

Lunch Session

PROMOTING AN INTEGRATED KNOWLEDGE-BASE SYSTEM FOR SCIENTIFIC LOW CARBON DEVELOPMENT POLICYMAKING IN ASIA

1 Context/Rationale

The UN Framework Convention on Climate Change (UNFCCC) will adopt a universal climate agreement for all nations to reduce GHG emissions, which will come into effect from 2020. Countries in Asia hold the key to climate stabilisation in terms of whether they can introduce science-based low-carbon policies into their development policies, as it is predicted that, in a BAU scenario, GHG emissions from Asia will account for 50% of the global total. Recently, we have seen a positive change in Asia – research communities in Asia are being strengthened, and linkage between research and policies is being promoted in a more effective manner, ensuring full ownership. Thus, in this session, different progresses of low-carbon policy in Asian countries and the role of researchers in policymaking process were announced as case studies.

2 Objectives

This session aimed to show the audience and the world that countries and organisations in Asia have cooperated to form an effective sequential system of knowledge creation, education and capacity development, knowledge-sharing, and dissemination for science-based low-carbon development policymaking, and based on this, they will send out various messages in the run up to COP21. Knowledge-sharing is one of the key components to stimulate the development of low-carbon policies in different countries and share the challenging issues to achieve low-carbon development. As such, this session introduced contributions made by research communities in Asia, ahead of Workstream 2 for COP21, which aims to increase ambitions to cut GHG emissions.



3 List of Speakers

[Moderator & Keynote Speaker]

Mikiko Kainuma Senior Research Advisor, IGES / Fellow, National Institute for Environmental Studies (NIES)

[Speakers]

Jiang Kejun Director, Energy Research Institute (ERI), China

Ho Chin Siong Professor, Universiti Teknologi Malaysia

Rizaldi Boer Executive Director, Centre for Climate Risk and Opportunity Management in Southeast Asia and Pacific, Bogor Agriculture University

Bundit Limmeechokchai Co-coordinator, Sustainable Energy & Low Carbon Research Unit (SELC), Sirindhorn International Institute of Technology (SIIT), Thammasat University

Jakkanit Kananurak Director, Capacity Building and Outreach Office, Thailand Greenhouse Gas Management Organization (TGO)

Ryu Fukui Advisor, Regional and Sustainable Development Department / Head, Knowledge Sharing and Services Center, Asian Development Bank (ADB)

Junichi Fujino Senior Researcher, Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES)

Nguyen Dinh Tuan Professor of Environmental Faculty, Ho Chi Minh City University of Natural Resources and Environment

Priyadarshi Shukla Professor, Public System Group, Indian Institute of Management, Ahmedabad, India

4 Key Messages

- **Low-carbon development is a challenging issue in Asian countries since it requires consideration on various problems while pursuing development path.**

- **For climate stabilisation, it will be necessary to continue to share wisdom and knowledge.**

- **Various activities are being carried out at the country and city level through this network. Sharing of knowledge has also become necessary for South-South Cooperation.**

5 Summary of Presentation

Jiang Kejun emphasised that for policy decisions, modelling and quantitative analysis is needed to identify the benefits and disadvantages of policy options. Researchers also identify what kind of incentives or triggers are needed for low-carbon development. The concept of low-carbon economics and green economics can be combined. In China, research related to low-carbon has been done for more than 10 years. In order to set up and examine the feasibility of officially committed targets to reduce CO₂ emissions, various modelling groups need to work together to examine different policy options such as carbon tax. As for energy demand, such questions as why a certain level of reduction should be achieved have been discussed amongst researchers and policymakers over the last three years. However, there still need to be more detailed answers to the questions asked by policymakers. The required research areas to contribute to policymaking process are not only to convince policymakers, but also to enhance transparency of the data and models.

Ho Chin Siong mentioned that knowledge-based policymaking is closely related with universities and research institutions. Not only national social and economic planning, but also national low-carbon planning requires inputs from scientific research. Low-carbon setting should also include more resilience to natural disasters. In Malaysia, the government decided on a 40% reduction and is planning low-carbon development. Since emission factors are high in Malaysia, there need to be many policies at the national level. Climate change issues include various challenges such as renewable energy, conserving forest energy and air quality. How to transform cities in Malaysia to low-carbon ones is other way to promote low-carbon development in Malaysia. Researchers have built up a low-carbon path and blueprint in the Iskandar region. A low-carbon project in Iskandar is currently trying to apply a low-carbon approach in cooperation with existing policy planning.

Rizaldi Boer stated that Indonesia needs progress and strategies to achieve a target set by the government. There are different components needed to consider the energy balance such as coal, gas, renewable and CCS, as well as economic and industrial balance including share of GDP and industrial structure change. The domestic use of biofuel and geothermal has high potential. The contribution of renewables has risen as the need for biomass energy has increased, including high-potential hydropower. Forest and peat land also have potential for carbon sequestration. Even though there are various potentials to reduce CO₂, how to realise these is a challenge. There are various components to be taken into account, such as how to design a low-carbon pathway and work together with local stakeholders, how to promote engagement of local stakeholders and how to obtain support from local government. As a part of the process, Indonesia has initiated IPCC Indonesia, a national research network to provide policymakers with knowledge and information.

Bundit Limmeechokchai introduced a low-carbon model and roadmap in Thailand which has been conducted since 2010, as well as a NAMA study in the run up to 2020 which Thailand researchers are now developing. Since 2012, Thailand has started to consider building up NAMAs, and at the same time, NAMA research was initiated by working with TGO. This includes many measures such as energy efficiency and mitigations to achieve reductions by 2020. CO₂ reduction measures include biomass and building. Currently, research on low-carbon development is being conducted with support from NIES. The results of this research and other useful information have been delivered to policymakers such as the Ministry of Energy. As actions, policy options such as FIT have been introduced and the effectiveness of new policy measures have been estimated by researchers. So far, low-carbon research for a Thailand roadmap was published in which three scenarios towards 2050 were set up including a peak scenario (2040 peak). For a modelling study, there needs to be scenario-making and a selection of realistic policies, reliable data sources and integrated modelling.

Jakkannit Kananurak focused on capacity development in Asian countries. TGO under Ministry of Natural Resources and Environment, Thailand initiated CITC with support from JICA. In the Phase 1, it emphasised capacity building of TGO for mitigation sectors. In Phase 2, knowledge-sharing and training on mitigation and adaptation issues were carried out through workshops. CITC aims to provide a platform for knowledge-sharing and transition of mitigation and adaptation issues in Asia. The target sectors are policymakers, researchers and the private sector. As a networking platform, CITC can work together in the future with other networks like LoCARNet. CITC emphasises training, and training of trainers. Representatives of training are trained to be trainers in the center. CITC has three training lines: 1) human resources capacity building; 2) networking with Japan and ASEAN countries and others; 3) knowledge-sharing with stakeholders including government, general publics, academia, the private sector and communities.

Ryu Fukui introduced the recently established ADB leadership program. ADB provides sovereign loans to developing countries so they can develop infrastructure investment. For the investment to increase sustainability, Ministers and officers in finance who decide resource allocation in a country should know how they can take actions and formulate policy while addressing environmental issues and sustainable development. Others who need to know about these issues include different levels of officials who tackle the challenges, those who inform senior level officials or those who are in positions such as director. Requirements for low-carbon development should be set within the context of each country. The programme started 18 months ago, and progress has been made, for example, with trainings targeted at various stakeholders being conducted in India in collaboration with TERI, and also in Korea with the Global Green Growth Institute (GGGI). The ADB leadership program can work as a continuous platform and effectively create a platform targeted at policymakers.

Junichi Fujino introduced the activities of a low-carbon society model development initiated since 1990 at NIES. Since 1994, activities have been expanded to international collaboration research. Recently, Johor Bahru city held a low-carbon conference and discussed how lessons from Japanese cities can be transmitted to Malaysia. As Japanese low-carbon study, Japan conducted a simulation to reduce targeted emissions ahead of the COP meeting in Copenhagen, and is currently conducting further studies towards COP21. In Malaysia, after low-carbon modelling studies, the project has moved to the implementation stage. After researchers identified activities to reduce CO₂ emissions, Iskandar Regional Development Authority (IRDA) selected 10 projects and implemented the projects with a focus on education. IRDA studied Japanese cases and tried to apply them to their own environmental education system. For instance, Tama city obtained the UN Decade of Education for Sustainable Development. Iskandar learned from the success of Tama in setting up a framework and applied it to Iskandar.

Nguyen Dinh Tuan introduced the low-carbon city of Ho Chi Minh. Ho Chi Minh is the biggest city in Viet Nam, with heavy air pollution and increased GHG emissions due to industry and transport. There are 40 industries and 100 factories such as methane, chemical, food processing etc. and about 7 million motorcycles. Currently the city is trying to set up GHG emissions inventory. The objectives of new research proposal in collaborating with NIES are to assess GHG emissions sources and mitigation measures and policy, and to find solutions for the city. As a tentative activity, research identifies GHG emissions in rural development, agriculture, waste sector and energy transmission. There has been assessment of current emission sources from the activities of five main sectors and it is hoped that a solution will be found to reduce emissions so that Ho Chi Minh can make the transition to a low-carbon city.

Priyadarshi Shukla focused on the importance of linking scientific models with policymaking. When IPCC was initiated in 1988, policymakers needed policy-related scientific research and information. LoCARNet works closely with policymakers. Low-carbon studies have been developed by examining how much emissions have increased over more than 20 years. Looking at this path, Asia has been growing while increasing the use of fossil fuels. Policymakers are faced with global problems and actions at the global and local level are needed, so local policymakers are becoming interested in reducing CO₂ emissions and committing to the 2 degree target. Scientific groups and information-sharing networks are important in terms of sharing global problems and good practices. Methodologies to announce problems and look at how to conduct actions can be achieved by using models to assess the policies. Comparative studies should be carried out because the same answer or result does not always emerge, so researchers should discuss the issues by comparing the results. Policymakers should also support low-carbon research.