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### DAY 1 11.00 – 12.00

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#### SESSION 1

*Title:* Creating a Resource-Efficient Building Sector

*Summary:* The session will address: Environmental and economic impacts of buildings; Goals/objectives and co-benefits of sustainable building and construction; Creating greater Resource Efficiency in the building sector (Reducing Waste, Water, Transport, Materials); Greening of the Building Sector's supply chain

*Format:* Power Point presentation followed by Q&A

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### DAY 1 13.00 – 14.00

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#### SESSION 2

*Title:* Regulatory mechanisms to improve the energy efficiency and sustainability of the building stock

*Summary:* The session will give an outline and review of available regulatory policy instruments; Lessons learned from implementation of sustainable building policies; Potential for improving environmental performance of buildings; Effective measures to implement Emirate wide to ensure sustainability of new construction; Challenges and options for regulation of existing building stock

*Format:* Presentation followed by Q&A

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### DAY 1 14.30 – 15.30

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#### SESSION 3

*Title:* Evaluating Building Performance- Design vs. Actual Performance

*Summary:* Issues addressed include the following:  
1) Performance gap in buildings: causes; building energy modeling; limitations and complications;  
2) Building performance evaluation: measuring and monitoring building performance in-use; monitoring actual performance of on-site renewable;  
3) Feedback from occupants: understanding occupant behavior, expectations and satisfaction; evaluating performance of sustainable buildings

*Format:* Lectures, exercises and discussions

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### DAY 2 10.15 – 12.00

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#### SESSION 4 (GGIN EXERCISE)

*Title:* Green Growth Idea Note Exercise (GGIN) – buildings

*Summary:* The GGIN template asks stakeholders to reflect upon the following issues: 1) Green growth idea for action at organizational/project level, 2) sectoral or national level, 3) background for the green growth action, 4) objective of the action, 5)

# SESSIONS OVERVIEW

measures to be taken, 6) impacts of the action for sustainable development, 7) impacts of the action for GHG emission reductions, 8) technological or capacity building support needed, 9) action plan

*Format:* GGIN template, individual/group work, discussions and sharing of experience

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**DAY 2** **13.00 – 14.00**

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## SESSION 5

*Title:* Mechanisms to drive private sector participation in improving the energy efficiency of buildings

*Summary:* The session will focus on financing mechanisms that can be used to encourage energy retrofits and challenges that inhibit the private sector for implementing energy retrofits

*Format:* Presentation followed by Q&A

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**DAY 2** **14.30 – 15.30**

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## SESSION 6

*Title:* Creating a Sustainable Building Sector that fosters Green Growth

*Summary:* Issues addressed include: 1) Challenges and opportunities in creating sustainable building programmes; 2) Discussion of opportunities/benefits of policies to promote on-site renewable in buildings; 3) Application of tools and strategies to promote efficiency in the building sector; 4) How to measure effectiveness of sustainable building programmes; 5) Review and discussion of stakeholder-specific scenarios and potential approaches

*Format:* Summary discussion by sector panelists with interactive participation from stakeholders

## INDUSTRY

*Sector facilitators:* Søren Lütken, UNEP Risø Centre

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**DAY 1** **11.00 – 12.00**

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### SESSION 1

*Title:* The context – past experience with green growth in industry promoted by the global climate regime

*Summary:* Issues presented: The global challenge, the mobility of energy intensive industries, rising energy prices and the energy efficiency agenda, the global climate regime – UNFCCC and Kyoto, the sectors addressed in the Clean Development Mechanism, the achievements and challenges to the project based approach

*Format:* Lectures and discussions

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**DAY 1** **13.00 – 14.00**

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### SESSION 2

*Title:* Embedded carbon

*Summary:* Questions and issues raised are: What is embedded carbon? Differences in carbon intensity within the same industry, national, international, sectoral benchmarks, sectoral approaches, competition concerns, ways to make the consumer pay, trade restrictions (new World Bank report, Economist)

*Format:* Lectures, exercises and discussions

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**DAY 1** **14.30 – 15.30**

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### SESSION 3

*Title:* National and international regulatory approaches



## Parallel Sectoral Workshops

*Summary:* The session will focus on: Political prioritization – the GACMO model, energy taxes, carbon taxes, subsidies, regulation, the NAMA typology

*Format:* Lectures, exercises and discussions

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### DAY 2 10.15 – 12.00

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#### SESSION 4 (GGIN EXERCISE)

*Title:* Green Growth Idea Note Exercise (GGIN) – water and electricity

*Summary:* The GGIN template asks stakeholders to reflect upon the following issues: 1) Green growth idea for action at organizational/project level, 2) sectoral or national level, 3) background for the green growth action, 4) objective of the action, 5) measures to be taken, 6) impacts of the action for sustainable development, 7) impacts of the action for GHG emission reductions, 8) technological or capacity building support needed, 9) action plan

*Format:* GGIN template, individual/group work, discussions and sharing of experience

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### DAY 2 13.00 – 14.00

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#### SESSION 5

*Title:* Financing of energy efficiency projects

*Summary:* Issues addressed include: Regulation (forcing cost-efficient investments), ESCOs, the ESCO case for efficient furnaces in China and the CDM Loan Scheme

*Format:* Lectures, exercises and discussions

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### DAY 2 14.30 – 15.00

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#### SESSION 6

*Title:* The future of climate finance

*Summary:* The session will address: Current flows and future flows of climate finance; sources of finance, leveraging, profit and the focus on risk, the

demise of the international carbon market and the rise of the national replacements, energy efficiency certificates

*Format:* Lectures, exercises and discussions

## WASTE

*Sector facilitator:* Birgit Holmboe, Holmboe Consulting

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### DAY 1 11.00 – 12.00

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#### SESSION 1

*Title:* The Waste Sector creates Green Jobs

*Summary:* This session will give examples on how you are able to create green jobs within the waste sector by a change in our mind-set: Key Topics: 1) The value chain, 2) Who is involved in the production of waste, 3) Design of products, 4) From waste to resources, 5) Closing the loops, 6) Life Cycle Assessments.

*Format:* A mixture of lecture and movies closed by Q&A

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### DAY 1 13.00 – 14.00

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#### SESSION 2

*Title:* The main drivers for a change in attitude towards waste

*Summary:* The session will focus on change management with a key focus on the waste hierarchy, waste prevention, recycling, waste treatment and waste disposal. Examples will be given from abroad on the need for prioritization.

*Format:* Starting out with a film continuing with a PP presentation and ending by Q&As

# SESSIONS OVERVIEW

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## DAY 1 14.30 – 15.30

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### SESSION 3

*Title:* The main technologies to be used in the future – including waste to energy

*Summary:* The session will look at waste from source to final disposal: All new and sustainable collection and treatment opportunities are being reviewed. The main waste flows are highlighted using examples from other countries.

*Format:* Presentations and discussion

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## DAY 2 10.15 – 12.00

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### SESSION 4 (GGIN EXERCISE)

*Title:* Green Growth Idea Note Exercise (GGIN) – Your Knowledge Contributions to Waste Management in UAE in the Future

*Summary:* The GGIN template asks stakeholders to reflect upon the following issues: 1) Green growth idea for action at organizational/project level, 2) Waste management on sectoral and/or national level. How? 3) Main drivers to obtain the green growth action. 4) What is the main background information needed? 5) What are objectives (goals & milestones) of the main action? 6) Measures to be taken, 6) Impacts of the action for sustainable development, 7) impacts of the action for GHG emission reductions, 8) technological or capacity building support needed, 9) action plan

*Format:* GGIN template will be used, individual/group work, discussions and sharing of experience

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## DAY 2 13.00 – 14.00

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### SESSION 5

*Title:* Waste management in practice

*Summary:* The participants will by watching a film from a waste management facility be able to compare with their own experience and identify gaps

in the existing waste management structure in the Emirates.

*Format:* Film, questionnaire and discussions

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## DAY 2 14.30 – 15.30

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### SESSION 6

*Title:* Main lessons learnt from other countries

*Summary:* This session will: 1) Highlight the main dilemmas in the future waste management in the United Arab Emirates, 2) Focus on barriers and how to overcome them and 3) Wrap up – including dialogue on the content of Workshop 2

*Format:* Mixture between lecture PP presentation and discussions

## LANDUSE AND AGRICULTURE

*Sector facilitators:* Kwi Gon Kim, Hyo Guen Park, Sang Woo Lee, Korea Environment Institute (KEI)

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## DAY 1 11.00 – 12.00

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### SESSION 1

*Title:* Introduction to Urbanization and Land Use in Response to Climate Change

*Summary:* The session will: 1) Introduce some of the key impacts of climate change to land use planning, 2) Provide up-to-date trends for urbanization, 3) Discuss upon some of the available options to facilitate the reduction of GHG emissions in cities.

*Format:* Presentation and discussions

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## DAY 1 13.00 – 14.00

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### SESSION 2

*Title:* Development of Land Use Policies and Planning



## Parallel Sectoral Workshops

*Summary:* This sessions will: 1) Address impact of urbanization on ecosystems and their services in terms of environmental impact, and vulnerability to cities to environmental impacts, 2) Focus on economic responses to climate change including the urban CDM, 3) Share ideas for developing land use plans in response to climate change, 4) Highlight on land use principles and related policies.

*Format:* Presentation and discussions

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### DAY 1 14.30 – 15.30

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#### SESSION 3

*Title:* Land Use Case Studies

*Summary:* This session will: 1) Present two case studies for land use - Gwangju and Rio de Janeiro, 2) Provide insights for land use planning applicable for the UAE.

*Format:* Presentation and discussions

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### DAY 2 10.15 – 12.00

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#### SESSION 4

*Title:* Possibility of Occurring World Food Crisis in the 21st Century, its Impacts on Sustainable Social Development and Ways to overcoming the food crisis

*Summary:* This session focuses on famines and food shortages that have caused incredible human suffering repeatedly during our human history. By reviewing the food crises occurred during the last two centuries, the possibility of the food crisis in the 21st century will be carefully examined and ways to overcome the crisis will be discussed. There will be no sustainable development possible without solving hunger problems.

*Format:* Presentation and discussions

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### DAY 2 13.00 – 14.00

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#### SESSION 5

*Title:* Plant Breeding for Sustainable Agriculture

*Summary:* Feeding a growing population, about 9 billion people at 2050, a 3 billion more than now, is an obligation for agriculture science and industry, which requires 70% more production of food materials compared with the current level. This remarkable achievement should be done without compromising the natural resources base for future generation. The contribution of plant breeding for the sustainable agriculture will be discussed in details.

*Format:* Presentation and discussions

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### DAY 2 14.30 – 15.30

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#### SESSION 6

*Title:* Development of Plant Factory System and Vertical Farms

*Summary:* This session will introduce the development of plant factory system for cultivation of plants in the Middle eastern environment. Despite various threats, vertical farm system allows the production of food all year round. A vertical farm is a facility that supports the steady production of high-quality crops through direct control of cultivation conditions (e.g., light, temperature, humidity, carbon dioxide concentration, and nutrient solution strength). This session will provide insights on the benefits of plant factory system for the UAE.

*Format:* Presentation

# SPEAKERS' BIOGRAPHIES



**ADARSH VARMA** (MSc, PhD), Principal Consultant at Ricardo-AEA, has over 8 years public and private sector experience in low carbon transition, climate finance and sustainable energy and environmental policy and regulation. He has

worked on the UNEP/ILO Green Jobs Initiative for two years developing a practical toolkit for defining and measuring green jobs in developing countries.

He was invited by the Australian Government as a keynote speaker for their National Green Skills Forum (Melbourne) in November 2009 to consider the broader skills and training implications of Australia's transition to a low-carbon economy. He was seconded to the Office of Climate Change in the UK for two months in 2008, to work on the consultation document on UK's transition to a low carbon economy. He has managed a study for the European Commission (EC) DG Environment quantifying the links between the environment and the economy in the EU. He also managed a study for EC DG Employment, as part of the Restructuring Forum in June 2009, looking at the policy and physical impacts of climate change on jobs and skills. He has worked on a number of country projects identifying skills needed for green jobs and low carbon transition in Europe and in Asia for the European Centre for the Development of Vocational Training (Cedefop) and International Labour Organisation (ILO). He can be reached at [Adarsh.Varma@ricardo-aea.com](mailto:Adarsh.Varma@ricardo-aea.com).



**ANNE GRETE ELLINGSEN** is the founder and partner in Energy& Management AS, a consulting company and network with focus on the energy sector. She has held several top management positions in organizations including Statoil, World

Petroleum Congress, HSH, Elf Aquitaine, Agder Energi, Statkraft AgderEnergi (SAE) vind and Vestavind Offshore AS. Her work experience covers both the oil and gas and the renewable energy sector in the Nordic countries and the Baltics, France, UK, Turkey, Uganda and Central and South America.

She has been deputy minister in the oil and energy ministry of Norway. One of the tasks during her ministerial period was preparing the utility sector for more market based pricing of electricity, a new organization of the sector.

Ms. Ellingsen has more than 15 years of experience as a board member of privately owned and listed companies. Her board experience cover sectors like energy, oil and gas, renewables, technology, banking and finance and aquaculture. Ms. Ellingsen holds a BSc in Chemistry, a BSc. in Economics, a MSc. in Petroleum Technology, and an Executive Master in Energy Management. She has participated in AFFs leadership courses for managers and senior executives. Ellingsen is a Norwegian citizen. She can be reached at [anne-grete@energy-management.no](mailto:anne-grete@energy-management.no).



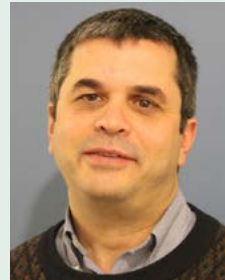
**BIRGIT HOLMBOE** (CEO) of Holmboe Consult has more than 30 years' working experience in the field of integrated environmental planning and solid waste management. As Director of the National Waste Centre Denmark (2000-2009),

Ms Holmboe has gathered strong practical and theoretical expertise within all aspects of waste management giving advice worldwide and sharing experience with professionals within the sector.

Currently she is part of an international research team financed by the Danish Strategic Research Council for Energy and Environment. The four year project (2011-2015) has the aim of making strategic tools for policy makers on Sustainable Waste Management Solutions for Denmark.

Ms.Holmboe has as Head of Department, Project Manager and Project Director, been an employee at the international independent consultancy company, Rambøll. The main clients included the Danish EPA, DANCED/DANIDA, World Bank, EIB and a number of private enterprises.

In addition, training and capacity development and quality assurance of project outputs has been an integrated part of her duties. Through the conduction of study tours and as a speaker at international conferences, Ms Holmboe has acquired experience in evaluation of different technical, organizational and financial solutions especially for solid waste management problems. She has work experience in Denmark, Egypt, Estonia, India, Malaysia, Malta, Morocco, Poland, Romania, Russia, Slovakia, Spain, South Africa, Sweden and Swaziland. She can be reached at [birgit@birgitholmboe.dk](mailto:birgit@birgitholmboe.dk).



**CURT GARRIGAN** is currently serving as Sustainable Buildings Consultant for the UNEP-Risø Centre. In this capacity, he provides coordination to the United Nations Environment Programme's Sustainable Buildings and Climate

Initiative (UNEP-SBCI) in Paris, France, a global public-private initiative to promote sustainable buildings. Mr. Garrigan manages the secretariat of the initiative, overseeing preparation of technical and policy reports, presenting the work of UNEP-SBCI at conferences and events and assisting in coordination of UNEP efforts on sustainable buildings and cities integration. He also assists in the development of the partnership's input to United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) and the UN Conference on Sustainable Development. He also is responsible for the development of projects such as development of Nationally Appropriate Mitigation Actions (NAMAs) for the building sector, pilot project implementation and advancing sustainable buildings initiatives with member states and international agencies such as UN-HABITAT, UNFCCC, and the World Bank.

Prior to his work with UNEP, Mr. Garrigan served more than 20 years in a number of capacities for the city government in Nashville, Tennessee including Deputy Mayor, where he coordinated municipal policies and initiatives and assisted in developing the city's \$1.5 billion budget.

Mr. Garrigan has a B. Sc. in Architecture from Temple University and a Certificate of Advanced Studies in Environmental Diplomacy from the University of Geneva. He can be reached at [curt.garrigan@unep.org](mailto:curt.garrigan@unep.org).

# SPEAKERS' BIOGRAPHIES



**GIRISH SETHI** is a Senior Fellow and Director of the Industrial Energy Efficiency (IEE) Division of TERI (The Energy and Resources Institute), having more than 26 years of experience in the field of energy conservation and environment

improvement in the industrial sector. He has been working in TERI for the last 20 years.

His direct responsibilities include providing strategic direction and coordinating the activities related to industrial energy efficiency and demand side management within TERI. These involve energy audit assignments, technology assessments, capacity building programmes and projects concerning rational use of energy in various industrial sub-sectors. He has lead multidisciplinary research teams in action research projects involving development and dissemination of energy efficient and environmentally benign technologies. Other areas of interest include inventorization of corporate level GHG emissions and aspects related to technology transfer and promotion of low carbon energy technologies in the context of climate change.

He is a Chemical Engineer and holds Master's Degree in Energy Studies from Indian Institute of Technology, New Delhi. He has also completed a multi-disciplinary Master's course on "Technology in the Tropics" from University of Applied Sciences, Cologne, Germany. He can be reached at [girishs@teri.res.in](mailto:girishs@teri.res.in).



**HUGO LUCAS** is Director for the Directorate of Policy Advisory Services and Capacity Building at IRENA. He leads and coordinates all the activities with regard to policy, financial advice, education and training of IRENA that falls under the responsibilities of his Directorate.

Before joining IRENA, he worked to establish the energy and renewables policy for the Spanish Government: the Spanish Energy Efficiency; the Renewable Energy Law; and the Spanish Renewable Energy Plan 2011 – 2020. He was also deeply involved in forming the European Renewable Energy Directive 2020. He also served as Lead Author in the chapter on renewable energy policy for the Special Report on Renewable Energy Sources and Climate Change Mitigation (SRREN) of the Intergovernmental Panel for Climate Change (IPCC).

He is an agronomy engineer from the Polytechnic University of Madrid Spain (UPM), postgraduate in the Energetic Sector at the Federal Polytechnic University of Lausanne, Switzerland (EPFL). Thereafter, he worked for two years in the Institute of Energy Systems of Switzerland developing the program for the introduction of liquid biofuels into the Swiss energy matrix. He has also served for more than ten years as Secretary General of the Spanish Biomass Association. He can be reached at [HLucas@irena.org](mailto:HLucas@irena.org).



**HYO GUEN PARK** is Professor Emeritus at the Seoul National University. He has a background in plant breeding specializing in vegetable crops for over 40 years. In addition, he is an advisor on vegetable crops breeding in Dongbu Farm Hannong Co.,

Ltd, President of Chile Pepper & Breeding Institute (a venture company), Concurrent Senior Researcher in National Institute of Horticultural and Herbal Science, Rural Development Administration and a Senior Mung bean Breeder in Asian Vegetable Research and Development Center located in Taiwan.

Before starting work at Seoul National University in 1981, Hyo Guen Park worked for six years with AVRDC, an International Agricultural Research Center located in Taiwan, to develop high-yielding mung bean varieties suitable for many Asian countries. He visited these countries to consult their national mung bean promotion programmes. He has also worked as a member or a counselor for numerous governmental committees mainly on horticultural industry development including its green growth and sustainability in Korea.

He holds a Ph D. in Plant Breeding and Master's in Horticulture from the University of Minnesota, and a Master's in Public Administration and Bachelor's in Agronomy from Seoul National University. He can be reached at [hgpark0722@hanmail.net](mailto:hgpark0722@hanmail.net).



**JØRGEN FENHANN** is a Senior Scientist at the UNEP Risø Centre in Denmark with degrees in physics, mathematics and chemistry. He has been a staff member of the Systems Analysis division at Risø since 1979 and of the UNEP Risø Centre since its inception in 1990.

His main research interests are long-term energy planning and sustainable development, greenhouse gas country studies, emission inventories and long-term energy technology development. He was a member of the writing team for the IPCC Special Report on Emission Scenarios, and a lead author in the IPCC AR4 report. He publishes monthly the CDMPipeline, the PoAPipeline, and the JIPipeline at [www.cdmpipeline.org](http://www.cdmpipeline.org) and the NAMAPipeline at [www.NAMAPipeline.org](http://www.NAMAPipeline.org). He was part of the team making the SD-Tool for the UNFCCC Secretariat. He has been working in many developing countries and has published numerous peer-reviewed articles. He can be reached at [jqfe@dtu.dk](mailto:jqfe@dtu.dk).



# SPEAKERS' BIOGRAPHIES



**KAREN OLSEN** (PhD) is a senior researcher in the Low Carbon Development programme at the UNEP Risø Centre with about 10 years of experience working with climate and sustainable development in developing countries. She

leads a working group on NAMAs in the context of national sustainable development under the NAMA Partnership, she is the project manager for capacity development for green growth in six sectors in the UAE and for the Clean Development Mechanism (CDM) in Malawi and Botswana with previous experience from Tanzania, Mauritius and Uganda.

She is research coordinator and has written several peer-reviewed articles on capacity development and the CDM's contribution to sustainable development. She was the lead consultant to develop the CDM SD tool with the UNFCCC Secretariat approved by the Executive Board in November 2012. For several years she has edited the annual Perspectives series with the titles "Progressing towards post-2012 carbon markets" (2011), 'Nationally Appropriate Mitigation Actions (NAMAs) and the Carbon Market' (2009), 'A Reformed CDM' (2008).

She holds a PhD in International Development Studies focusing on institutional and operational issues in the CDM based on six months of field work in Uganda. In addition, Karen holds a Master's degree in Political Science and a Bachelor's degree in Geography from University of Copenhagen, Denmark. She can be reached at [kaol@dtu.dk](mailto:kaol@dtu.dk).



**KWI-GON KIM** is an urban environmental planner. He is a Professor Emeritus of the Seoul National University where he taught environmental planning from 1978 to 2010. He is also Secretary General of Urban Environmental Accords

(UEA) Secretariat and President of International Urban Training Center supported by the UN-HABITAT.

He is leading the Urban CDM Initiative as a Co-Chair of the Advisory Group of international organizations for the development of the Urban Environmental Evaluation Index and Urban CDM, including the World Bank, UNEP, UNFCCC, UNDP, UN-HABITAT, UNESCO and OECD. He also is a Coordinator of the Core-Team of the Urban CDM development. Very recently, as a Secretary General of the UEA, he is collaborating a new initiative developing a city-wide climate change programme of Gwangju city, South Korea with the World Bank. The initiative is modeled after the Low-Carbon City Development Program (LCCDP) of the city of Rio de Janeiro (Brazil) and the Colombo Green Growth Program (CGGP) of the government of Sri Lanka that World Bank is supporting. He has also been a consultant to the Advisory Committee of the Institute for Housing and Urban Developing Studies (IHS), Netherlands, on development of sustainability benefits assessment methodology.

He received his Master's degree in Regional and Urban Planning at the School of Planning, University of Reading (UK) and a Ph.D. in Planning Studies at the Bartlett School of Architecture and Planning, UCL, University of London, UK. He can be reached at [kwigon@snu.ac.kr](mailto:kwigon@snu.ac.kr).



**RAJAT GUPTA** is Professor of Sustainable Architecture and Climate Change, Director of the multi-disciplinary Oxford Institute for Sustainable Development (OISD) and Leader of the Low Carbon Building Group at Oxford Brookes University.

Rajat is an expert advisor and consultant to UNEP: Sustainable Building and Climate Initiative (UNEP:SBCI) on the Global Common Carbon Metric project, and also to UNEP: Regional Office of Africa (UNEP: ROA) on creating green jobs in Zambia. He was a member of the steering group which developed the BSI's UK PAS 2060 standard on carbon neutrality. Currently he is a committee member of the Zero Carbon Hub Task Group on Ventilation and Indoor Air quality. Rajat has published 90 research based journal papers, book chapters, conference proceedings and research reports, including a recent strategic journal paper on the future direction of energy demand research.

He qualified as an Architect in India, and gained an MSc in Energy Efficient Building (2001) and a Doctorate (2005) from Oxford Brookes University (UK). Rajat is recipient of the inaugural 2006 RIBA President's award for outstanding research related to DECoRuM carbon counting model, and has won close to £5 million in research grants from ESRC, EPSRC, TSB, World Bank, UNEP, RICS and British Council. He can be reached at [rgupta@brookes.ac.uk](mailto:rgupta@brookes.ac.uk).



**SAEED ALABBAR** is a Director at AESG, a firm specialising in the provision of energy and sustainability consultancy in the Middle East. In his role at AESG, Saeed has been involved in managing and directing a variety of sustainable

design and construction projects throughout the Middle East including some of the largest and most prestigious master plan developments in the region, high rise buildings, housing development and critical infrastructure.

Saeed is currently the Vice Chairman of the Emirates Green Building Council and sits on the Steering Committee for the World Green Building Council MENA Network. In this role, Saeed actively works in promoting the advancement of sustainable building in the UAE and MENA region by working with industry, academia and government departments to develop collaborative solutions to some of the regions greatest challenges. In 2010, Saeed was awarded the title of International Young Consultant of the Year by British Expertise in the UK. In 2012, Saeed was named in Gulf Business's top 30 achievers in the MENA region under the age of 30.

He holds a First Class Masters degree with honours in Mechanical Engineering from the University of Bath and is a LEED Accredited Professional and Estidama Pearl Qualified Professional. He can be reached at [s.alabbar@aesg-me.com](mailto:s.alabbar@aesg-me.com).

# SPEAKERS' BIOGRAPHIES

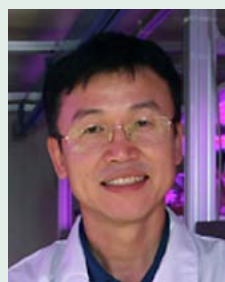


**SANG IN KANG** is a Senior Specialist with the UN Office of Sustainable Development, based in Incheon, Republic of Korea. His current function is to provide expertise and support in the management of development strategy and the implementation of

sustainable development programmes in developing countries.

Over the past 15 years, he has worked with the Korea Environment Institute, notably as Senior Research fellow, General Director of Global Strategy Center as well as Sub-committee member of Presidential Committee on Sustainable Development of Korea. He has also served in the National Research Council for Economics, Humanities and Social Sciences of Korea and the OECD Environment Directorate as consultant on Climate Change and Green Growth. During this period, he led several joint international research and cooperation programmes: UNEP Network of Institutions for Sustainable Development; Russian-Mongolian-Korean joint researches on Sustainable Management of Water resources; provided technical expertise to several developing countries in developing national sustainable development strategy; and promoted partnerships for advancing regional sustainable development policy researches.

Dr. Kang holds a Ph.D. in International Economics from University of Pantheon-Sorbonne in Paris France, and is the author of several scientific articles, chapters and books on the topics of Trade and Environment, System of Economic and Environment Accounting, and Sustainable Development Indicators. He can be reached at [sikang@kei.re.kr](mailto:sikang@kei.re.kr).



**SANG-WOO LEE** is the Programme Manager of a plant factory in Gyeonggi-do Agricultural Research & Extension Services (GARES). He has a background in horticulture, plant pathology, hydroponics, and plant factory system and has been

working in the field of hydroponic system for over 20 years. Recently, he has played a leading role in development and construction of vertical farm and cooperative research with Qatar in the Middle East. He holds Bachelor's, Master's and PhD degree in Agricultural Biology from the Seoul National University. He can be reached at [tkddn@gg.go.kr](mailto:tkddn@gg.go.kr).





**SØREN E. LÜTKEN**, Senior Adviser at the UNEP Risø Centre (URC), holds a PhD in assessing the role of CDM in corporate investment strategies, combining an MBA background with experience from 10 years of service in the Danish Ministry of Foreign Affairs.

He worked in project finance for environment related projects in Eastern Europe in the 1990s. He was involved in establishing and implementing a three-pronged Danish climate change bilateral collaboration with China, covering renewable energy strategies, corporate technology transfer and CDM emissions reduction projects. He ultimately stayed in China to head the Chinese operations of a private CDM development company.

In his current position at URC, he engages in research activities while simultaneously providing technical assistance related to CDM and particularly potential future structures for Nationally Appropriate Mitigation Actions. He devised the implementation model for the CDM Loan Scheme currently operated by UNOPS and URC, and currently oversees the due diligence process for loan applications. Recently he initiated the establishment of the NAMAcademy at URC, which provides tools and training for NAMA development. He is the author of 'Corporate Strategies and the CDM – developing country financing for developed country commitments?' published in 2008, author of 'Financial Engineering of NAMAs' (forthcoming) and lead author of 'Measuring Reporting Verifying, a Primer on MRV for NAMAs' (URC, 2012). He can be reached at [snlu@dtu.dk](mailto:snlu@dtu.dk).



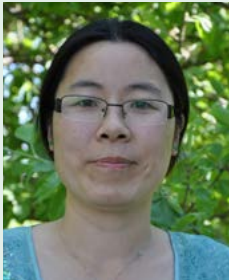
**SUBASH DHAR** is a Senior Researcher in the Cleaner Energy Development programme at UNEP Risø Centre (URC). He is the Project Manager of the Promoting Low Carbon Transport Project in India where he works with three

premier institutions of India, international experts, local governments and consultants to craft low carbon strategies at national and city level. He is also working as a Regional Coordinator for Asia & CIS countries in the global UNEP/GEF Technology Needs Assessment Project where he, besides coordination responsibilities, takes active interest in development of methodologies, tools and guidance on technologies.

His research interests include sustainable transport, transport policy, low carbon development in developing countries, and climate policy. He works extensively on the ANSWER MARKAL model on which he actively collaborates with leading international experts. He is also a contributing author for fifth assessment of IPCC.

Starting his career in the oil and gas sector, he spent nearly 8 years working in both public and private sector. He is a Fellow of Indian Institute of Management (equivalent to PhD) and Bachelor of Engineering from MNREC, Allahabad (now NIT, Allahabad). His PhD dissertation investigated the role of Natural Gas in the Energy Market of India. He can be reached at [sudh@dtu.dk](mailto:sudh@dtu.dk).

# SPEAKERS' BIOGRAPHIES



**XIANLI ZHU** (PhD) is a senior economist at the UNEP Risø Centre (URC) with about 11 years of experience working with climate and sustainable development in developing countries. She has been working on the Clean Development Mechanism

(CDM) capacity development in Asia and the Pacific, especially China, Fiji, Vanuatu, Tonga, Samoa, and Solomon Islands.

Since 2010, she has been working on the GEF-funded 36-country Technology Needs Assessment (TNA) project for climate change mitigation and adaptation. Under the TNA project, Xianli is the country coordinator for three Asian countries, Vietnam, Cambodia, and Mongolia. She also led the development of three guidebooks under the TNA project, on technologies for climate change adaptation in the coastal erosion and flooding and the agriculture sector, as well as international funding sources for climate change mitigation activities in developing countries. Since 2012, Xianli has been the country coordinator for the FIRM project (Facilitating Implementation and Readiness for Mitigation) in Vietnam, which focuses on supporting low carbon development planning and the development of two pilot NAMAs for renewable energy.

Xianli holds a PhD in economics from the Chinese Academy of Social Sciences, a top think tank institution to the Chinese government on policy making. She has been working at URC since 2006 and can be reached at [xzhu@dtu.dk](mailto:xzhu@dtu.dk).





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