Stakeholder Dialogue on Low Carbon Societies

Bridging Efforts in Japan with International Initiatives

Background

Solving the climate change problem will require not only technology deployment, but behavioural changes in the context of socioeconomic, political, and cultural values. In contrast to prevailing approaches that are target driven and largely focused on mitigation, the notion of a low carbon society (LCS), which integrates the various aspects of technology, finance and capacity, is gaining traction among policymakers around the world. However, as yet no clear vision of what makes a LCS has been developed and shared amongst policy-makers and other stakeholders. Researchers and policy-makers realise there is a critical need to develop the LCS concept and collaborate around the world. Starting in 2006, the first workshop of the Japan-UK Low-Carbon Society project took place. Since then several more workshops have taken place and participating researchers to this project from various places in the world have studied this subject, and developed roadmaps and visions of what LCS would look like in their own economies. Motivated by the success of this joint project, the International Research Network for Low Carbon Societies (LCS-RNet) was initiated by the Environmental Ministers Meeting of the G8 (May 2008). Earlier this year in Trieste, Italy, researchers of the LCS-RNet gathered for the first time and identified the research areas and themes. They also discussed the strategic planning of the network activities for the next five years. At the ISAP meeting in Japan this year, IGES provided an opportunity of a stakeholders' dialogue for the LCS-RNet, where Japanese researchers participating in the LCS-RNet and Prof. Nay Htun who are leading International Consortium for Low-Carbon Society, (ICLCS) furthered discussions with an emphasis on Asia and on promoting a collaborative framework to exchanges ideas among researchers.

Opening Remarks:

Mr. Hiroshi Ono,

Director, Global Environment Research Office, Global Environment Bureau, Ministry of the Environment, Japan

Mr. Ono began his presentation by expressing his belief that while policymakers are beginning to develop an awareness of the significance to realise Low Carbon Society (LCS), the fact of the matter is that many policymakers today do not have firm vision of what a LCS looks like and do not know what changes are needed to make a successful transition to LCS in both developed and developing countries.

As such there is a current need for the scientific community to provide policy makers with clear and visible means to move towards a LCS. In this respect research is needed among different fields to provide scientific views/information and a basis for developing the LCS future. Thus, LCS-RNet was launched in 2009 with the primary objective to promote research information exchange, as well as to facilitate achieving LCS over the world through interaction amongst policy-makers, civil society and business. Because researchers on their own cannot create a LCS, we must develop a worldwide structure for this interaction. In this context, initiatives like LCS-Rnet need support from policy-makers. The output of such research and interaction is expected to be policy relevant rather than policy prescriptive. As such, stakeholder dialogues at the initial phase of the LCS-RNet are important.

Although the launch of the LCS-RNet is based on the agreement at the last G8 Environmental Ministers Meeting (May 2008), we do not want to limit the network to the G8 countries. It is important for LCS-Rnet to be open to developing countries, particularly emerging economies.

Keynote Speech 1:

International Research Network for Low-Carbon Societies LCS-RNet

Dr. Shuzo Nishioka,

Senior Research Advisor, IGES; Senior Visiting Researcher, National Institute for Environmental Studies (NIES)

Dr. Nishioka opened his presentation with a brief history of Low Carbon Society-related policies in Japan since 2007, highlighting the roots of Japanese LCS developing through the concepts and visions of past Japanese Prime Ministers such as Abe and Cool Earth 50. Prime Minister Fukuda spoke of a Low Carbon Society in his speech to Diet in May 2008, the G8 Environmental Ministers Meeting (G8 EMM) held in Kobe in May 2008.

At that G8 EMM, the establishment of the LCS-RNet was proposed and accepted as an international network for the world research communities for the sake of the recognised necessities of transition of current socio-economic structures towards low carbon societies (LCS) to solve the issues around the climate change. Dr. Nishioka recounted the Kobe G8 meeting chair's summary by stating the objectives of contributing value-added to research, promoting understanding of LCS dialogues between researchers and other shareholders, and contributing to the international policy process. With those objectives, the LCS-RNet is expected to assist efforts in all involved countries to grasp the clear vision of their own LCS, as it is a new concept and many countries do not yet have guidance for transitioning towards LCS. Although the LCS-RNet was initiated by the G8 EMM, the network should be independent as its concept is that of a non-binding innovative network.

The LCS, in particular at these early stages, is academic-driven and multidisciplinary. With this understanding of the newness and comprehensiveness of the research on LCS, new kinds of scientific methodologies need to be established to integrate various disciplines to help science-based policy-making, as well as to support technological innovations. In this light there is a critical need to promote better understanding among stakeholders, as LCS is not only a matter for people working in the energy sector, but also city planners, land-use planners, and behaviour scientists among others. Of utmost importance throughout the development of a LCS is the involvement with other stakeholders than just researchers.

So far as the key research elements and next steps for the LCS, attention must be paid to building awareness outside of the scientific community. In addition, a LCS in the context of sustainable development could be achieved by leapfrogging to low carbon development in developing counties by utilising the low carbon technologies transferred from developed countries, but the most important is how these technology can be integrated into the existing social system and economic structure.

While France, Germany, Italy, UK, Republic of Korea and Japan have made a commitment to LCS-RNet, we are still missing three major countries, i.e. the United States, Canada and are awaiting a response on participation from Russia.

Discussion

In the response to a question on how the expansion of the LCS-RNet can be achieved, a planned annual meeting of the LCS-RNet was introduced. The LCS-RNet is currently asking people to join the network and to participate in the annual meeting. Information of the meeting will be circulated widely (e.g. through the website).

Keynote Speech 2:

International Consortium for Low-Carbon Society (ICLCS), Established July 2008

Prof. Nay Htun,
State University of New York, Stony Brook

In terms of the role of energy and carbon, we need to look at some major negative impacts for the global society such as global warming, damage to the ecosystem, and socio-economic development issues such as food security, human health, as well as increasing disasters. Of particular concern are the impacts of climate change on all these issues. At this time, energy and climate change are at the heart of everything, with carbon as a central figure in all this.

Focusing on carbon provides us with something to be measured, which is very important because if it can be measured, it can be managed. Measuring our carbon footprint can make climate change and carbon issues real in everyday life, which in turn can lead us to manage our impact through seeing the outcomes of our actions. It is important that we can see the changes, for example, in an electricity bill. This can lead to greater openness as we have a clearer understanding of our actions and impacts. We need to look at the carbon mitigation issues from a broader perspective, much broader than just technology or economics. Hence, the construct of Low-Carbon Society (LCS) was born.

The parameters of the concept of LCS and the speed at which recognition and perception of LCS is evolving in recent years is something worth noting. In the earlier stage, technologies achieving low carbon emissions were the centre of the focus. The concept was broadened to cover the economy as a whole, the so-called low carbon economy. Then people started to speak a concept of low carbon societies to cover society as a whole.

The G8 invited the research community to create a network, an invitation which was an important indication to countries to draw pathways for LCS, not only for the research community itself, but also for civil society. Now is our chance to address the challenge of creating a common understanding of where we want to go, and this opportunity can influence the current policy process while political leaders are asking for it. With such varied input, all parties are moving towards the same goal of a low-carbon society. In addition LCS could be a part of the bridge between G8 and non-G8 countries, together with civil society.

Of course, clarification of the LCS should not only be in international discussions. There is a need to articulate LCS within countries which will require coordinating mechanisms to work with seven pathways including technology, finance, economics, partnerships, social changes, education/capacity, and policy. These pathways can be taken by sharing knowledge and experiences, disseminating policy and technical briefs, joint research, developing education and training programmes and mobilising resources.
These mechanisms will allow the network members to address other challenges such as the atmospheric brown cloud (ABC) which is a critical climate issue. In addition this coordination and dialogue will contribute to the reduction of disasters and destruction from natural occurrences such as displaced persons and environmental damage; this is the purpose of a LCS.

We must support this transformational change, and not continue with business as usual. For practical reasons we must consider the economics of these changes. Governments need to make decisions on an informed basis. To really change, the costs are extremely high so we must consider where the money going to come from.

A major question is how to bring together as many stakeholders as possible. This requires a network with the ability to coordinate and organise with finesse.

Finally, Prof. Htun introduced the new initiative of ICLCS as a collaborative mechanism assisted by E-TKF (E-Transformational Knowledge Facility). He closed his presentation describing the need to tackle the most pressing issue of global climate change with the “fiercest urgency of now”.

Discussion

A participant asked about new fuels, stating that even if we switch to new fuels there will still be particles, so how to respond to this? Prof. Htun responded that while technology progresses to account for particles and other pollutants additional problems that have not originally been considered as issues for technology may arise. For example wider highways connecting suburbs and cities allow for faster vehicles which can lead to rubber particulates from the tires causing health problems regardless of the type of fuel used in the car. These situations can be greatly resolved through social and political processes such as better city planning and technological developments.

Roundtable Discussion 1:

Visions, Concepts, Principles of LCS

Lessons from the Japan-UK Low-Carbon Societies Research Project

Dr. Junichi Fujino,
Senior Researcher, National Institute for Environmental Studies (NIES)

Dr. Fujino asked the question of what exactly is a Low-Carbon Society (LCS). Many definitions exist based on the local situation, but he finds there are some basic principles.

- Behaviour change and the impact on LCS, including city design.
- Alignment of sustainable development with LCS.
- Necessary financing to mobilise cities to LCS.
- Acknowledgement and addressing of the negative impacts of LCS and the barriers therein.

Dr. Fujino explained the lessons learnt from the Japan-UK Low-Carbon Society research project.

In February 2006, the governments of Japan and UK launched the innovative joint research project on sustainable low-carbon societies with participation from a diverse group of some 20 countries. The project identified the necessary elements for realising LCS such as 1) actions for sustainable development, ensuring all group development needs and 2) making an equitable contribution to stabilise atmospheric concentration of GHG to avoid climate change through deep cuts in global emissions.

The project aims to review country-level GHG emission scenarios based on the understanding of the necessity for deep cuts of GHG by 2050, formulating win-win strategies to align sustainable development and climate change objectives, and identifying gap between goals and the current reality.

The project has held three symposiums and workshops. Discussions at the second workshop focused on the need for bold and innovative measures such as long-term policy signals, as well as changes in human behaviour and lifestyle. It was also concluded that existing technologies can make a major contribution, but emerging technologies will also contribute in the medium- and long-term. At the last workshop, issues on behavioural change, sustainable development, investment, and opportunities and barriers were highlighted.

Although the political target of global reductions of GHG was agreed at the Heiligendamm Summit in 2007, there still remains the initial question of how the deep cuts can be achieved, and this is the reason why we need to unite science and policy, through dialogue.

One Japanese scenario study project concluded that a 40% reduction should be carried out on the demand side, while the remaining 30% should be on the supply side to achieve 70% CO_2 emission reductions by 2050 compared to 1990 levels. However, without presenting concrete measures to combine such options, it would not be possible to make an actual impact to the post-2012 climate negotiations. For such a purpose, issues around technologies and any positive and negative aspects must be evaluated. Barriers must also be eliminated before implementation can be carried out to build a safe and sound society with appropriate land uses.

Dr. Fujino concluded his presentation by pointing out that climate change is an issue that exists through generations. Even if we eventually could achieve deep cuts, the impact of climate change will only start to show up years later, so there is a serious gap between generations over the possible result to be felt. Thus, Dr. Fujino reiterated the remark made by Prof. Htun earlier, namely “a sense of urgency to act now” for developed countries. Such countries need to go straight to a LCS as there is no time to allow for increases in CO_2. Developing countries would pursue moving to a LCS, possibly using leapfrogging by technology.

Discussion

It was pointed out that one of the major messages for Dr. Fujino was that the LCS must offer people a higher quality of life. After which the discussion was opened to the floor and was followed by a number of issues raised by the participants.

Concern was expressed about the current framework having adequate transparency and accountability for research. In addition it was noted that there will be great difficulties in moving away from current practices like using coal. Transformation is not simply about new technologies but changing behaviour. Researchers should consider why these changes are difficult.

More broadly, participants wondered if the LCS concept is too abstract, and although it may be sufficient for modelling, it needs also to be realistic and find what is possible in practice. There are good intentions behind LCS, but these can be very difficult to grasp so focus should be put on other parts of the problem apart from technology and society – namely, finance. In addition, quality of life cannot be sacrificed easily in the short-run during transition, which is something to consider for policy-makers.
It was also discussed if LCS was appropriate for less-developed countries. LCS could be acceptable for newly emerging countries, but it is yet to be understood and decided for other countries. When issues around LUCF are involved in LCS, the importance of developing countries is set to increase. Research on market mechanisms, institutional capacities, enforcing capacities in developing countries are called for. With the special focus on developing countries, adaptation and mitigation must come together because problems are inevitable. Mitigation is working, but unless there are giant leaps in technology, adaptation is going to be the most important way forward.

If we are to convince policy-makers, businesses, and civil society, there needs to be a combination of back-casting and bottom-up approaches. Dr Fujino responded to this, based on his experience applying a back-casting model approach in Japanese projects on LCS, by pointing out the need for dialogue between conservative models and optimistic model researchers to develop more realistic ones.

Finally, the political vocabulary of LCS will be critical. It will only have force when politicians use it, in the same way that only after politicians started to use the phrase “sustainable development”, did it become a real concept for policy. Likewise, the debate in the 1990s on sustainable development did not stop us from helping the environment, and lack of clarity should not stop us from working on LCS.

Roundtable Discussion 2:
How to Make the Developing Path towards a LCS?

Low-Carbon Development in Asia: Diverse Pathways toward a Common Goal

Dr. Kentaro Tamura,
Sub-Manager, Climate Policy Project, IGES

Dr. Tamura introduced the IGES component of its research plans for the S-6 Project. Three pilot countries, Indonesia, China and India, will be studied to assess opportunities, potentials and limitations of developing Asia for LCS. This roundtable articulated research questions in the context of moving towards LCS. Firstly, research on the role of domestic institutions including financing will be carried out to consider what is the equitable and sustainable growth-path for countries of the region. Analysis on development patterns and how technology leap-frogging could be facilitated will also be one of the main research areas. Thirdly, studies will review and identify traditional practices and Asian values that foster low-carbon development.

The first research component introduced was the power sector with the example of Indonesia’s

power sector, in which key drivers for promoting a distributed energy system are examined. The second research component is the agriculture sector, where the major question is to understand the capacity, and traditional values and practices of Asian agriculture to contribute to LCS.

The LCS concept should be carried out in the context of social equity in order to foster long-term collaborations. Modelling using the AIM programme can help to provide insights in the conditions needed to attain both LCS and social equity.

The research is expected to answer the questions about whether Asia is in good position to move towards LCS, and what hindrances there may be, such as political institutions.

Discussion

The question; “Is Asia in a good position for LCS?” was put to the floor.

Two issues were discussed in relation to this topic – technology and finance and how to handle these in relation to developed and developing countries, and necessary research topics in this area.

Financing was discussed mainly as an issue for developed countries. However, with regard to political institutions to encourage technology transfer, developing countries may have to improve their roles.

ODA cannot be expected to provide investment and funding for innovation and technology. On the other hand, leapfrogging cannot be achieved by simply transferring technology from one country to another. While, what about maintenance? How do we get a workforce ready to support a new technology? Here, ODA has a role to play in LCS; in the area of capacity-building. The challenge is how to combine available sources and characteristics of funding from ODA and institutions such as World Bank/ADB, and public/private investment, and then sequence these resources in an intelligent way.

Some participants felt that technology transfer should mainly be done by businesses. Import products bring in new technology from developed to developing countries. Licensing is also an option, as is capacity building to develop new facilities in developing countries. To support this, policy can be developed to make favourable tax and import conditions, to protect property rights, and put the onus on developing countries to ensure security and sustainability of the investment.

In addition it is not feasible to depend on importing technology because each country will have its own unique local conditions. Developing countries should develop their own technologies suitable for their respective economic and political environment. Developing countries must create favourable conditions for developed country companies to do business. There needs to be assistance in importing low-carbon alternatives with market driven ideas based on sufficient government policy. In some cases the technology can be developed at the local level rather than top down through transfer, thus helping ensure locally relevant and sustainable technology created within the framework of the local infrastructure.

Regarding the negative cost option, questions were raised as to why it even exists. The answer may be institutional barriers, which developed countries should help developing countries to overcome. But with technology transfer, cost is just one issue; capacity and infrastructure are also barriers as was mentioned before. In addition, many Asians have a high savings rate with significant investments in the West. Consideration should be given to how these savings are being used, especially externally compared to investing in domestic development.

As for technology, it is easy to say that leapfrogging is a solution, but there are many challenges to address within this construct. For example many photovoltaic projects failed as there was no system or programme developed to support the technology. Although various researches on technology transfer exists, there needs to be more research on political institutions and regimes to assist it, and further analysis on countries’ negative cost to remove obstacles for private businesses to transfer technologies.

One of the participants warned that the current general concern puts too much focus on technology as a solution. This situation was also referred to as the “Technology Dependence Syndrome”. Technology is not a panacea. Particularly, we still do not have an exact image on how to use technologies, what type of technologies societies needs, e.g. for a highly aging society. To avoid being locked-in to obsolete or inappropriate technologies in future, we need to figure out the clear aim and direction to go from now on.

In light of those points, it would be necessary to differentiate terminologies of Technology Transfer and the technology leapfrogging.

There was also a concern expressed to build societies that ensure the benefits of LCS prevail in developing countries.

To the question on whether Asia is best positioned for LCS, the answer would be “Yes” given its long tradition of conservation and making wise resource decisions.

Any actions are incremental, and it could be said that we are not moving fast enough. We need to be quick enough to catch up to the urgency of social requirements to shift to LCS. We also need to integrate the time dimension of development towards LCS into research items. In the end, technology, finance, and human behaviour are key issues that must be addressed simultaneously.