Panel 3.1 National roadmaps on green development: A developing countries' perspective

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Overview

Concerning the developing countries, the issue of climate change is more transversal than only energy-CO_2 issue. The different presentations show that the issue of 'sustainable development' can not be treated separately from the climate change. Water availability, biodiversity, and access to electricity are some of the major issues that have to be considered.

Major findings

Carolina Dubeux, UFRJ, Brazil

The Brazilian roadmap (resulting from commitment from Copenhagen) implies almost 40% reduction compared to BAU scenario in 2020, where the land use represents the major part of the reduction (25% of total).

The cost is relatively low. Around 5$/t$CO_2$ for about 50% of emissions, considering only the opportunity cost (GDP from agriculture to be lost by preserving the forest). It can rise up to 200$ or more if the most productive areas are considered. Property rights are not clear in 60% of areas. This fact induces deforestation since people become land-owners by benefiting the land.

A Law has been voted in 2009. It sets a regulatory framework to reduce emissions from all sectors in the country

Cai Bofeng, CAEP, China

Low-carbon society in China is more narrow (mainly economic) than the general LCS comprehension. CO_2 intensity has dropped since 1990 but great differences still exist between the different provinces. Coal combustion is the cause of the main environmental damages. A database has been built with the first pollution sources:

- 1,5 millions plants (industrial sources);
- 2,9 millions (agriculture sources); and
- 1,5 millions (household sources).

The current actions reduce the unit of energy consumption per GDP by 20% compared to the 10_{th} Five Year plan. Some cities are actively engaged, for example Shanghai and Baoding. Local governments and cities seem much more motivated by LCS than the central government. Voluntary carbon trading has been implemented.

In conclusion, there are no global CO_2 emissions cap and an LCS Scheme in China, role of cities are not brought into full play, and public awareness of LCS seems too low.

P.R. Shukla, IIM Ahmedabad, India

National Climate Change (CC) Action plan has been implemented. In this plan, not only CC but also environmental issues have been considered (biodiversity, water, agriculture, energy, etc).

After Copenhagen, some domestic actions have been implemented, for example; tax on coal of 1$/ton, fund to be used for clean energy; mass distribution of compact fluorescent lamp (CFL) (resulting in about 6 GW reduction of electricity demand).

LCS scenarios are developed with an integrated modelling framework (BAU projection with ANSWER MARKAL model): Stabilisation of emission in 2050 compared to 2000, with a peak in 2030.

Carbon intensity reduction rate needs to change from 1.5 to 1.9% to achieve Copenhagen commitment and some Technology Cooperation areas seem necessary: energy efficiency (short term), renewable energies (mid term – 2020 targets) and nuclear and CCS (long term).

In another Scenario (Sustainability), some technologies do not appear (no nuclear) and co-operation seems more important in major areas: urban planning, behavioural changes, and transport infrastructures technologies. Carbon prices in this scenario are $117 in 2050, $15 in 2010. Energy security and air quality represent co-benefit of this scenario.

Main issues discussed

The barriers to LCS transition in developing countries

- Barriers are not only technological barriers but also organisational barriers. For example, in Brazil, one of the most important things to stop deforestation is to have clear property rights (private or public), but this is not only the case currently.

The vision of the role of developing countries of their LCS transition

- The vision of developing countries is generally less focused on energy system than in industrialised countries. Concerning the presentation of Brazil or India, we can see that LCS transition is a way to work about sustainable development targets. For example in Brazil, fighting deforestation (one of the most important sector of emission in Brazil) is a means to preserve biodiversity. In indiaIndia, issues of LCS are addressed with issues of access to electricity, energy efficiency, and water availability. LCS actions are implemented with a sustainable development target. In China, the vision of LCS is more concentrated on "economics" and decarbonization of production.

The role of emerging countries in the global LC transition

- The developing countries can play an innovative role and facilitate and massive distribution of low-carbon technologies, not only for their markets but also for all other countries, particularly in new sectors (solar electricity, electric vehicles, etc) where industrialised countries don't have a distinct competitive edge.

Items for Future Research

- Develop a global framework to compare the different efforts of countries (carbon intensity, relative reduction in a BAU scenario, absolute reductions, etc).
- Find a better way to consider co-benefits because talking of co-benefit may imply that one has to compensate some damages.

Policy Relevant Questions

- Opportunities for emerging countries (particularly industries) to become leaders in green technologies (PV, electric vehicles, etc). The role of the private sector is changing.
- Some actions need a global framework. In Brazil, deforestation is a big issue concerning climate change but nobody really knows how to do it (which framework to use and how to deal with the difficulties of property rights)
- NGOs can play a very important role but their importance in countries can be very different. They can have influence on institutions public awareness.

Other issues

- The development of research between industrialised and emerging countries, and between emerging countries (cooperation) would be highly recommended and fruitful for the continuation of the network.