



COMPARISON OF REDUCTION POTENTIAL IN KEY ASIAN COUNTRIES FOR THE TWO DEGREE STABILISATION TARGET

Objectives

To achieve sustainable development in Asia, greenhouse gas emissions in the year 2050 need to be kept below the current levels. In order to reduce emissions in the year 2050 by half compared with the 1990 level, in keeping with the two degree target, Asian countries need to estimate the CO₂ reduction potentials and consider how each country can contribute to the global target while pursuing green economy.

The purpose of this session is to initiate the discussion on strategic actions in Asia to contribute to the global two degree stabilisation target. With the recent progress of the Fifth Assessment Report (AR5) by Intergovernmental Panel on Climate Change (IPCC), the global emissions pathway toward the two degree target is receiving state-of-the-art modeling results. Most modeling assessments show that the global CO₂ emissions have to peak before 2020; a smaller number of scenarios permit peaking no later than 2025. These results show the urgency for research community in Asia to develop the roadmap for achieving the global emission pathway which is consistent with the two degree target.

List of Speakers

[Speakers]

Toshihiko Masui, Chief, Integrated Assessment Modeling Section, National Institute for Environmental Studies

Hancheng Dai, Research Associate, Integrated Assessment Modeling Section, Center for Social and Environmental Systems Research, National Institute for Environmental Studies / **Jiang Kejun**, Director, Energy Research Institute (ERI), China

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

Bundit Limmeechokchai, Co-coordinator, Sustainable Energy Environment research Unit (SEE-U), Sirindhorn International Institute of Technology (SIIT), Thammasat University

Ho Chin Siong, Universiti Teknologi Malaysia

Hak Mao, Chief of Vulnerability and Adaptation Assessment Office, Climate Change Department, Ministry of Environment, Cambodia

Nguyen Tung Lam, Head, Integrated Research Management, Institute of Strategy and Policy on Natural Resources and Environment (Isponre), Vietnam Ministry of Natural Resources and Environment

Ram Manohar Shrestha, Emeritus Professor, Asian Institute of Technology / Chairman, Academic Council of Asian Institute of Technology and Management (AITM)

Retno Gumilang Dewi, Head of the Center, The Center for Research on Energy Policy, Institut Teknologi Bandung, Indonesia

Key Messages

- **GHG mitigation activities in Asia are crucial, because in the business as usual (BAU) scenario, almost half of all global GHG emissions in 2050 will be from Asia.**
- **Low-carbon technology options have been found to be economically attractive in different sectors under the two degree rise scenario.**
- **There are various domestic co-benefits of adopting the low-carbon resource and technology options under the two degree rise scenario.**

Summary of the Session

Toshihiko Masui introduced the overall structure of this session and presented the results of top-down analysis under the global emission cap. According to Dr. Masui, in order to meet the two degree target, global GHG emissions in 2050 should be halved from 1990 levels, and GHG emissions in Asia should be cut below the current level by 2050. Hancheng Dai/Jiang Kejun reported that in order to meet the two degree target, China would be required to reduce CO₂ emissions in 2050 by 60% from 2005 level, and 86% from BAU case. Priyadarshi Shukla introduced some calculation results based on assumptions of increasing nuclear cost and changing marginal abatement cost in order to meet the two degree target by using global scale model. Bundit Limmeechokchai introduced the current situation of Thailand NAMAs and pointed out the progress of analysis on Low-Carbon Society (LCS) scenarios. Although it is thought that CO₂ emissions can be reduced by taking LCS actions, Thailand needs to make further cuts its CO₂ emissions. Ho Chin Siong mentioned the importance of green technology. His research covers GHG emissions from the energy and waste sectors, as well as agriculture, forestry and other land-use (AFOLU). Hak Mao presented GHG emissions reduction options and its strategy. Based on his analysis, in BAU scenario, it is thought that GHG emissions in Cambodia will be increasing 100-fold comparing to the current level. Nguyen Tung Lam stressed the importance of creating GHG inventories and also presented several options for reducing GHG emissions in Vietnam. Ram Manohar Shrestha presented the results of GHG reductions pathways in Nepal under the exogenously set carbon tax. In his analysis, the carbon tax has been set based on the results which seek feasible pathways of GHG emissions in order to meet the two degree target. Retno Gumilang Dewi reported on the results of GHG reduction strategies not only in energy sector, but also in agriculture and land use sectors.