

Low Carbon Society Research Network, COP 16 Side Event, “Multi-level and Governance for the Transition to Low Carbon Societies-A Research-Policy Dialogue.” 4 December, 2010, EU Pavilion, Cancun Messe, Cancun, Mexico

On 4 December, 2010 at the Sixteenth Conference of the Parties (COP16) to the United Nations Framework Convention on Climate Change (UNFCCC) in Cancun, Mexico, the Federal Environment Agency (UBA), Germany in cooperation with the Wuppertal Institute for Climate, Environment and Energy (WI) and the Low Carbon Society Research Network (LCS-RNet)¹ secretariat convened a side event entitled “Multi-level and Governance for the Transition to Low Carbon Societies-A Research-Policy Dialogue” The side event was attended by approximately 86 climate negotiators, policymakers, business people, and non-governmental organisation (NGO) representatives.

The side event was organised around the following themes:

- strategies to enable the necessary transitions towards low-carbon green growth;
- research required for policymakers to implement low carbon strategies;
- contributions from research communities to policy-making process; and
- collaboration between policymakers and researchers.

Mr. Jean-Pierre Tabet, Environment and Energy Management Agency (ADEME), France, provided the side event’s welcoming remarks. His remarks highlighted three directions that the low carbon society research is moving. First, it is bridging gaps between technology studies and social science studies. Second, it is expanding its scope to include management issues encountered during low carbon transitions by strengthening the link between policymakers and researchers. Third, it is placing a greater emphasis on engaging emerging countries, from G8 to G20, to make sure countries at different development stages can effectively transition to a low carbon society.

Mr. Jochen Flasbarth, President, Federal Environment Agency (UBA), Germany, delivered the opening address highlighting Germany’s strong commitment to strengthening the linkage between researchers in LCS-RNet. He then was followed by discussing Germany’s LCS plans and actions as they restructure their economy to tighten the alignment with climate change targets. His presentation focused on the actions Germany has taken in line with a long term goal of cutting GHGs by 85% to 95% in 2050 off of 1990 levels. He noted that while it is technically feasible to engineer the large-scale change needed to achieve this goal, some challenges remain. He discussed Germany’s policies (e.g. feed-in tariff) and research in promoting renewable energy to reduce emissions from electricity generation. He believed that the government target of 80% electricity generation from renewables by 2050 could be achieved. In fact, he explained that a new research report finds that, technically, renewable energy could meet 100% of Germany’s electricity needs, however efficient load management, storage, and transmission of renewable energy make it difficult to ensure stable and

¹ The LCS-RNet (www.lcs-rnet.net) is an open research-policy network founded by the G8 environment ministers. Current scientific members are: CMCC, ENEA, ADEME, French Academy of Technologies, ICAR, IDDRI, IGES, IIMA, IIT Bombay, IIT Delhi, IITM, NIES, NIER, Wuppertal Institute for Climate, Environment and Energy, UKERC. IGES serves as the LCS-RNet secretariat.

sufficient supply to meet demand. Currently they are working on enhancing technology based load management with smart grids and smart meters, improving chemical storage, among other measures.

Mr. Christopher Flavin, Worldwatch Institute, United States, focused his remarks on placing low carbon development in a broader context. He argued that low carbon initiatives should not only focus on carbon since the first crisis will most likely be on local resource shortages not necessarily related to climate change, like food and water shortages. He highlighted the need for new economic models incorporating resource constraints to come up with a new framework following an integrated approach for green growth. He noted that recent steps to incorporate low carbon measures in rapidly growing economies in China, India, and South Korea that are could be models for other countries. He noted that the shift to clean energy addresses other problems also other than carbon so a system approach must be considered. He also underscored the benefits of acting now even for developing countries by citing examples where they have comparative advantage. For example, low carbon energy or renewable energy is one of the fastest growing industries today and developing countries have the benefits of low wage for quality labour, lower manufacturing costs as well as plenty of resources to develop solar, hydro and wind power that will bring the energy cost lower for them.

Mr. Rae Kwon Cheung, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), discussed green growth. Recognising the dearth of empirical evidence that green growth is achievable, he started his discussion by clarifying what is green growth – a system change hinged on ecological efficiency – that needs transformational change both in its invisible (production and consumption of goods, values, lifestyle, regulations, etc.) and visible (the built environment) forms. To elaborate, he stressed that green growth is beyond technology or finance issues but a system change wherein environmental cost is internalised with the government initially spearheading the endeavour by engaging the public and the private sectors in the pursuit of growth beyond GDP. He shared that UNESCAP is doing a study to be completed by the end of 2011 on how to operationalise green growth as there is no clear roadmap yet. He suggested few topics for the LCS-RNet to consider to realise green growth as follows:

- Quality of Growth: definition of green growth, indicators for green growth
- Policy framework to turn mitigation as opportunity for growth: e.g. how to make impact of mitigation on employment & growth positive?
- How ecological fiscal reform in DCs?: double dividend, revenue neutrality
- How re-design city, building, energy, water system?

Dr. Stefan Thomas, Wuppertal Institute for Climate, Environment and Energy, Germany, presented on the role of science in enabling a transition to a low carbon society (based on the result of the 2nd Annual Meeting of the LCS-RNet which was held in Berlin, Germany, in September 2010). He commented that this transition will not be led solely by technology and therefore there is a need to take a more interdisciplinary approach to research to ensure that society has ownership and stake in this transition, as it is necessary to have innovative and holistic approach to benefit all. Indeed, the creation of a low-carbon society must be embedded in an over-arching framework of sustainability and long-term goals that account for various factors such as demographics, migration patterns, resource constraints, consumption and conflicts, among others. He suggested considering a broader framework based on sustainability, including co-benefits, in the transition to low carbon society. He further noted

that this will be difficult because most policymaking frameworks are governed by short-term goals while most low carbon research assumes long-term goals. He highlighted the role of science to make the challenges of the transition transparent and easily understood by society.

Panel Discussion

To start the panel discussion, **Dr. Mikiko Kainuma, National Institute for Environmental Studies (NIES), Japan**, introduced ten key findings² from the 2nd Annual Meeting of the LCS-RNet in Berlin. She also explained that various factors will directly or indirectly influence the transition paths. What could be the role of science and research under such scenarios? She posed some guiding questions to key scientists from selected countries to reflect upon:

- How can LCS-RNet help to frame consistent global and regional policies?
- How can LCS-RNet contribute towards framing national climate change policies?
- How can researchers benefit from joining the LCS-RNet?
- What are the expectations from the LCS-RNet (from the floor)? How can LCS-RNet fulfill these expectations?

Professor P.R. Shukla, Indian Institute of Management (IIM), Ahmedabad, India, noted that there have many low carbon scenarios prepared for India. The key challenge now is to convert those scenarios into actual policies. He suggested that the best way to align policies and research is to build a scenario that is consistent with sustainable development goals. This “sustainability scenario” has a greater chance of succeeding in a developing country than carbon taxes that are usually featured in low carbon models.

Dr. Jiang Kejun, Energy Research Institute, National Development and Reform Commission, China, suggested that while the low carbon terminology has gained increased interest, there is still some confusion over its definition. For instance, he referred to the recent meeting of China’s National People’s Congress in which there were over 500 proposals referencing low carbon society. He argued that it is very important that countries develop sectoral roadmaps that specify the technologies and policies need for a significant deviation from business-as-usual (BAU) development. He also noted the importance of networking among countries to learn from each other, not only from best practices but also mistakes, to realise LCS.

² ²² Ten key findings from Berlin Meeting:

1. Using the significant progress that has been made in LCS research and policy design, it is time to craft measures for implementation.
2. All stakeholders need to be made aware that short-term costs are countered by longer-term benefits
3. Inter-linkages among society’s components must be understood in the effort to devise feasible and effective policy
4. Technologies and R&D alone cannot attain LCS
5. Modeling implications and limitations must be correctly understood
6. Multi-level governance in a multi-level world is necessary for promoting LCS
7. International cooperation is central to the LCS transition
8. Mobilising private sector investment in a desirable direction is a key to achieving LCS
9. Civil society participation is crucial to mobilising acceptance for LCS actions
10. ‘Science in transition’ can forge inter-linkages among issues, and more importantly, can be an agent of change

Dr. Jim Watson, UK Energy Research Centre (UKERC), UK, began by underlining some of the climate actions the UK has taken such as the climate change law. The climate change law is important because it provides a budget for low carbon activities. He further noted that low carbon research needs to move beyond an economic analysis of efficiency; the cost negative paradigm (that underpins this research) is not enough to motivate policy changes these analyses advocate. It will be increasingly important to complement low carbon studies with economic risk analyses, insights from sociology and other studies.

Questions and Discussion

Question 1

Why have the presentations focused almost exclusively on new technologies and neglected existing practices? This would be extremely important for mitigation actions on low input small scale agriculture.

Response

This is an important comment because it highlights the need to inform mitigation scenarios with insights from those with sector specific knowledge of existing practices. It also highlights the importance of drawing insights from sociology and psychology to understand how to link existing practices with new practices. The use of grass-root technologies should receive more attention. For example, small scale agriculture could be more sustainable and fit better with the development of local communities at the same time playing an important role in reducing emissions in the agriculture sector.

Question 2

Since renewable resources are also a limited resource, are there any studies looking at the material limitations on renewables?

Response

Technology can help address limitations on renewables—for instance, by extending the life-time of photovoltaic (PV).

Question 3

Why has the United States been unwilling to enact low carbon policies?

Response

While the progress with climate change legislation at the national level has been disappointing, there is a bit more of a mixed picture when one looks at regional and sub-national initiatives. For instance, California has passed—and recently voted down a potential repeal—of legislation that will begin to build a clean energy system in the country's most populous state.

The panel discussion concluded with remarks from **Dr. Mikkiko Kainuma** noting that this discussion revealed many important lessons for LCS research network. These include that transforming to low

carbon society provides opportunities such as developing new infrastructures. Contrary to conventional wisdom, developing countries may have fewer constraints in transitioning to low carbon society.

Concluding Remarks

Mr. Jean-Pierre Tabet, French Environment and Energy Management Agency (ADEME), France provided concluding remarks that suggested that this side event has not only brought together researchers and policymakers, developing and developed countries, and hard and social sciences.

Key Messages

- Emerging countries are critical to understanding low carbon transitions; countries such as China are moving faster than anyone anticipated even five years ago.
- A low carbon transition cannot be done in a piecemeal fashion; it will require a complete transformation of social structures and energy systems.
- System level transformations will involve changing the visible infrastructure as well as invisible incentives that can lock-in resource-intensive policies and investments.
- Climate change may ultimately limit growth but it is not necessarily the most urgent limit on growth. Water scarcity and natural resource scarcity may become a more immediate problem. Hence it is important to think of low carbon development as an element of broader green growth agenda.
- Research on low carbon development employs a long-term perspective but most policymaking frameworks support short-term decisions. Reconciling the two (Research policymaking) will be important for moving both low carbon research and low carbon policy forward.
- Traditional approaches to science will need to be modified to conduct low carbon research. More attention will need to be focused on the interactions between science and policymaking.
- Risk studies should be included in the scope of LCS research.
- Tracking and sharing information of policies and their mistakes as early as possible is needed for the Network.