

**International Conference on Biofuels**  
**Plenary Session IV – Biofuels, Science, Technology and Innovation**

*November 19, 2008*

**Summary of the Discussions**

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*Technology and the development of the biofuels sector*

- The broad development of the biofuels sector, with well-structured production chains and markets, is an indispensable condition to ensure the viability of research and development in this sector.
- It is not possible to obtain efficiency in the biomass conversion process without addressing the challenges of mainstreaming innovation in all the phases of the production chain.
- Among the existing options of renewable energy sources, biofuels are technically and economically the most viable option, especially for developing countries. They employ technologies that are already mature and readily available at affordable costs. They are also compatible with the existing vehicles and easily adaptable to fuel supply infrastructure.
- Continuous innovation has delivered consistent efficiency gains in the ethanol production and is a key element for further productivity leaps in feedstock, products and processes.

*Public policies for innovation the biofuels sector*

- The fact that biofuels are currently in the forefront of innovation in the renewable energies' sector would not have been possible without the policies implemented in the last decade to support production and consumption of such fuels.
- R&D and innovation related to biofuels production and use spans over many important subsectors in the agricultural, industrial and service areas. Therefore, a policy that favours a broad ranging development of biofuels can attract public and private funding for research and development in agriculture, industry and services, which often suffer from a persistent lack of investment, especially in developing countries.
- Mandatory blending was mentioned as an example of how public policies can be a powerful instrument to boost investment and innovation.

### *“First generation” and “next generation” biofuels*

- Some expressed the view that the distinction between different “generations” of biofuels based solely on feedstocks and production processes is arbitrary and imprecise. They advocate that the classification of biofuels should be based on their performance in terms of resource use, environmental impact and greenhouse gas emissions. In this sense, “first” generation biofuels causing high emission reductions should be assigned the same treatment as “second” or “next” generation biofuels with a comparable environmental performance.
- Participants referred to the significant efficiency gains that can still be obtained in internal combustion engines, the great innovation potential in the production of biofuels, and the possibility of a transition from global dependency on fossil fuels to a less carbon intensive economy, which addresses sustainable development needs.

### *International cooperation, research and development in the area of biofuels*

- A great amount of public and private resources is being invested in research and development in the area of biofuels in the last years. The vast majority of these resources are directed to financing research in developed countries. It is desirable to have more investments in developing countries.
- A substantial part of the potential for expansion of biofuels production worldwide is found in developing countries located in tropical regions. In order to tap this potential, there is a need for the development and deployment of technologies adapted to local realities. Capacity building for scientists and technicians in the area of biofuels in developing countries should become a priority and receive adequate funding. Therefore, those countries should join efforts with a view to fulfilling their sustainable development needs while having a positive impact on energy security and climate change.
- Public-private partnerships should also play an important role in promoting innovation at the national and international levels.
- Taking into consideration the accumulated experience in the field of biofuels, it was proposed that an International Centre of Excellence be created in Brazil. It would serve to stimulate the exchange of ideas and knowledge, especially among developing countries. Such Centre would also facilitate collaboration with other units worldwide.