

## **International Symposium**

Nagoya University Initiative for Integrating Climate Change Mitigation in Urban Development

Global Carbon Project Initiative on Urban and Regional Carbon Management

## **“Realizing Low Carbon Cities: Bridging science and policy”**

February 16th, 2009, Nagoya, Japan

And

## **International Workshop**

Nagoya University Initiative for Integrating Climate Change Mitigation in Urban Development

Global Carbon Project Initiative on Urban and Regional Carbon Management

## **Towards Low Carbon Cities:**

## **Understanding and analyzing urban energy and carbon**

February 17th-18th, 2009, Nagoya, Japan

### **Organizers**

Graduate School of Environmental Studies, Nagoya University

Global Carbon Project

Center for Environmental Research, National Institute for Environmental Studies

### **Co-sponsors**

Ministry of Environment, Japan

Aichi Prefecture

Nagoya City

Institute for Global Environmental Strategies

### **Aim.**

- To strengthen and develop scholarly networks in the areas linking urban energy use, urban development and carbon management in climate change mitigation context
- To share research results, modeling and analyses approaches, and to discuss ways to overcoming them
- To explore ideas for developing joint activities such as syntheses, harmonized cross-comparative studies, and policy analyses
- To link scholarly endeavors to policy relevance and bridging research and policies

### Tentative Plan

	Date		Venue
International Symposium	Feb. 16 <sup>th</sup>	10:00 – 17:30	Hotel Mielparque Nagoya
Reception		18:00 – 20:00	
International Workshop	Feb. 17 <sup>th</sup>	10:00 – 17:00	Noyori Conference Hall, Nagoya University
Side-event: Advisory board meeting of Low Carbon Cities Research		17:00 – 18:00	Meeting Room 1A, Noyori Conference Hall, Nagoya University
International Workshop	Feb. 18 <sup>th</sup>	10:00 – 17:00	Noyori Conference Hall, Nagoya University

- Guest accommodation: Hotel Mielparque Nagoya

### Speakers List (Tentative)

Day.1 Symposium	Prof. Shinichi Hirano	President of Nagoya University
	Dr. Arnulf Gruebler	IIASA (International Institute for Applied Systems Analysis)
	Mr. Takemoto / Mr. Moriya	Ministry of Environment, Japan
	Mr. Inagaki	Vice-governor of Aichi Prefecture
	. . .	Environmental Bureau of Nagoya City
	Prof. Hidefumi Imura	Graduate School of Environment Studies, Nagoya University
	Prof. Steve Hammer	Columbia University
	Prof. Ram M. Shrestha	Asian Institute of Technology, Thailand
	Prof. Ye Qi	Director, Institute of Public Policy, Tsinghua University
	Dr. Anand Patwardhan	Indian Institute of Technology – Mumbai
	Dr. Shobhakar Dhakal	Global Carbon Project
	Prof. Keisuke Hanaki	Dept. of Urban Engineering, The University of Tokyo
	Dr. Hidetoshi Nakagami	Jukankyo Research Institute
	Dr. Keisuke Matsuhashi	NIES
Dr. Y. Sasano	NIES	
Day.2 Workshop	Prof. Yoshitsugu Hayashi	Dean of Graduate School of Environment Studies, Nagoya University
	Dr. James Keirstead	Imperial College London
	Dr. Richard Dawson	Tyndall centre for climate change research
	Prof. J.Handley	Director of CURE, School of Environment and Development, the University of Manchester
	Dr. Ranjan K. Bose	TERI
Day.3 Workshop	Dr. Niels Shulz	Imperial College London
	Dr. Paul Dowling	IEA
	Prof. Christopher Kennedy	Toronto University
	Prof. Chen Jin,	Beijing Normal University  (Graduate School of Environment Studies, Nagoya University)
	. . .	Brookings US cities report
	Dr. Helga Weisz	Institute of Social Ecology Vienna
	Prof. Miranda.A. Schreurs	Environmental Policy Research Centre, Freie Universität Berlin  (Graduate School of Environment Studies, Nagoya University)
	Dr. Paty Romero Lankao	NCAR
	. . .	Researcher of CURE, SED, the University of Manchester
	Dr. Taeyong Jung	ADB
Prof. Yingxin Zhu	Tinghua University, China	

Blue name: to be paid

## Day.1 : International Symposium

### Program (Tentative)

Moderator: Prof. Hidefumi Imura

9:00	Registration	
10:00 – 10:10	Welcome Address from the Host and Co-organizer	Prof. S. Hirano President of Nagoya University
10:10 – 10:20	Welcome from Co-organizer- Global Carbon Project	Dr. Shobhakar Dhakal Global Carbon Project
10:20 – 10:40	Explanation of Goals and Objectives of Symposium Nagoya University Initiative for Integrating Climate Change Mitigation in Urban Development	Prof. Hidefumi Imura Graduate School of Environment Studies, Nagoya University
<b>Invited Lecture</b>		
10:40 – 11:10	Invited Lecture	Prof. Arnulf Gruebler International Institute for Applied Systems Analyses / Yale University
<b>Keynote Speech 1</b>		
11:10 – 11:35	Global and Local Policies to Address Climate Change	Mr. Takemoto / Mr. Moriya Ministry of Environment, Japan
11:35 – 12:00	-80%(factor 5) road map of Nagoya City	. . . Environmental Bureau of Nagoya City
12:00 – 13:00	Lunch	
<b>Keynote Speech 2</b>		
13:00 – 13:25	The Global and Regional Modeling of Urban Energy and Carbon Emissions- New analyses by IEA	Mr. Paul Dowling (or Mr. Nigel Jolland), International Energy Agency
13:25 – 13:50	Urban Energy and Carbon Management- Lessons from NY, Paris, and London	Prof. Steve Hammer Columbia University
13:50 – 14:15	Carbon Management and Institutional Issues in Cities of China	Prof. Ye Qi Director, Institute of Public Policy, Tsinghua University
14:15 – 14:40	Climate risk and adaptation: Challenges and local coping strategies in India	Prof. Anand Patwardhan Indian Institute of Technology
14:40 – 15:05		Mr. Inagaki Vice-governor of Aichi Prefecture
15:05 – 15:20	Coffee break	
<b>Panel Discussion</b>		

15:20 – 17:20	<p>Panelists:</p> <p>Prof. Arnulf Gruebler (IIASA)</p> <p>Prof. Hidefumi Imura (Nagoya Univ.)</p> <p>Prof. Steve Hammers (Columbia Univ.)</p> <p>Prof. Ye Qi (Tsinghua Univ.)</p> <p>Prof. Anand Patwardhan (IIT)</p> <p>Prof. Keisuke Hanaki (Univ. of Tokyo)</p> <p>Dr. H. Nakagami (Jukankyo Research Institute)</p> <p>Dr. K. Matsushashi (NIES)</p> <p>Mr. Paul Dowling (or Nigel Jolland) (IEA)</p> <p>Facilitated by Dr. Shobhakar Dhakal (GCP)</p>	
17:20 – 17:30	Closing address	Dr. Y. Sasano NIES
18:00 – 20:00	<b>Reception</b>	

## Day.2: International Workshop

### Program (Tentative)

Moderator: Prof. H. Imura

9:00	Registration	
09:30 – 09:40	Welcome Address from Host and Co-organizer	Prof. Y. Hayashi Graduate School of Environment Studies, Nagoya University
09:40 – 09:50	Welcome from co-organizer	Dr. Shobhakar Dhakal
	Explanation of Aim and Objectives	Global Carbon Project
	<b>Session I: Urban system modeling (Chair: Prof. Keisuke Hanaki)</b>	
09:50 – 10:10	Urban Energy System Modeling of Synthetic City	Dr. James Keirstead Imperial College London
10:10 – 10:30	Urban Energy System Modeling Using MARKAL	Prof. Ram M. Shrestha Asian Institute of Technology.
10:30 – 10:50	Urban Development, Motorization and Climate Change Modeling in India Cities	Dr. Ranjan K. Bose TERI
10:50 – 11:00	Coffee break	
11:00 – 11:20	Modeling of Greater Manchester Local Climate Impacts for Sustainable Cities	Prof. J.Handley Director of CURE, School of Environment and Development, the

		University of Manchester
11:20 – 11:40	Development of a blueprint for integrated assessment of urban systems	Dr. Richard Dawson  Tyndall Centre for Climate Change Research at New Castle University
11:40 – 12:00	Discussions	
11:55 – 13:00	Lunch	
	<b>Session II: the Global Environment Research Fund (MOE-J) in FY2008 “Study on the Strategic Urban Planning and Assessment of Low-Carbon Cities” (Chair: Prof. Hidefumi Imura)</b>	
13:00 – 15:30	Presentation of the research project	Project members  Nagoya Univ., NIES, GCP, Wakayama Univ., Hiroshima Univ.
15:30 – 15:50	Coffee break	
15:50 – 16:50	<b>Discussion</b>	
16:50 – 17:00	Summary of Day 1	Dr. Shobhakar Dhakal  Global Carbon Project
17:00 – 18:00	<b>Side event:</b>  <b>Advisory board meeting of Low-Carbon Cities Project</b>	Prof. K. Hanaki  The University of Tokyo Dr. H. Nakagami Jukankyo Research Institute Dr. K. Matsushashi NIES

### Day.3: International Workshop

#### Program (Tentative)

09:30 – 09:40	Opening	Prof. Hidefumi Imura  Nagoya University
	<b>Session III: Land Use, Urban Form and Energy System (Chair: Prof. Anand Patwardhan)</b>	
09:40 – 10:00	Urban Energy System: The European cities	Dr. Niels Shulz

		Imperial College London
10:00 – 10:20	Energy Use and Carbon Emissions from Global Cities	Prof. Christopher Kennedy
		University of Toronto
10:20 – 10:40	Urbanization, Land use and Energy Consumption in Chinese Cities	Prof. Chen Jin, Beijing Normal University
10:40 – 10:50	Coffee Break	
10:50 – 11:10	Urban Land Use, Urban Expansion and Economic Modeling	Dr. Yoshiaki Yamagata (NIES)
11:10 – 11:20	Methodological Challenges and Opportunities for Urban Form and Energy/Carbon Analyses	Dr. Yasuyo Makido Global Carbon Project
11:20 – 12:00	<b>Discussions</b>	
12:00 – 13:00	Lunch	
	<b>Session IV: Environmental Policy (Chair: Steve Hammer)</b>	
13:00 – 13:20	Carbon Emissions from 100 Metropolitan Areas of United States- The policy implications	... Brookings US cities report,
13:20 – 13:40	Urban Metabolism and European Policies	Prof. Helga Weisz Institute for Social Ecology Vienna
13:40 – 14:00		Prof. Miranda.A. Schreurs Environmental Policy Research Centre, Freie Universität Berlin
14:00 – 14:20	Role of Cities in the Warming world- Opportunities for Latin American Cities	Dr. Paty Romero Lankao NCAR
14:20 – 14:40	Establishing of Urban Environmental Policy Tools for Local Authorities	... Researcher of CURE, SED, the University of Manchester
14:40 – 15:00	<b>Discussions</b>	
15:05 – 15:20	Coffee break	
	<b>Session V: Cities and Climate Change Initiatives (Prof. Arnulf Gruebler)</b>	
15:20 – 15:35	Cities and Climate Change Initiatives at ADB	Dr. Tae Yong Jung ADB
15:35 – 15:50	Cities and Climate Change Initiatives at The World Bank	XXX The World Bank
15:50 – 16:05	Cities and Climate Change Initiatives at OECD	XXX OECD
16:05 – 16:20	Cities, Energy and Carbon Initiatives at IEA	IEA
16:20 – 17:00	<b>Overall Discussions</b>	
17:00 – 17:10	Closing Address	Prof. Hidefumi Imura Dr. Shobhakar Dhakal



## **Nagoya University Initiative for Integrating Climate Change Mitigation in Urban Development**

### **How we recognize the issues**

- Cities in both industrialized and developing countries are more and more responsible for promoting sustainable buildings, environmentally sustainable transportation, energy efficiency, etc.
- Integrating climate change mitigation measures in urban development is needed, especially in rapidly growing Asian cities in China, India, and Southeast Asian countries.
- Universities and research institutions in Asia must cooperate more closely to provide opportunities for education and research activities, especially for students and young researchers.

### **We have launched an initiative**

- Nagoya University has launched an initiative to promote research and education programs related to the climate change mitigation in cities, especially in the rapidly developing Asian cities, in cooperation with universities, research institutions, industries, governments, NGOs, and citizens.

### **What we do**

- Build an international network (Consortium, or Platform of the Joint Research Initiatives) of universities, research institutions, international organizations, NGOs and others
- Explore a research and education program related to the climate change mitigation and adaptation policies/measures in cities
- Exchange information
- Form an international research team
- Organize international meetings to share research and education processes and outcomes

### **How we contribute to cities (our goals)**

- Design and build “low-carbon” cities, halving GHG emissions by 2050
- Achieve drastic improvement in energy efficiency of cities
- Seek for “macro-efficiency” (or “social system efficiency”) rather than “micro-efficiency”
- Propose a tra *Global Warming* g environmental
- measures in t *Asia Facing Rapid Economic Growth, Urbanization, and Increasing*
- Incorporate t *Population and Energy Consumption*
- Establish a pra
- initiatives in c
- Conduct field
- Propose feasi

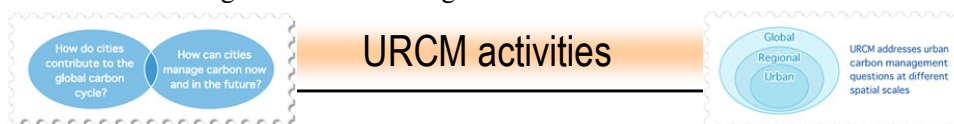


## Global Carbon Project Initiative on Urban and Regional Carbon Management

The Global Carbon Project (GCP)- [www.globalcarbonproject.org](http://www.globalcarbonproject.org) was established in 2001 in recognition of the enormous scientific challenge and fundamentally critical nature of the carbon cycle for Earth sustainability under the auspice of Earth System Science Partnership (ESSP- [www.essp.org](http://www.essp.org)) of four major international scientific programs on global environmental change research. The scientific goal of the project is to develop a complete picture of the global carbon cycle, including both its biophysical and human dimensions together with the interactions and feedbacks between them. The Global Carbon Project launched the Urban and Regional Carbon Management (URCM) Initiative in 2005 recognizing the importance of the area. URCM is a policy-relevant scientific initiative aimed to support carbon management and sustainable urban development ([www.gcp-urcm.org](http://www.gcp-urcm.org)).

URCM addresses some of the most fundamental scientific issues related to carbon management:

- How do urbanization and the global carbon cycle interact globally through population, affluence, energy and other biophysical and socioeconomic mechanisms?
- How can we quantify current and past carbon emissions/sinks in cities and regions? What are the future scenarios of decarbonized urban and regional development?
- What configurations of underlying and proximate drivers (geography, socioeconomic factors, historical legacies/trajectories etc.) explain the differences in carbon trajectories of cities?
- What management strategies can influence carbon mitigation in cities?
  - What are the trade-offs and synergies of streamlining carbon management in local areas?
  - What are the roles of the institutions and carbon governance structures in sound urban and regional carbon management?



### 2006

- International Conference on Managing Carbon at Urban and Regional Levels: Connecting Development Decisions with the Global Issues, 4-8 September 2006, **Mexico City**
- UNFCCC COP 12 side events on CDM and Urban Air Quality (with ECN Policy Studies Netherlands) on 15<sup>th</sup> November 2006 in **Nairobi**
- International Workshop on "Institutional Dimensions of Urban and Regional Carbon Management (with IHDP) on 5<sup>th</sup> December 2006 in **Bali**

### 2007

- International Workshop on Urbanization, Development Pathways and Carbon Implications (with IIASA Austria) on 28-30<sup>th</sup> March 2007 in **Tsukuba**
- International Workshop on How to Model Low-Carbon Society (with Asia Energy-Environment Modeling Forum) on 30-31 May 2007 in **Beijing**
- UNFCCC COP-13 side event on Carbon Management in Cities: Gaps in Policy Discussions and Scientific Understanding, (with Asian Institute of Technology) on 6<sup>th</sup> December 2007 in **Bali**

### 2008

- International Symposium on Urban Energy and Carbon Management: Challenges for Science and Policy, 4 February 2008, AIT Centre, Pathumthani, **Thailand**
- International Workshop on Urban Energy and Carbon Modeling, February 5-6, 2008, AIT Centre, Pathumthani, **Thailand**

