Minutes for COP18 and CMP8 side event

Low Carbon Actions in Asia: Modeling to Bridge Science and Policy

Date	11:30 - 13:00, 30 Fri. Nov. 2012
Time	11:30 - 13:00
Venue	Side Event Room 6, Qatar National Convention Centre (QNCC), Doha, State of Qatar
Co- organized by	National Institute for Environmental Studies (NIES), Japan Universiti Teknologi Malaysia (UTM), Malaysia

Program & Presentation slides http://2050.nies.go.jp/cop/cop18/

Overview

We reported on the latest research outputs relating to the "Ten actions towards Low Carbon Asia" and the Iskandar Malaysia Low Carbon Society Blueprint based on scenarios and roadmaps formulated towards the realization of Asian LCS as developed using the Asia-Pacific Integrated Model (AIM).

Furthermore, we deepened discussions surrounding the role of the model as a means of bridging the gap between the sciences and policy-making towards the realization of Asian LCS by engaging with the administrative bodies responsible for implementation in society.

Minutes

Opening remarks	
Dr. Hideyuki Shimizu, NIES, Japan	Welcome to our side event. On behalf of the NIES president, I would like to express my pleasure at our opportunity to have this side event. Low carbon society is one of the most important issues for all mankind and our earth. It is thus essential to convey our research outcomes on LCS. UTM has the societal context and experience to achieve LCS in Iskandar. Researchers and policy makers are working together to achieve the goal. NIES was established in 1974. In 2001, we became an incorporated administrative agency. We operate under a 5 year plan, including research, at our institute. We have around two hundred research employees. We have over 500 contract staff. Our annual budget is 16 billion yen. We have 8 research centers and equivalent fields. At Doha, our institute is represented by two of these centers – CGER (Global Environment) and the Social Center who hold this side event. We have several external research facilities from Hokkaido to Okinawa. We monitor GHGs in Hateruma, Okinawa, and CO2 flux at Mt Fuji.

	If you are interested in our agency, please come to our agency's booth.
Prof. Ir. Dr. Mohd. Azraai Kassim, Universiti Teknologi Malaysia, Malaysia	Asian countries, including Malaysia are fast-growing economies. We therefore need to address LCS. JICA/JST funds LCS initiative in Iskandar, working with local researchers. They will show the best practice towards achieving LCS. A feature of this project is to provide scientific outcomes. It is also unique in providing opportunities for consensus-building for local needs in line with the outcomes of this scientific research. UTM is at an advantage as a champion of green economy. We would like to make Putrajaya and Cyberjaya a showcase for global green economy development. We hope to apply this approach from our LCS project in Iskandar to other regions. We expect that the implementation of the LCS blueprint will facilitate LCS in Malaysia by decoupling economic growth and the reduction of GHGs. The JICA- JST funded project is one of the joint projects towards the LCS under consideration. Finally thank you to the research agencies with which we collaborate for your general support.
Ten Actions toward Low Carbon Asia	
Dr. Mikiko Kainuma, NIES, Japan	I would like to introduce ten actions toward LCS Asia. This provides the guidelines and strategies for LCS in Asia. It considers the interrelationship between the actions needed to implement for LCS in Asia. If the current trend to invest in high carbon infrastructure continues, GHG emissions will grow, and associated environmental problems will threaten growth as well as daily life. Shifting to LCS will be of advantage to prevent lock-in of high carbon infrastructures while improving economic standards of living. We therefore propose ten actions toward LCS. These ten actions take in: Urban transport and interregional transport; resources and materials; buildings; biomass; energy systems; agriculture and livestock; forestry and land use; technology and finance; and governance. These actions contribute to GHG mitigation in different sectors. These are the actions which should be taken in each sector. Next, I will briefly introduce each action and three main points within each action. Action 1 is to enhance urban transport by developing hierarchically connected compact cities. Three main points are: Avoid strategy, that is, Compact cities with well-connected hierarchical urban centers; to promote shift policy, that is, A seamless and hierarchical transport system (railway, bus rapid transit, conventional buses, paratransit, personal mobility); and to implement improved strategy with the adoption of Low carbon vehicles and transport systems. Action 2 is to promote interregional transport by mainstreaming rail and water

	transport in interregional transport. The first point is to enhance spatial development driven by a low carbon interregional transport system as avoid strategy. Second is to enhance a rail/water-oriented intermodal passenger/freight transport system as shift strategy. Third is to promote low carbon automobile/airplane technologies as improve strategy. Action 3 is resources and materials. It proposes smart ways to use materials that realize the full use potential of resources. Three main points are production that dramatically reduces the use of resources, extension of product lifespan to reduce the use of resources, and development of systems for the reuse of resources. Action 4 is buildings to enhance energy-saving spaces utilizing sunlight and wind. Three points are, realization of energy-saving spaces by building with high insulation, incentives for diffusing energy-efficient appliances, and verification of energy saving efforts through third-party evaluations. Action 5 focuses on biomass, which promotes local production and local consumption of biomass. The three main points are sustainable biomass utilization with sustainable food products, low carbon energy system using local biomass resources in rural areas, and improvement of in-house environmental quality with modern biomass utilization. Action 6 is energy systems, which enhance low carbon energy system using local resources. Three main points are: sustainable local energy system with renewables; smart energy supply and demand system; and enhanced energy security with collaboration between low carbon energy sources and fossil fuels. Action 7 focuses on agriculture and livestock through low carbon agricultural technologies. The 3 main points are: water management in rice paddies; highly efficient fertilizer application and residue management; and recovery and use of methane gas from livestock manure. Action 8 emphasizes forestry and land use. It proposes sustainable forestry management. The three points are: forest protection and effective plantation; sustainable peat land management; and monitoring and management of forest fires. Action 9 is on technology and finance to facilitate achievement of low carbon society. It provides stable incentives for companies to invest in technology research and development, adequate financial support for technology diffusion, and incentives for enlightened consumers to choose low-emission products. Finally Action 10 is governance. It proposes transparent, and fair governance that supports low carbon Asia. Three main points are: construction of a transparent and responsive administrative management framework; corporate activities based on fair business practices; and enhancement of environmental policy and technology literacy. In this presentation, I would like to focus mainly on 5 challenges to shift to LCS. The first is investment in a low carbon infrastructure by setting the future vision at the initial stage of economic growth. The second challenge is to promote efficient use of resources and a drastic reduction in demand for resources themselves. The third challenge is to promote a combination of centralized and decentralized energy supply system and facilitate the effective use of renewables. The fourth challenge is finance, and the fifth challenge is

	governance. In order to improve organizational and institutional transparency, it is necessary to establish an effective administrative management framework. All actions are introduced in the brochure. Please refer to it. Finally I would like to introduce Gandhi's idea of a decentralized and sustainable economy of the future. He produced this more than 70 years ago. It is still not realized. Fortunately, we have good opportunities to work together with Malaysia to achieve his concept.
Low Carbon Society Blueprint for Iskandar Malaysia 2025	
Datuk Ismail Ibrahim, Iskandar Regional Development Authority, Malaysia	We are happy to have the opportunity to address low carbon Iskandar Malaysia through low carbon blueprint. I would like to share the rationale as to why Malaysia is adopting LCS. Iskandar Malaysia seeks to promote sustainable economic growth. We are also worried about the global phenomena. We need to ensure sustainable development points. Our path to sustainable growth is very clear. We try to ensure the social and economic standpoint. We want to focus on sustainable development. Management of resources is the most important for us. If there is no green, there will be no sustainable development. It enables us to promote our growth with a variety of stakeholders. We hope that by having this LCS project, we can provide a better understanding of LCS to our local citizens. The global community is tackling climate change. Many countries are refocused on green economy and low carbon green growth. In this blueprint, how to apply our resources for LCS in Iskandar is more important. I would like to take this opportunity to thank our project colleagues. I hope this blueprint will be successful for Malaysia, and our contribution will be proactive to contribute to low carbon society in the world. This morning, I launched the Low carbon blueprint in front of press. I also would like to take this opportunity to launch blueprint again at this side event.
Panel discussion	
Prof. Dr. Ho Chin Siong, Universiti Teknologi Malaysia, Malaysia	**Bridging Science and Policy Making: Low Carbon Future** **The Case of UTM and Iskandar Malaysia** Prof. Ho introduced details of the LCS blueprint. I would like to take this opportunity to explain how the scenario will be helpful to bridge science and policy. This is the first time to conduct baseline study to address GHG emission reduction. Many policies and actions are implemented by the government in Iskandar. Iskandar Malaysia is a good opportunity to achieve LCS.

	We focus on emission reduction in line with countermeasures compared with BaU. The three main sectors of 12 actions are green economy, green community, and green environment. Big potential reduction are green transportation, green energy system and renewable energy and even low carbon lifestyle. This figure chart shows how emissions reduction looks like with each action. To conclude my presentation, I would like to emphasize how each research institute is working together to bridge science and policy to achieve LCS in line with the blueprint. We need to clarify the necessary LCS modeling to achieve better understanding for LCS in line with the scenario. For bridging science and policy, as conclusion, I emphasize that 1) Making this LCS Blueprint plan is done by researchers and policy makers, 2) Good baseline study, consensus building and low carbon blueprint plan will help to develop an integrated climate resilient , Low carbon framework and 3) Low carbon societies mindset is important.
Mr. Omairi Hashim, Putrajaya Corporation, Malaysia	**Putrajaya Sustainable Low Carbon Green City 2025** First of all, I would like to Introduce an overview of Putrajaya. All ministries in the Malaysian national government are moving to Putrajaya to work intensively. We focus on 7 areas to achieve a sustainable low carbon green city by 2025 in line with 7 areas. Putrajaya's blueprint has been distributed - "Structure Plan 2025". There are four big transitions for green city, implementing the low carbon transport, and land use management. By working together, with UTM and Kyoto University, we focus on 3 main environmental targets. In Putrajaya we would like to support achievement of a 2 degree targets in emission reduction. Putrajaya sustainable low carbon green city 2025. Putrajaya provides 4 roadmaps and conducts actions and programmes in line with them.
Mr. Kyosuke Inada, Japan International Cooperation Agency, Japan	**Knowledge-based Investment in Low Carbon Infrastructure** **- JICA Support for Global Low Carbon Growth -** I will introduce JICA's activities to support global low carbon growth. First is the creation of a regional low carbon knowledge hub. JICA established this partnership with NIES and IGES to promote East Asia Knowledge Platform for Low Carbon Growth on the occasion of ministerial dialogue on low carbon growth in East Asia in April 2012 held in Tokyo. This was held in order to assist sharing of an international framework; cope with rapid urbanization and motorization; and ensure appropriate utilization of market mechanisms. Second is the localization of low carbon knowledge for implementation and make

	a reality of LCS on the ground. JICA has promoted partnership for tailor-made solutions at municipality level. Two examples are Surabaya/Indonesia and Kitakyushu/Japan; and Bangkok/Thailand and Yokohama/Japan. Third is the formulation of knowledge-based policies in each country. For instance, in the case of Vietnam energy efficiency policy actions, we must make sure that practice is localized in line with the situation of Vietnam. Fourth is the linking of low carbon policy with investment. JICA provides comprehensive support for capacity building, and policy formulation for low carbon development strategies, NAMA, MRV, etc in line with the international framework using its technical and financial resources Fifth is investment in tangible low carbon assets. For instance, JICA provides infrastructure investment in India focusing on urban transport, energy efficiency, renewable energy and sustainable finance to support promote clean technology and India's sustainable development. Sixth is engaging the private sector. One such example would be to bridge the gap between business and sustainable development in the case of Indonesia to promote geothermal energy. JICA aimed to find barriers to providing technical and financial support, and to improve regulatory environment through dialogue with the private sector and the government of Indonesia on private sector engagement policy for geothermal. Seventh is the exploration of innovative financing approaches. We have conducted a NAMA study on finance. Investment by private sector and research communities can contribute to scenarios and investment - which we need to address.
Dr. Ryutaro Yatsu, Ministry of the Environment, Japan	**Science-Policy linkage for Low Carbon Growth Policy in Japan** I would like to speak about how the Japanese government develops climate change policy working with research in line with science. In 2011, the Great East Japan Earthquake occurred and due to the serious accident at the Fukushima Prefecture Daiichi Nuclear Power Plant, we are now reforming our energy policy. This year, Ministry of the Environment established an innovative strategy on energy and environment. The key player is global environmental committee and central council. They are working with 8 working groups composed of more than 100 experts including Dr. Nishioka. The common tool is the Asian Integrated Model (AIM). This model provides quantitative and comprehensive assessment model with economic analysis. This slide shows the committee of central environmental council. Over 100

	experts are involved in this committee in line with 49 sessions. Each working group is organized by academic expert. Secondly, I would like to emphasize that we would like to create a research network making use of each research agency's resource, such as NIES/AIM towards decoupling and LCS. We try to make every effort to achieve world-leading levels towards energy security and energy saving, etc. In terms of electricity saving, Japan aims to immediately enhance electricity saving by 10% and 19% by 2030 compared to 2010, through the implementation of pillar strategies for innovative energy and environment.
Prof. P.R. Shukla, Indian Institute of Management, India	I will introduce briefly how the AIM model is used for low carbon assessment for India. We use the model to assess how to sustain economic growth while reducing GHG emissions. The modeling assessment identifies the optimal portfolio of technology options which is consistent with multiple objectives including national goals and the global greenhouse gas mitigation target. Our modeling assessments address how science can be integrated with policy at needs at national, city, and sector levels. The low carbon transition must be sustainable. There are a number of policies to achieve mitigation options. The policy makers seek answers from models to make the transition to sustainable LCS. The indicator matrix to achieve sustainable low carbon transition is different than that is needed to achieve LCS. Sustainable LCS transition includes co-benefits and has lower social value of carbon compared to the pathways that aim to address GHG emission exclusively. In order to identify operational roadmap which can deliver co-benefits and lower social value of carbon, we assess sector-based LCS scenarios as well. It is vital that policy interventions are aligned with specific needs, opportunities and constraints of each sector. Before Fukushima, our modeling exercise in India showed high penetration of nuclear in India's energy mix in the second half of this century. But post- Fukushima, if we include the higher perception of external cost, the modeling assessment show significantly reduced penetration of nuclear energy. Therefore socially acceptable assessment of external costs and risks is critical to delineate the optimal portfolio of low carbon options.
Dr. Jiang Kejun, Energy Research Institute, China	This is my message. First point is that the technologies are almost ready. Second point is that financial potential is getting much stronger. Every year, there is a US$0.6 trillion increase in investment. Third point is the policy process is now moving faster. The main

	reason for this is not climate change, but rather to respond to domestic energy issues and environmental issues. The result is that China reduced the energy PM 2.5 coal use. We have the potential to use power generation less than 6 MW connect in without costs. China promotes the new policy. Negotiation progress here at COP is minimal. However small groups are conducting good work. This is a good sign to achieve local LCS faster. The technology will be there by 2020. China will also promote offshore wind. New policies are to promote clean cars with subsidies. This is the website of a TV station. This shows how all TVs can reduce energy intensity. We believe China will move to the forefront in achieving LCS.
Dr. Shuzo Nishioka, Institute for Global Environmental Strategies, Japan	**Bridging Science and Low Carbon Policy: Japan's Experience & Low Carbon Asia Research Network** I will firstly introduce the challenges towards low carbon Japan and Asia. The Japanese government sets emission reduction targets at 80% emission reduction by 2050. Whether it is 2 degree or more 4 degree, the change is not much different. We are now facing challenges to achieve low carbon transition. The key work is to avoid lock-in. Japan is already locked-in, as a high energy intensive society. How can Japan get out of this lock-in to transition to LCS? We have to change our energy source structure, and have to change our behavior. In the 1970s, we had already achieved turning points through the challenge of oil crisis in terms of energy intensity. Japan caught up and leapfrogged development by addressing the challenges of oil crisis. I would now like to introduce low carbon Asia research network. It is a research network to facilitate the formulation and implementation of science-based policies for low-carbon development in Asia. We organized the first annual meeting in October 16-17 2012, and identified the key points to transform for low carbon Asia. We have to enhance activities in line with key findings. Please join us.
Questions & Answers	
	Dr. Fujino introduced two special guest, Ambassador Horie of MOFA, Japan and H.E. Ahmad Jazri bin Mohd Johar, Ambassador of Malaysia to the State of Qatar.
Ambassador Horie	The Iskandar example is very impressive. A lot of initiatives are being implemented. The question of what should be implemented is what is important. It will be a good model to achieve low carbon society in Asia. Even though the Prime Minister of Malaysia announced emission reductions, Malaysia has not

	submitted its NAMA. Indonesia has already communicated that they have NAMA under the UNFCCC. I hope Malaysia is the leading country in showing good modeling and that the Malaysian government will also develop NAMA NAMA itself might not change, but the NAMA will be important to show international community its pledge.
Ancha, ADB	In Iskandar Malaysia, the blueprint shows the actions. 2025 is the long-term vision. What are the short, medium and long term target to achieve the appropriate investment?
Prof. Ho	We are currently working to identify the costs and benefits. We firstly developed the framework to identify what we should do considering the costs for investment.
Datuk Ismail Ibrahim	We have to consider the business for awareness building to achieve society which can realize low carbon development pathways. We cannot achieve LCS without managing our resources appropriately.
Mr. Omairi	We are currently conducting studies to identify the cost to address the blueprints action. It will be presented soon.
Prof. Shukla	I would like to respond to the comment from Ambassador Horie. In the case of India, we will be submitting NAMAs. Historically there is no precedence of decoupling of economy and carbon emissions at levels required by the CO2 intensity reduction of 40% over 15 years period. While some developing countries, e.g. Malaysia may have discussed such target domestically, they would hesitate to do so formally. While I believe it is good to have the target, but it is a challenge to achieve the target. Hence the hesitation to make binding commitment by even those developing nations who are internally seeking a reasonably high mitigation target. History is not a good guide to LCS transformation; but it is feasible to find LCS pathways ar reasonable costs while gaining co-benefits. The modeling assessment is a good way to find what will be the best balance to achieve the desired decoupling.
Dr. Jiang	In a UNEP gap report, it says we have to move very fast. However, the challenge is how to do this. This side event is a good opportunity to discuss LCS but the challenge is how we can do this and the means to achieve it. We have to link this with climate change negotiation. If we examine the data low carbon technology will spread very first. There is changing economic structure in China. What will lead the future economy of China? Innovative technology in the US is a strong point, even if the US is emitting a lot of CO2. We have to move beyond this.

	We are working hard to integrate the lessons learned from the UNEP Gap report and China's experience into these UNFCCC negotiations.
Dr. Yatsu	We have changed our behavior not only in industrial but also daily life. This is a very encouraging trend in Japan. Dr. Jiang Kejun reported on the importance of technology innovation and its transfer. I completely agree. We, Japan, would like to promote low carbon technology investment. Modeling is one of the tools to frame future society to achieve LCS. Today I heard about good trends towards Malaysia and China achieving such a transition.