The First Workshop on

Developing Visions for a Low Carbon Society through Sustainable Development

Open Symposium – June 13, 2006
Expert Workshop – June 14 to 16, 2006

http://2050.nies.go.jp/index_e.html

Session 1: June 14 from 10am
Why Do We Need Low Carbon Societies?

Chair:
Martin Weiss (Federal Environmental Agency, Germany)

Speakers:
Hideo Harasawa (National Institute for Environmental Studies, Japan)
Tom Kram (RIVM, Netherlands)

Discussant:
Naoya Tsukamoto (Ministry of the Environment, Japan)

Executive Summary: Cornelius

Why we need long-term targets for LCS?

Deep cuts in greenhouse gas emissions are required to achieve the ultimate objective of the UNFCCC. Although there is a range in the magnitude of required cuts, in part due to uncertainty in climate sensitivity, it is clear that they need to be of the order of half or more of current levels. Short term action is urgently required to keep options available to meet the magnitude of the cuts required.

Relevant questions which need answers are:

- By what means can we get to this reduced level of greenhouse gas emission?
- What short term policy implications follow from the long-term goals?

- What are the costs of action and of inaction?

Despite agreement that large cuts are required, more work on regional impacts and costs should be undertaken as LCS could look fundamentally different for developing countries and developed countries. Visions of LCS in developing countries may be different to those in developed countries. While developed countries look at a LCS in the sense of where they are now, developing countries are more concerned from the point of view of where they are going to be (in terms of development). How do you increase living standards in developing countries without introducing polluting technology which is largely used in developed countries?

Is it possible to identify low greenhouse gas stabilisation pathways based on clearly defined technologies? A portfolio of options for emissions reductions, further analysis of the potential trade-offs and synergies between these options are needed. A better understanding of the drivers behind current emission trends is needed.

In not acting now we are shifting the burden of climate change impacts and emissions reduction to future generations. This burden will increase over time.

The analysis of low-carbon societies should enable us to shift our development to a more sustainable path.

We need to share the vision with more stakeholders.

Session 2: June 14 from 1:30pm
How to Develop Scenarios: Methodologies for LCS

Chair:
Jiang Kejun (ERI, China)

Speakers:
Mikiko Kainuma (National Institute for Environmental Studies, Japan)
Yuzuru Matsuoka (Kyoto University, Japan)
Neil Strachan (PSI, United Kingdom)
Jean-Charles Hourcade (France)
Christoph Ermenger (Federal Environmental Agency, Germany)
Antonio Soria (Sustainability in Industry, Energy, and Transport Unit, European Commission)
Edmundo de Alba A. (Mexico)

Discussants:
Thomas Van Ierland (European Commission)
Keigo Akimoto (RITE, Japan)

Executive Summary: Pandey

Backcasting methodology is crucial for LCS. A combination of detailed snapshot models and transition models need to be used. Since the idea of LCS is ambitious, besides conventional options for short-term carbon reduction, trend-breaking interventions will be required. Besides technology and end-use efficiency improvement options, changes in social infrastructure and governance need to be considered. However, models conventionally used for forecasting will also be useful for specific analysis.

Some of the key modeling issues/questions for LCS are:

- What specific models are useful for LCS?
- How to consider changes in social infrastructure, lifestyle/behaviour, and governance?
- How to consider technological learning?
- What should the baseline be?
- How to integrate issues other than climate change, like poverty reduction and energy security, in the LCS methodology? (These are especially important for developing countries.)

Involving developing countries in the LCS2050 exercise is important. While the backcasting methodology will also be useful for LCS analysis for developing countries, the model details will be different for them. The different priorities of developing countries, such as economic growth, poverty elimination, energy security, and co-benefits need to be considered. Therefore, among various possible options to achieve LCS, technological ones are likely to play the most crucial role for the developing countries.

Achieving a clear definition of LCS among all participants/stakeholders is crucial. Such a definition at the country-level must be consistent with global level reduction targets.

The LCS2050 exercise may also provide useful inputs for 2012 negotiations and UNFCCC reporting.

Session 3: June 15 from 9:30am
Win-Win Strategies: Aligning Climate Change and Sustainable Development Objectives

Chair:
Kirsten Halsnaes (UNEP/RISO, Denmark)

Speakers:
P.R. Shukla (Indian Institute of Management, India)
Emilio Lebre La Rovere (Centro Clima/COPPE/UFRJ, Brazil)
Stanford Mwakasonda (University Cape Town, South Africa)
Ram Shrestha (AIT, Thailand)

Discussant:
Francisco de la Chesnaye (EPA, United States)

Summary of Session 3
Win-Win Strategies:
Aligning Climate Change and Sustainable Development Objectives

Executive Summary: Kapshe

This session highlighted a very important issue – perspectives on sustainable development from the viewpoint of developing countries. This is especially significant because the pathways to achieve a low carbon society are open for the developing countries. There is also a need to have a common understanding of the definition of sustainable development as a framework for a low carbon society from the perspective of developing countries.

As per conventional perspective, it is often expected that there are many trade-offs between environmental quality and socio-economic development. However, there is a need to recognize that pathways to achieve sustainable development goals can be climate-friendly; and sustainable development can be a driving force for addressing climate change challenges. The development and climate “frontier” can be expanded through: innovations (technology, institutions); international and regional cooperation; targeted technology and investment flows; aligning stakeholder interests; and focusing on inputs rather than outputs.

Around the world, discussions are focusing on the steps beyond 2012 including the participation of developing countries. It is clear that considering isolated targets about climate change without taking sustainable development into consideration is not on the agenda of the developing countries. There is a need for the developing countries to take an integrated approach to sustainable development and a low carbon society and they should attempt to take the low carbon path whenever such choices are available. This requires that development and climate priorities are aligned. Given the growth and mitigation potential in the developing countries it is more efficient to take a path of co-benefits rather than exclusive path of mitigation which may be very expensive. Some developing countries, through their efforts to reduce emissions, have created good examples of such win-win strategies.

Having high energy intensity is an area of concern for the developing countries. In most developing countries, barring a few exceptions, fossil fuels (coal, oil, and gas) have a dominant share. Thus enhancing efficiencies emerges as one of the possible options for emission reduction. Developing regional cooperation for energy imports and also for cleaner energy initiatives (hydro, renewable, wind, etc.) is another important direction to take.

The sustainable development and low carbon society discussion indicates that we require a significant transformation in the world energy regime. Therefore, the quantification of emissions reductions under a sustainable development regime versus “current policy” baseline is necessary. However, performance evaluation of developing countries from an international perspective is not required. Instead of accounting and measuring the effects of development actions, it is more important to ensure that these initiatives are heading in the right direction. The difference lies in recognizing the factors that will drive the future of a particular country, such as growth, population, and national and regional circumstances.

From this perspective, it better is to evaluate the country against its own base case. Each individual country will take a path based on its local resource endowments. Therefore it is important to focus on the potential barriers and incentives that will hinder/help the developing countries move towards a lower carbon future. Making low carbon technologies and finance available to developing countries is also an important issue. It is necessary to spell out the incentives for the developing countries in terms of support programmes to sustainable development and climate policies. In addition to the direct incentives, some market based price signals are also needed.

Session 4: June 15 from 1pm
How to Achieve LCS: Low-Carbon Options

Chair:
Jim Watson (SPRU, University of Sussex, United Kingdom)

Speakers:
Jae Edmonds (PNNL, United States)
Jose Alberto Garibaldi (Energeia, Mexico)
Ralph Torrie (ICF Consulting, Canada)
Jiang Kejun (ERI, China)
Igor Bashmakov (Center for Energy Efficiency (CENEF), Russia)

Discussant:
Makoto Akai (National Institute of Advanced Industrial Science and Technology, Japan)
Ritu Mathur (TERI, India)

Executive Summary: Pandey

Exploration of options for achieving LCS must cover technological, institutional, as well as behavioral options.

So far, most of the modeling researchers have focused on technology options. While the majority of these researchers agree that significant technological options exist for drastic efficiency improvement and C reduction, differences exist between different country results and researchers on the following issues:

- Which are the most promising technology options?
- Potential of CCS, nuclear, clean coal options
- Non-CO2 gas reduction technologies
- Treatment of agriculture and land-use
- Mechanisms for tech transfer

However, there are certain agreements, like:

- Multiple options

- Efficiency improvements in both end-use and supply sides are going to be very important; and many options/possibilities exist in various sectors, especially power generation, transport, buildings, and certain industries
- Important roles for renewables, biofuels, CCS
- Some options are country specific – for example, clean coal in China
- Strong commitments to change technologies will have to be made continuously throughout this century
- Importance of technology transfer to DCs is crucial
- Role for Non-CO2 reduction options
- Need to build institutions to promote R&D and disseminate new technologies
- Participation of both public and private sector is crucial
- Expansion of funding of scientific research and building partnerships
- Financial institutions/mechanisms – specific initiatives
- More research needed on potential of behavioral/institutional changes

Session 6: June 16 from 9:30am
How to Achieve LCS: National and Global Cooperation

Chair:

Mikiko Kainuma

Speakers:

Martin Weiss (Federal Environmental Agency, Germany)

David Warrilow (DEFRA, United Kingdom)

Michael Taylor (IEA, France)

Anna Matysek (ABARE, Australia)

Discussant:

Tae Yong Jung (World Bank)

Wrap Up: June 16 from 1:30pm

Closing: June 16 from 3:30pm

Summary by Shuzo Nishioka (National Institute for Environmental Studies, Japan) and Jim Skea (UKERC, United Kingdom)

Closing Address by David Warrilow (DEFRA, United Kingdom) and Naoya Tsukamoto (Ministry of the Environment, Japan)