Biomass, food and ecosystem services
The land use trade offs

EEAC WG Energy Workshop

10% Agrofuels: a prudent target?

Setting the right priorities for agroenergy use

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Presentation outline

Biomass for energy purposes may help us in (THE GOALS):

• GHG emissions reduction

• promoting energy security

• job creation

But it is produced from the land

Land also delivers:

• food

• non-energy biomass (biomaterials), also with GHG saving potential

• ecosystem services such as water, biodiversity and carbon sequestration

And land is scarce

So, biomass for energy purposes is also scarce

This means

- **there is a maximum potential, which depends on land availability and productivity**
- **an opportunity cost associated with the use of any hectare of productive land, e.g. for some biomass energetic option, in terms of lost:**
  - **food,**
  - **jobs,**
  - **GHG emission saving opportunities (through e.g. biomaterials as well as other uses of biomass for energy,**
  - **carbon sequestration**
  - **biodiversity**
  - **other ecosystem services**

Land use options may be difficult to revert in the future:

- **soil erosion, water pollution or biodiversity loss**
- **technological irreversibilities**

The policy tools: incentives vs specific legal targets have different effects when global targets are put at inadequate levels (the cost of being wrong about opportunity costs is different)

Delivery of policy goals and respect for sustainability constraints also put specially difficult problems when implementation is to be carried out in third countries

How this applies to the current proposal on bioenergy and biofuels?

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- **Policy approach: focusing on biofuels will create significant opportunity costs in land use terms;**
- **Policy target: these opportunity costs raise with the target; burden of proof of proving that costs are not too high**
- **For this, a global land use perspective of the effects of our (EU) demands, including biofuels and our animal-based diet, is required;**
- **Global land use efficiency is the right question to be put**
- **Proposed sustainability criteria and certification do not control indirect economic effects (deforestation)**
- **Finally, if the idea is to create a stable environment for industry to invest on better technology why not a more ambitious and increasing-in-time criterion for GHG savings**

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