

**United Nations Conference on Trade and Development  
Division on International Trade in Goods, Services and Commodities**

**Ad hoc expert group meeting**

**Biofuels: trade and development implications  
of present and emerging technologies**

**Preliminary annotated agenda**

19 June 2007  
10 a.m.–6 p.m.  
United Nations Office at Geneva  
Palais des Nations, Room XXVI

The United Nations Conference on Trade and Development (UNCTAD) will convene an ad hoc expert group meeting on “Biofuels: trade and development implications of present and emerging technologies” on 19 June 2007 at the United Nations Office at Geneva. The meeting is part of UNCTAD’s work programme on climate change and its implications for trade and development.

**Background**

Climate change issues have now risen to the top of the trade and development agenda. One of the challenges of responding to climate change is to find new products and technologies that could contribute to a new economic model based on low carbon emissions and on climate-change mitigation. Biofuels – i.e. fuels derived from biomass – are one such product. While estimates of their effectiveness in reducing greenhouse gas emissions vary, most studies have found that, over their life cycle, biofuels can provide significant reductions in such emissions as compared with mineral fuels. In addition, they could enhance a country’s energy security and reduce its expenditure on imported fossil fuels. However, some analysts point out that increased demand for biofuels might raise the prices of basic foodstuffs and divert too much cropland to fuel crops, which would actually pose a threat to food security. Others believe that positive synergies may be possible between food, fibre and fuel crops.

The technologies used so far to produce first-generation biofuels are well known and quite simple. However, the need to increase biofuel production to meet growing demand, maximize feedstock use, reduce pressure on land and cut production costs are triggering a shift towards new and more sophisticated technologies. The expert meeting will discuss the risks and opportunities, especially for developing countries, implicit in this technological revolution and the likely impact of the new technology on trade and development and on the competitiveness of developing countries in the biofuels sector.

Emerging technologies – which could produce second-generation biofuels more efficiently by utilizing less arable land and using sources other than food crops – might enable biofuels to become a more long-term and sustainable solution to present energy and climate change-related problems. Nevertheless, there seems to be general agreement that biofuels represent a transition towards a new, long-term low-carbon energy future that has yet to be fully defined.

The switch to more complex and expensive technologies, however, will have implications for trade and development, and might have an impact on the competitiveness of biofuel-producing countries. If, as is likely, the main source of biofuel production is lignocellulosic material from forestry, agricultural and urban residues, and dedicated cellulosic crops, the countries that will have a comparative advantage in biofuel production in the future may not

be the same as those that are competitive at present, when biofuels are made from grain, sugar crops and oil seeds.

The development of second-generation biofuel technologies would need significant government and private-sector support. Such support is already available in Europe and North America, but not in most developing countries. Moreover, the emerging technologies may be more capital-intensive than current production methods. The question of access to capital and technology may then become a problem for biofuel producers in developing countries. There is a real danger that developing countries will end up exporting large volumes of raw material, or material that has undergone only simple processing, while most of the value-added activities will take place in industrialized countries, meaning that the adoption of biofuel technologies would have a very limited impact on development.

New technologies may open up opportunities to use liquid biofuels not only as substitutes for fossil fuels in the transport sector, but also as tools for broader energy-replacement programmes, especially in the rural areas of developing countries. They could also contribute to the integration of rural areas into existing production and distribution networks. Should this happen, the development gains linked to the use of biofuels would greatly increase, as would the contribution of biofuels to the achievement of the Millennium Development Goals.

## Questions

- How important is it to have in place a thriving national innovation system to address the challenges of climate change? How important is it to achieve a consensus among stakeholders on a range of climate-change mitigation initiatives, including in the field of biofuels?
- The sustainability of a new economic model based on low carbon emissions will depend largely on the financing of biofuel and other projects aimed at mitigating climate change, especially in developing countries. What are the prospects, now and in the future, of having such projects financed by international finance institutions and private institutions?
- What are the advantages of new technologies over already available technology, especially as far as climate-change mitigation is concerned? What are the foreseeable disadvantages?
- When are new biofuel technologies expected to be commercially available?
- What are the implications for trade and development of the emerging biofuel technologies over the next 5–10 years?
- What kind of technology is suitable for small biofuel or feedstock producers, as opposed to large producers?
- What conditions do developing countries need to meet if they are to become efficient users of the new technologies?
- How can developing countries be helped to accede to the new technologies and adjust existing and future technologies to their unique environmental and social conditions and to their development goals?
- What role would be played by the transfer of climate-change and biofuel technology, including in the context of South–South technology transfers?
- What incentives are currently available to promote the use of existing technology? Would these incentives somehow hamper the switch to new technologies?
- The development of new climate-change and biofuel technologies will probably require more incentives than existing technologies. Would it be appropriate to set sunset dates for R&D incentives in this field?
- What role will modern biotechnology play in the biofuels sector? What are the possible implications for trade and development?

- Would new technologies improve the chances of biofuels being used for broader energy replacement programmes outside the transport sector?

### **Speakers**

Speakers will include Eric D. Larson, Research Engineer, Energy Technology Assessment/Energy Policy Analysis Group, Princeton University, USA; and Sergio C. Trindade, Director, Science and Technology, International Fuel Technology, Inc., USA and Dr. Alok Adholeya, Director, Biotechnology & Management of Bio-resources Division, The Energy and Resources Institute (TERI), India.

For more information, contact: Erwin Rose, [Erwin.Rose@unctad.org](mailto:Erwin.Rose@unctad.org); or Simonetta Zarrilli, [Simonetta.Zarrilli@unctad.org](mailto:Simonetta.Zarrilli@unctad.org).