

Land use change, biofuels, bioliquids and land use change – outline of analytical section of consultation document (*Literature review*)

Version 2.1 – 29.7.9

1. Introduction

- the task, the consultation exercise
- explanation of the difference between analysis and policy work
- indirect land use change, direct land use change, land use change
- ...

2. Issues connected with each step in the analytical process

(This section would give a general outline of the issues that have to be tackled in order to conduct each step of the process, as well as, where relevant, examples of how they are tackled in existing land use change work and how they are addressed in our work [maybe a recapitulative table at the end could be a good idea]. The a priori assumption is that most of these issues are relevant both for the historical work and for the modelling. Under each heading some examples are given of issues to be covered.)

Step 1 – data

- FAO data
- ...

Step 2 – baseline scenario

- oil price
- yield trends
- ...
- quantity of biofuels and bioliquids in the baseline

Step 3 – policy scenario(s)

- ...

Step 4 Choice of analytical tool

- CGE vs. partial equilibrium
- ...

Step 5 – difference between baseline and policy scenario – quantities of commodities

- co-product issues
- overall shifts in/reduction in demand
- ...

Step 6 – difference between baseline and policy scenario – hectares of cropland, by location

- response of yields to changes in demand or price
- yield of converted land (converted from non-cropland use or other crops) relative to yields on 'existing' land
- elasticity of land conversion- impact of policy (including restrictions such as those in the EU scheme on the use of raw materials from certain types of land)
- impact of the location of demand on the location of supply (and hence on the results of step 6)
- ...

Step 7 – translation of hectares converted into land types converted

- NB recently abandoned land, recently deforested land, peatland
- pasture land replacement (postulated 'cascade effect')
- historical method vs allocation method (other options?)
- ...

Step 8 – translation of land types converted into C stock changes

- reference land use/issue of foregone sequestration
- drivers of deforestation (including ENV's work on the topic)
- C stock values
- ...

Step 9 – comparison of C stock changes with GHG savings from biofuels

- GHG emissions from biofuel production (excluding land conversion)
- fossil fuel comparator
- time dimension
- ...

Step 10 – verification of results

- Back-casting
- ...

3. The analytical work used

(description, in general and in relation to the issues in section 2)

- CEPII/IFPRI
- IPTS x 3
- historic
- JRC comparative work
- DG ENV work (LEITAP) where appropriate

4. Analytical results

(from the work described in section 3)

- results expressed in ha and g/MJ
- results for the overall difference between the policy scenario and the baseline
- what do the results tell us about the relative impact of different types of biofuel/different feedstocks/the same feedstocks produced in different locations?
- sensitivity testing
- comparison with results from other models (including JRC comparative work)