UNITED NATIONS
DEPARTMENT OF ECONOMIC AND SOCIAL AFFAIRS

Side Event at UNFCCC
COP-13/MOP-3
A High-Level Roundtable: How can climate policies and sustainable development objectives be mutually supportive?
Bali International Convention Center
13 December 2007
18:00-19:30 h

CLIMATE POLICIES AND SUSTAINABLE DEVELOPMENT

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BACKGROUND PAPER

Introduction

1. The science is now clear: climate change is unequivocal and caused by human activity. Accompanying the scientific evidence is the growing recognition that climate change hinders progress towards achieving sustainable development goals including the MDGs. Incorporating climate change policies into sustainable development strategies can ensure that substantial progress is made on achieving internationally-agreed goals. It is becoming increasingly clear that unprecedented levels of investments in the development and deployment of advanced technologies for mitigation of and adaptation to climate change will be necessary, especially in developing countries.

2. Effective climate change policies can be pursued in conjunction with social and economic development, enhancing progress on poverty eradication, public health, employment generation and economic prosperity. Therefore, exploring the linkages between climate change and sustainable development and the role technologies can play can be useful in developing a global response to the challenges posed by climate change.

Impacts of Climate Change

3. The impacts of climate change will likely be unevenly distributed with the poorest countries, including some of the Small Island Developing States (SIDS), affected the earliest and the most. Many of these countries are not major greenhouse gas (GHG) emitters. In fact, about 140 countries account for only 10% of the global GHG emissions. In general, the least developed countries have a lower ability to adapt to climate change because of limited financial, institutional and technological capacity.

Low Carbon Economy

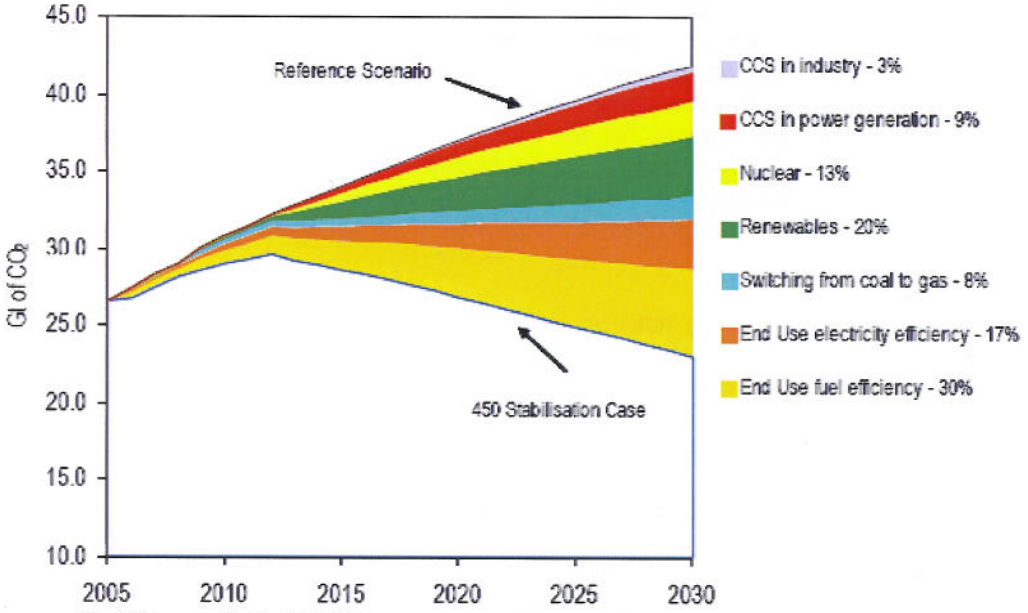
4. Global energy demand, predominantly met by fossil fuels, has continued to rise and is projected to increase dramatically by 2030. Alternative fuels and advanced low-carbon technologies can facilitate a shift to a lower carbon economy. Technologies available to facilitate this transition include: renewable energy technologies, such as hydropower, solar, tidal, geothermal, wind and biofuel, and advanced fossil-fuel technologies, such as supercritical pulverized combustion and zero-emissions coal plants. Also, improved efficiency in energy demand and supply can make a major contribution. The potential for technologies to reduce worldwide emissions of CO_2 by 2030 is illustrated in Figure 1.

Advanced Energy Technologies

5. Technology is an essential element of a comprehensive climate change strategy that includes global efforts to reduce GHG emissions and to decrease adverse impacts resulting from changes in the climate. A broad spectrum of advanced technologies already exists for mitigating and adapting to climate change. Additionally, new technologies might emerge as a result of focused research and development.

6. Mitigation technologies, necessary to counteract the associated increase in GHG emissions, include technologies for reducing emissions from energy demand and supply, for capturing and sequestering CO_2, and for reducing emissions of non-CO_2 greenhouse gases.

Figure 1: Potential CO_2 Emission Reduction by technology area



Source: *World Energy Outlook 2007.*
Notes: Based on the 450 Stabilization case developed by IEA to reduce energy-related CO_2 emissions to 23 Gt by 2030. CCS: Carbon Capture and Sequestration.

7. Adaptation involves different forms of technology which include not only equipment and materials but also diverse forms of implementation processes and methods. Adaptation technologies can be implemented in four major areas: coastal zones, water resources, agriculture and public health. Adaptation technologies can be related to anticipatory actions such as constructing dykes and reactive actions such as moving buildings to safer areas. Accelerated advances in technology have the potential to significantly reduce the cost for mitigating and adapting to climate change. Furthermore, it is expected that technology implementation would create substantial opportunities for economic growth and for sustainable development.

8. The mitigation and adaptive capacities of countries can be enhanced when climate policies are integrated into national development plans. National sustainable development strategies that consider climate change measures, policies and technologies can contribute significantly to achieving sustainable development goals.

Access to Technologies

9. Essential elements for a successful technology transfer process include, among others, investment finance, relaxation of trade barriers, capacity building, access to information, consumer and business awareness and strong regulatory frameworks. Globally integrated approaches and partnerships are necessary for inducing capacity building in developing countries, and for encouraging joint ventures and cooperative efforts to allow the transfer and deployment of advanced climate change technologies. Predictable and stable market conditions are necessary for the deployment of these technologies all over the world. The international community should assist in the development and implementation of the necessary mechanisms to overcome barriers and challenges.

10. The deployment and commercialization of a considerable number of existing technologies relevant to climate change require infrastructure, equipment and skills that do not exist in many developing countries. Therefore, effective capacity building and technology transfer mechanisms are necessary between developed and developing countries. The use of climate change technologies by developing countries can be promoted by trade promotion mechanisms and international support for the building of institutional, organizational and manufacturing capacity. Technology transfer can be facilitated by tiered pricing on the part of patent holders, so that technology is made more affordable in developing countries. An alternative is the establishment of a multilateral technology fund that could help reduce the cost of intellectual property rights.

11. The international community must act jointly and in a pro-active manner to ensure the effective and timely transfer of technology to developing countries and in particular to the poorest countries expected to be highly affected by climate change. Through the transfer of technology and know-how, development paths can be modified to incorporate timely responses to climate change that would make development more sustainable for developing countries.

Climate Co-Benefits of Pollution Control, Energy Efficiency and Afforestation

12. A comprehensive climate change strategy with coherent policies and actions in energy, industry, forestry, water and waste could yield multiple benefits for mitigation and adaptation and sustainable development. Improved energy efficiency, increased renewable energy use, better agricultural practices and integrated water and waste management are possible actions that can contribute to these objectives.

Funding Mechanisms

13. The global nature of the climate change challenge requires substantial worldwide investments in technologies for both mitigation and adaptation. Increased public investment and a stable and predictable policy framework at the national level are essential for attracting private investment necessary to induce innovation. Government support through financial contributions, tax credits, setting of standards and market creation is important for effective technology development and use. Dedicated financing agencies that seek external funds for loans for local technology projects can help to accelerate the transfer of advanced technologies in developing countries.

14. One of the main technology transfer challenges is to ensure that adaptation technologies are put into practice in those areas where they are most needed, in particular, in the most vulnerable countries. Currently available resources for adaptation to climate change in the developing countries are inadequate.