

Asian Low Carbon Update

Cambodian first-ever dialogue between policymakers and researchers in climate change field to develop autonomous policy-making in Cambodia

As the first dialogue between policy-makers and researchers in climate change fields, the Cambodia workshop on “Designing and establishing a Cambodian Low Carbon Development Plan” was held in Phnom Penh, Cambodia on 29 May. The workshop was organized by the Ministry of Environment of Cambodia in cooperation with the Institute for Global Environmental Strategies (IGES), National Institute of Environmental Studies (NIES) and Kyoto University. In this workshop, policy-makers and researchers came together to talk about their status on the progress on climate change issues in Cambodia. Its aim was to build capacity while raising awareness among Cambodian researchers and policy-makers to develop a Low Carbon Development Plan. In order to achieve these objectives, the workshop identified current policy and research related to a low carbon development

plan and action plan, as well as the kinds of research and development support that are needed in Cambodia.

At the workshop, the Ministry of Environment, the Ministry of Industry, Mines and Energy, the Ministry of Public Works and Transport and the Ministry of Economy and Finance all provided updates on climate change related policies while information on climate change related research activities in Cambodia was shared by academic communities



(See the details: http://lcs-rnet.org/meetings_locarnet)

Progress in low carbon city planning in Asian countries

The Asia-Pacific region has witnessed progress in economic growth and is continues to experience a need for new infrastructure development. According to a report published by the Asian Development Bank, national infrastructure investment needs in Asia are expected to reach almost US\$8.22 trillion from 2010 to 2020. Under such circumstances, as a form of actually bringing low carbon societies into implementation, low carbon city projects with financial and technical support from developed countries can be observed in Asian countries. As an example, Iskandar

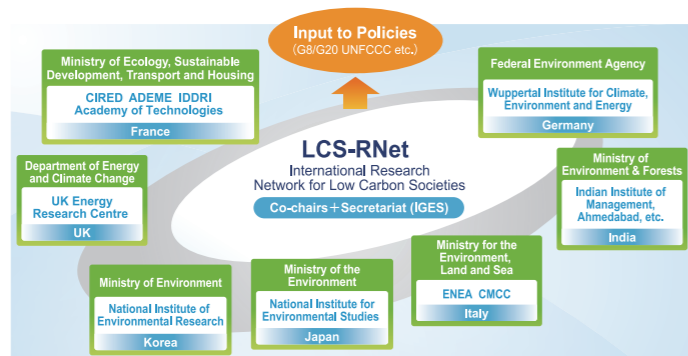
Regional Development Authority (IRDA) in Malaysia has initiated low carbon city planning and been creating low carbon city blueprints, in collaboration with local universities and Japanese academics under a Japanese government program that promotes international joint research targeting global issues. A methodology to create LCS scenarios appropriate for Malaysia is being applied, and LCS scenarios are being created and utilized for policy development in Iskandar Malaysia.



(Related info: http://lcs-rnet.org/meetings_locarnet/2012/07/malaysia_symposium_20120709_1.html)

History of LCS-RNet

At their meeting in Kobe in May 2008, G8 Environment Ministers recognised the need for countries to develop their own visions towards low-carbon societies, and supported the establishment of the International Research Network for Low Carbon Societies (LCS-RNet). In the G8 Environment Ministers Meeting (G8EMM) held in April 2009 in Siracusa, Italy, high expectations were placed on LCS-RNet, and the network was asked to report back its outcomes periodically. Currently this network is composed of 15 research institutes from seven countries.



LCS-RNet Secretariat

c/o Institute for Global Environmental Strategies (IGES)
2108-11, Kamiyamaguchi, Hayama,
Kanagawa, Japan, 240-0115
URL: <http://lcs-rnet.org/>
Fax: (81 46) 855-3809
LCS-RNet@iges.or.jp



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International Research Network for Low-Carbon Societies

- Scientific Research Contributing to Low Carbon Policy-making Process -

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International Policy, Business and Research Context for Low Carbon Investment

UKERC

Dr. Mark Winskel

Co-Chair of the LCS-RNet, Institute for Energy Systems, UK Energy Research Centre, Professor at University of Edinburgh, United Kingdom

The *International Research Network for Low Carbon Societies* (LCS-RNet) annual conference takes place at a challenging time for low carbon transitions. International surveys present a picture of stalled progress: basic indicators, on global energy demand, the role of fossil fuels and greenhouse gas emissions offer few if any signs of a sustainable transition. In its most recent *World Energy Outlook*, the International Energy Agency (IEA) observed that ‘if we don’t change direction soon we’ll end up where we’re going’, adding that the ‘door to a 2 degrees future is closing’.

IEA analysis suggests that on current trends, by 2017, 100% of permissible energy sector emissions to 2035 will already be locked-in. In terms of global energy politics and economics, recent emphasis has been on energy *security* and *affordability* rather than climate change impacts. A number of developments lie behind these trends:

- concerns in the west about economic stalling and financial integrity
- political instabilities in the middle east and north Africa.

- the voluntary-only outcomes from the Rio+20 negotiations
- a turn-down of expectations regarding nuclear power in some countries

Energy markets are increasingly shaped by non-OECD countries. The IEA predict that 90% of energy demand growth to 2035 will be from non-OECD countries, with China becoming by far the world’s largest energy demand centre, and significant demand also from India, Indonesia and Brazil. Looking ahead, the IEA maintained that the transformation of the global energy system was still possible, and offered the following high-level policy recommendations:

- creating a confident long-term investment climate
- levelling the clean technology–fossil fuel playing field
- unlocking energy efficiency
- accelerating the clean technology innovation

These four recommendations define the agenda for the upcoming LCS-RNet conference. In a challenging context, our collective mission is to identify and develop tractable ways forwards for policy, investment and research.

The Headline for the Newsletter

Special topics:

- ◆ **The Need for Transition Governance** by Dr. Derk A. Loorbach, Dutch Research Institute for Transitions (DRIFT): page 2
- ◆ **Implementation of a CCS technology** by Dr. Stefano Stendardo, Energy and Sustainable Economic Development (ENEA): page 2

Low Carbon Network News:

- ◆ **Fourth Annual Meeting of LCS-RNet** to be held 17-18 September at Oxford, United Kingdom. World leading low carbon researchers will gather in Oxford to discuss issues such as transforming the energy system and reducing energy demand: page 3
- ◆ **Initiation of an Asian version of LCS-RNet**, a low carbon research network, which was launched in the Asian region to facilitate the realisation of a low-carbon and sustainable society as well as the formulation and implementation of science-based policies for low-carbon development in the region: page 3



The Need for Transition Governance

Dr. Derk A. Loorbach

Director, Dutch Research Institute for Transitions (Drift), Erasmus University Rotterdam, The Netherlands (loorbach@drift.eur.nl)



The transition to a low carbon society is an ambition shared by many, but in practice there are hardly any signs of progress. Rio+20 illustrates the need for a better understanding of both the

processes and dynamics of transitions, as demand increases for novel governance approaches and institutional arrangements to facilitate the transition.

Over the past decade or so, an increasingly global network of research and practice is developing theory and practice in this area. Under the header of 'transition management,' new governance tools and instruments have been experimentally applied and developed. At its core, this approach is about working in a systemic and integrated way with frontrunners from business, society, science and government to influence the speed and direction of transitions.

As transitions are highly complex, non-linear and unpredictable, transition management is about fostering communities of innovators that share similar ambitions and their sense of direction, yet are able to adapt and play into changing circumstances. This often requires individuals and organisations to develop new competencies and knowledge and find new roles; government can no longer control and lead, science can no longer predict, business can no longer focus on maximizing economic profit alone and NGOs also need to become a positive force in building a sustainable society. The transition approach reconnects the global and local: transition patterns and processes are everywhere, yet they are always different in terms of context. Transition management offers the concepts and language to engage with a transition context and develop systemic strategies at the very local as well as the global level. The Dutch Research Institute for Transitions (DRIFT) is one of the institutions developing the theory and practice of transitions, but there is a growing number of researchers and practitioners involved in this field. See for example the international network STRN: <http://www.transitionsnetwork.org/>.



Implementation of a CCS technology: ZECOMIX platform

Dr. Stefano Stendardo

Italian National Agency for New Technologies, Energy and Sustainable Economic Development(ENEA), Italy



Nowadays, worldwide interest in reducing carbon dioxide emissions has shown a way to produce energy with reduced emissions. The European Union, indeed, is obliged to reduce by

2020 greenhouse gas emissions by 20% compared to the 1990 level. Contemporarily, fossil fuels will grow in importance for energy production.

As a direct consequence, the implementation of carbon capture and storage (CCS) technology will play a key role in CO2 mitigation. One of the key challenges for the implementation of CCS is the reduction of the CO2 capture costs derived from their applications in actual power plants.

Research into new technologies based on more efficient materials and more efficient design for the integration of CO2 capture technologies in power cycles is a promising way to ensure, in the medium term, costs and energy performances comparable to power plants not equipped with CCS technologies.

The ZECOMIX Platform represents the ENEA proposal for this challenge and it has been ranked as among the more innovative research infrastructures in Europe. The aim of this work is to present the first results of commissioning plant tests. In particular, future experimental activities on carbonate chemical looping (CaL) are presented. The main goal of the experimental platform at hand is an investigation into the CaL technology as a promising option for high temperature decarbonisation of coal/biomass derived syngas.

**Zecomix experimental platform: Zecomix facility, located at ENEA Research Centre of Casaccia, near Rome, is a very flexible plant, in which more components can be tested separately or connected together. For more details, please see the link in ENEA: <http://www.zeroemission.enea.it/risorse-en-en/zecomix>*

Fourth Annual Meeting of LCS-RNet to be held in Oxford, UK

The Fourth Annual Meeting of LCS-RNet will be held on 17-18 September in Oxford, United Kingdom. The meeting will bring together low carbon society researchers and stakeholders to exchange knowledge and learn from past experiences from various countries and institutions. These

may include exchanges between developed and developing countries, cities and rural areas, national and international development agencies and governments. Each session will be designed to harness those experiences and enable debates that facilitate the acquisition of knowledge.

(See the detail: http://lcs-rnet.org/meetings/2012/09/3rd_annual_meeting_of_the_lcs-rnet_in_oxford_united_kingdom.html)

For further information on the Meeting, please contact lcs-rnet@iges.or.jp

Initiation of LCS-RNet sister-like low carbon research network focused on Asian region called Low Carbon Asia Research Network (LoCARNet)



The LCS-RNet secretariat and the Government of Japan proposed the establishment of a network called the "Low Carbon Asia Research Network (LoCARNet)" at the ASEAN+3 Environmental Minister Meeting (EMM) held in October 2011 in Cambodia. The network is an Asian version of LCS-RNet through which low carbon researchers who are deeply involved in domestic climate change policies and contribute scientific evidence for decision-making gather to discuss issues involving climate change and transitions towards low carbon societies. Therefore, the aim of LoCARNet is to formulate and facilitate the implementation of science-based policies for low-carbon development in Asia in order to facilitate the realisation

of a low-carbon sustainable society. To achieve its aim, LoCARNet promotes science-science policy dialogue, encourages ownership of knowledge by countries, and increases research capacity in order to enhance south-south-north collaboration.

The launch of LoCARNet was declared at the side-event of the "East Asia Low Carbon Growth Partnership Dialogue" held in April 2012 in Japan. The outcome of the side event was announced by the Minister of the Environment of Japan in the Dialogue held in Tokyo, Japan on 15 April 2012 where Ministers from the East Asia Summit (EAS) gathered to kick off discussions regarding the promotion of a platform for low carbon growth in the EAS region.



The LoCARNet Kick-off Meeting was held on 23 July 2012 in Yokohama, Japan on the occasion of the International Forum for Sustainable Asia and the Pacific (ISAP). Eight leading LCS researchers from around Asia, including researchers from China, India, Indonesia, Japan, Malaysia, Nepal, Thailand and Viet Nam and people from international organizations such as ADB, APN and JICA and Japanese Ministries participated in the discussions of the Meeting. Dr. Rajendra K. Pachauri, Director-General, The Energy and Resources Institute (TERI)/Chair, the Intergovernmental Panel on Climate Change (IPCC) and Dr. Bindu N. Lohani, Vice President, Knowledge Management and Sustainable Development, Asian Development Bank

(ADB) also participated in the Meeting, and assented to the initiation of LoCARNet and expressed their interest in and willingness to collaborate on the activities. Through the meeting, the participants had a frank exchange on LoCARNet, regarding not only its major activities in the future but also its organisational architecture, operation, management, etc together with researchers in this region and those concerned. The outcomes of the Meeting were reported in a parallel session on "East Asia Knowledge Platform for Low Carbon Growth- Knowledge in Action for Policy and Investment" at ISAP, which more than a thousand people from research institutes, international organisations, businesses and government attended.

(see the details: <http://www.iges.or.jp/en/news/event/isap2012/day1.html#S1> and http://lcs-rnet.org/meetings_locarnet/index.html)