International Conference on Biofuels
Plenary Session II – Biofuels and Climate Change
Summary of the Discussions

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Biofuels and wider efforts to fight climate change

- Climate change is probably the greatest challenge ever faced by mankind and will require a concerted effort of all countries in the world. It will require a wide set of actions and technologies, of which Biofuels are a part.
- The approach based on the establishment of a cap for greenhouse gas emissions, and of priced and tradable emission allowances, as exemplified by the Kyoto Protocol, has so far dominated efforts to fight climate change. The carbon market is a positive outcome of the "cap & trade" approach, but it is not enough to address climate change. The framework under negotiation for the future of the climate regime will probably combine the "cap & trade" with an approach based on "policies & measures" adopted by countries individually or in cooperation.
- In countries with national caps that generate a domestic price for carbon, these policies and measures may be advocated and explained by the need for behavioral changes (land use patterns; mass transit), by concerns about energy security, or by the importance of supporting technological development. The promotion of Biofuels will take place in this wider policy framework.
- In countries without carbon prices, the road transport sector will be linked to national climate action programs, creating a significant incentive for reducing emissions in this sector, especially through regulatory measures for energy efficiency and knowledge about the use of competitive biofuels. It may also be necessary to go beyond these national programmes, benefiting from additional financial support from international sources and harnessing the full potential of the carbon market. This may occur through existing instruments such as the Clean Development Mechanism of the Kyoto Protocol, although adjustments are necessary to allow a wider and more productive deployment of the Mechanism, and particularly to foster its implementation to support climate favoring actions in Africa.
- There is also a need for a non-compensatory international financial mechanism toinduce investments in non-commercial technologies, including innovative biofuels. Contrary to the CDM, this mechanism should not produce credits to compensate for greenhouse gas emissions from fossil fuels and other sources, and would therefore foster emission reductions additional to what would occur in a business-as-usual scenario.
- The current financial and economic crisis should be seen also as an opportunity for a change of paradigm, a "green new deal" comprising large investments on low-emission energies, including biofuels. Market solutions are important to financing a low carbon infrastructure in all countries in this context, but they are not enough. Public policies should play an essential role in contributing to and shaping the new investment portfolio. Civil society should be more engaged.

Biofuels, energy efficiency and emissions of the transport sector

- Reducing greenhouse gas emissions in the transport sector requires an integrated approach, comprising efforts to reduce energy use – such as changes in consumption patterns, increased use of public transportation, logistical planning and energy efficiency in vehicles – and the use of low-emission energy sources, such as biofuels.
- The supply-side promotion of biofuels and the demand-side actions towards the reduction of consumption in transport can and should be pursued in a complementary fashion. This is not a zero-sum game.
- This integrated approach must be promoted by clearly defined and ambitious public policies, which are indispensable for harnessing the investments and the innovative power of the private sector.

Biofuels, renewable energies and materials, and greenhouse gas emission reductions

- The challenge posed by climate change requires a revolution in the energy, transport and agricultural sectors. Biofuels should be an integral part of this revolution.
- There are significant opportunities for the production of biofuels in arid and degraded lands, especially in Africa. In addition to replacing fossil fuels, such energy crops can also sequester significant amounts of carbon.
- There are significant discrepancies in the levels of emission reductions of different biofuels, as a function of the feedstocks and production processes employed.
- Different from other sectors, such as power generation, there are very few low-carbon energy options for reducing emissions in the transport sector. Biofuels are the only option for large-scale use of renewable energies in this sector in the short term.
- Biofuels should be one of the key elements in an integrated policy for renewable energies and climate change mitigation. One of the most promising opportunities for the development of this sector is the exploitation of synergies between biofuels production and other biomass-related industries, such as paper and pulp and charcoal for iron smelting.
- There is a growing trend towards the construction of integrated plants that produce biofuels, electricity and heat for industrial and domestic uses.

Biofuels, land-use change and carbon stocks

- Bioenergy should not be a deforestation-inducing or soil carbon-depleting force. Agro-ecologic zoning could be a means to avoid deforestation or dislocation.
- The calculation of direct greenhouse gas emissions from biofuels is based on well-known life-cycle analysis methodologies. The remaining uncertainties about direct emissions effects have a relatively marginal importance.
- Much more difficult is the calculation of indirect emissions due to the displacement of traditional agricultural activities to areas of natural vegetation, especially when this displacement takes place at the international level.
- Indirect emissions calculations that reflect the impacts of increased bio-fuel production on commodity or agricultural input prices are much harder to define, especially at the international level. There is a need for a greater understanding of the global dynamics of land-use change and its interaction with the commodities markets, in order to quantify the greenhouse gas emissions associated with such “indirect land-use changes”. Since biofuels production occupies less than 1% of the total area dedicated to agricultural activities, policies and regulations affecting market access for biofuels must be placed in a more comprehensive framework that takes into account also the effects of other agricultural subsectors on land-use change and consequent greenhouse gas emissions.