Many near-term development choices are vital for low-carbon transition. In a conventional approach, emissions grow along a secular path which is altered through exogenous carbon market policies. In case of developing countries, back-casting from multiple future goals is more appropriate approach. It realises their “late-comer advantages” by altering policies and actions that align stakeholder choices that deliver multiple co-benefits, while avoiding lock-ins witnessed elsewhere. City planning is an example: Modeling research for Ahmedabad shows that GHG emissions in 2035 would reduce by two-thirds, over the conventional baseline, following sustainable development goals already delineated by city planners. Analysis for India demonstrates that actions that follow sustainability goals significantly lower economic losses from mitigation caused by stringent stabilisation.

Low Carbon Societies in Developing Countries

Low Carbon Societies in developing countries was one of the topics that prompted intensive discussion at the LCS-RNet Inaugural Meeting. Dr. Shuwei ZHANG from China, on behalf of Dr. Jiang Kejun from the Energy Research Institute of National Development and Reform Commission, presented mid- and long-term energy demand and GHG emissions scenarios for three paths up to 2050: 1) Business As Usual without no climate change policies, 2) Low Carbon Scenario under the high GDP growth rate assumption with domestic policies and other enhanced technology improvement, 3) Enhanced Low Carbon Scenario with the shared vision of global concurrent efforts to mitigate. The institute published “China’s Low-Carbon Development Pathways by 2050” this September. Mr. Frank Princicotta (National Risk Management Research Laboratory, NRMR, EPA, US) gave a presentation entitled “New Energy/Climate Change Directions in the Obama Administration.” Introducing various projects and challenges relating to climate change technologies, he stated that technology is necessary but not sufficient; aggressive global mitigation commitments are also needed.

From India, Dr. P. R. Shaila (Indian Institute of Management Ahmedabad, IIM, India) put emphasis on back-casting for a low-carbon society and then explained LCS scenarios considering sustainability rather than climate change only (e.g. energy production, dematerialisation, co-benefits for poverty reduction and air-quality). He concluded that a development vision matters to LCS transition (e.g. a paradigm shift towards co-benefits and co-operation) and that it is important to avoid lock-ins into high emissions paths and develop bottom-up actions coordinated with top-down vision and policies such as the National Climate Change Action Plan. From Brazil, Dr. Emilio La Rovere (Federal University of Rio de Janeiro, Brazil) presented the case of wind energy deployment in Brazil to illustrate the challenges to sustainable energy development through technology transfer. In this example, two lessons can be learned, 1) the importance of measures to favour domestic production of equipment and 2) the need of a long-term policy to complement the short-term goal. These lessons are better to be utilised in framing NAMA. He also noted the ways in which the international community could support NAMA such as additional concessional loan, technology and technical cooperation to adapt policies to local conditions.

Dr. Kenrick Leslie from the Caribbean Community Climate Change Centre illustrated the situation of the Caribbean Region, that is, a deteriorated economy by the current global financial recession, heavy dependence on imported fossil energy, and vulnerability to the climate change. Low-carbon economy can be a practical solution for sustainable development as well as adaptation and mitigation. He highlighted the potential of the energy, agriculture and tourism sectors as well as transportation. Resources and technical assistance together with favourable conditions for technology transfer under the umbrella of a comprehensive global agreement are required.

Mr. Raffaello Cervigni from the World Bank presented challenges and opportunities for low-carbon growth in developing countries and the Bank’s activities. The challenges include poverty, GHG reduction, funding and side-effects (e.g. price rise of crops because of bio-fuel). The opportunities include the potential of renewable resources, untapped mitigation potential and co-benefits (e.g. air-quality). Six action areas of the World Bank are presented: 1) support climate action in country-led development, 2) mobilise additional concessional and innovative finance, 3) develop market-based financing mechanisms, 4) leverage private sector resources, 5) support development and deployment of new technologies and 6) step up policy research, knowledge and capacity building.
**Five Key issues for achieving Low Carbon Societies**

1. **Long and mid-term targets**
   - World leaders aspire to bold targets for emissions reductions.
   - Co-benefits will arise from setting appropriate country- and region-specific targets.
   - Backcasting approaches can identify feasible and desirable pathways towards sustainable low-carbon societies.

2. **Economic aspects of low carbon societies**
   - Co-ordination is needed between environmental goals and innovation policies.
   - Sectoral and regional perspectives need to be taken into account.
   - New financing paradigms will be required if developing countries’ mitigation and adaptation needs are to be met.

3. **The role of technology**
   - Radical technological change is crucial in reaching a low carbon society.
   - More investment in energy technology is needed.
   - Technology will not deliver a low carbon society on its own.
   - Climate policies and R&D strategies must be synchronised.

4. **Public policy and lifestyle change**
   - Public policy can lead the way to lifestyle change and a low carbon society.
   - Facilitating behaviour change is not easy, but can be accomplished.
   - The most effective measures will be tailored to individual countries and localities.
   - LCS lifestyles do not have to entail sacrifice.

5. **Cross-cutting issues**
   - A persistent signal is needed to stimulate change across all sectors.
   - Planning for land use change is essential.
   - Cities provide an excellent opportunity to promote a Low Carbon Society.
   - Research that would allow developing countries to set their own targets and pathways is essential.
   - Human resource development is needed as well as technology co-operation.
   - We need to adapt to unavoidable climate change and remain alert to new scientific insights.

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**GLOBAL ROUNDTABLE FOR LOW CARBON SOCIETY**

David MCLAUGHLIN, CANADA
President and CEO, National Round Table on the Environment and Economy (NRTEE)

Moving to a low-carbon society will involve not just changes in how we produce energy, but also changes in how we consume energy. These changes will take time and will need the participation of consumers and citizens for them to work. As governments seek to develop new low-carbon policy approaches, they need to consider how they will bring citizens and civil society together to undertake actions that will find much broader and deeper acceptance than they have so far. The National Round Table on the Environment and Economy from Canada is an independent public policy advisory agency that brings environmental and economic interests together to find sustainability solutions that work for Canadians. What we are experiencing at Copenhagen and beyond is a form of ‘global readjustment’ to consider how we can get ourselves on a collective path to a low-carbon future that is sustainable in both environmental and economic terms. The LCS-RNets brings together researchers and experts in this field from 6-8 countries to offer insightful policy thinking relevant for decision-makers. NRTEE research has contributed to this understanding.