

Joint Research Centre (JRC)

The European Commission's
Research-Based Policy Support Organisation



UNECE Energy Week “Investing in Energy Security” Panel Session “Biofuels – A reality Check”

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1) Can biofuels match oil production? How far bio-fuels/bio-energy could be a real alternative to solid fuels?

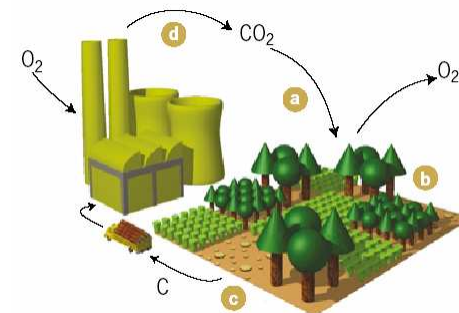
- Time horizon and extent?
- Co-relation with oil market (long-term prices @ 100\$?)
⇒ Implications on biofuel R&D
- Co-relations with food commodity markets and prices

Sophisticated system – many policy and techno-economic variables

- Bioenergy potential → absolute / relative [=f(investment)]
- Technical and technological limitations and constraints
- Biomass co-firing with coal – synergies at both ends

2) Would be possible for bio-fuels/bio-energy to have a real impact on climate change mitigation?

- Yes, provided bioenergy is used in a smart way, maximising GHG benefits
- Optimisation along the whole bioenergy chain → from feedstock extraction till end-use (WTW / LCA chain)
⇒ Sustainable agriculture and forestry, biofuel quality, efficient bioenergy transformation technologies, efficient bioenergy end-use appliances
- Extent: EU Biomass Action Plan (2005) – 2010: 149 Mtoe, -209 MtCO_{2eq.}



GHG reduction impact = efficiency x scale

3) Within what timeframe will the necessary technical transition from first generation to second generation biofuels occur so that various national biofuels targets can be met?

- **Meeting national targets \neq 2nd generation biofuels on the market
 \Rightarrow Feedstock or biofuel imports**
- **2nd generation biofuels: Still a number of technical and technological challenges to be solved ... some of them being pending for decades!**
- **Second-generation biofuels still at R&D&D stage**

We may be still 5-10 years away from commercial, even low-scale production

**Energy (oil) market developments may accelerate the commercialisation of
2nd generation biofuels**

4) Are current national and international policies that support biofuel production and use, the best option in the longer term for the transport sector or could the significant funding involved be better used?

- Currently in the EU: Biofuel Directive – 2% in 2005, 5.75% in 2010
- Achieved so far: 2003 – 0.5%, 2004 – 0.7%, 2005 – 1.0%, 2006 – 1.8%
- With current trends, the 2010 target may be missed (projected 3.9-4.2%)

On-going review of the EU Biofuel Directive as part of the EU Strategic Energy Review, due on 23.01.2008 (postponed from 05.12.2007)

Biofuels at the EU level: Alternative Fuels Communication (2001), Biofuel Directive (2003), Energy Taxation Directive (2003), CAP Reform (2003), EU Strategy for Biofuels (2006), Biofuel Progress Report (2007), Review of the Fuel Quality Directive (on-going), Research FWP, IEE Programme...

5) Is certification of biofuel feedstocks important, especially for trade in biomass feedstocks and processed first generation biofuels between "north" and "south" countries? If so how can it best be achieved?

- **A wide international concern on sustainability of biofuel / bioenergy production appears to be growing**
- **Not only first generation, not only “North” versus “South”**
- **EU: The issue highlighted in the Public Consultation Exercise for the review of the Biofuel Directive (Oct. 2007)**
- **... and it is to be considered in the proposal for a revision of the Biofuel Directive, 23.01.2008**

The issue is rather complex and challenging, many criteria and parameters have to be properly considered