



## **FEDIOL<sup>1</sup>-COCERAL<sup>2</sup> position on the public consultation: Indirect land use change and biofuels**

FEDIOL and COCERAL have been very involved in the discussion relative to the implementation of the sustainability criteria in the framework of the Renewable Energies Directive. Our two organizations call for the pragmatic implementation of the European sustainability scheme.

The European Commission has been mandated to submit a report to the European Parliament and Council on the issue of Indirect Land Use Change. Our organizations welcome the opportunity to contribute to this discussion as part of the present consultation. Based on the currently available data FEDIOL and COCERAL believe that it is too soon to draw unequivocal conclusions on the extent of Indirect Land Use Change. We therefore believe that it would be inappropriate at this stage to take specific measures to deal with this phenomenon.

### General principles

1. One of the key concerns of the industry is to ensure that the stability of the current legal framework is maintained. This is absolutely critical to the harmonious development of renewable energies in the EU in line with the objectives of the 2008 Climate Energy package.

It is important that any legislation proposed by the European Commission to tackle Indirect Land Use Change does not threaten the investments made under the current legal framework.

A significant change in the legislation would not only risk stifling investments in so-called "first generation" biofuels but it would also have a detrimental effect on the investments in innovative biofuels. These require a long term perspective and legal uncertainty would represent too much of a risk for operators.

2. Our industries would like to emphasize the necessity for any legal proposal regarding indirect land use change to be WTO compatible. As the agribulk traders and vegetable oil industries we are keenly aware of the necessity to import certified sustainable raw materials from third countries in order to reach the EU renewable energies targets.

For example it is questionable whether a region-specific Indirect Land Use Change factor would be compatible with the WTO framework. Any proposal which would target specific production areas would run the risk of being legally challenged by third countries. The

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<sup>1</sup> FEDIOL represents the interests of the European seed and bean crushers, protein meals producers and vegetable oils producers/processors. FEDIOL members amount to 85% of the EU industry and represent 147 oilseeds processing and vegetable oils and fats production facilities across Europe, employing approximately 20,000 people.

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<sup>2</sup> COCERAL is the voice representing the European cereals, rice, feedstuffs, oilseeds, olive oil, oils and fats and agrosupply trade. The members of COCERAL are the national trade organisations of most of the EU-27 Member States, who for their part represent collectors, distributors, exporters, importers and agribulk storers of the above mentioned commodities.

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implementation of a solution which does not provide all the guarantees in terms of WTO compatibility would represent a significant risk for economic operators.

3. The 10% target for renewable energies in road transport is the result of a democratic decision-making process. The entire rationale behind the Renewable Energies Directive cannot be questioned on the basis of inconclusive studies. The current consultation is therefore particularly welcome as it allows confronting the different assumptions and findings of the studies that have been referred to until today in the Indirect Land Use Change debate.

#### Analysis of the studies

FEDIOL and COCERAL have analysed the four studies put forward by the European Commission as well as the recent "new methodology" study published by the JRC as background documents for this stakeholder consultation on Indirect land Use Change. It appears to our respective organizations that a significant level of uncertainty remains regarding the extent of Indirect Land Use Change making unequivocal conclusions difficult to draw at this stage.

#### Raw data and assumptions

A number of key parameters used to evaluate ILUC vary significantly from one model to another.

1. An analysis of the different studies shows that the raw data can vary significantly from one study to another such as in the case of carbon stocks. The literature review done on behalf of DG Energy shows that for Fritsche (2007) the carbon stock in tropical forest is 539 tonnes of CO<sub>2</sub>/ha, in the "German SBO draft" it is 971. For Fargione et al (2008) it is 2700 for Brazil and 2572 for South East Asia.

2. Besides the quantification of carbon stock in tropical forest, the proportion of forest converted to cropland becomes of great importance in quantifying GHG emissions related to indirect land use change. The JRC "new methodology" review showed that the percentage of forest converted over the total land can vary from 5% to 36% according to different studies. With the high carbon content attributed to forest soils, these differences can result in great differences between the GHG emissions estimates from biomass (e.g. 43.4 Mt CO<sub>2</sub> in the IFPRI report vs. 167.7 Mt CO<sub>2</sub> in the JRC "new methodology", starting from the same assumptions).

3. Some key parameters in the model designed by IFPRI are subject to considerable uncertainties. It is clearly challenging to quantify whether farmers can intensify productivity through fertilization instead of farming new land or how easily land can be shifted from one crop to another.

4. Similar uncertainties exist regarding projections on future yield evolution. At this stage, according to the DG Energy review as well as the DG AGRI one (through JRC-IPTS), there has not been a successful attempt to quantify how additional demand affects yields through changes in inputs, technological developments or cropping intensity. Similarly, the IFPRI study states that no growth in palm tree yield is accounted for due to a lack of data, therefore palm oil tends to suffer from a disadvantage in the baseline.

5. One of the other key concerns of the industry is that co-products are adequately taken into account. Here again, the studies come to very different results when assessing the contribution of co-products in terms of land expansion. For example, CE Delft (2008) concludes that taking into account co-products limits the land requirement of biofuels by 35%. For Ensus (2008) on the other hand, this figure increases to 63%.

These examples highlight the major divergences in raw data and in assumptions that have a major bearing on the output of the studies regarding the consequences of ILUC.

## Results

As a consequence of the lack on consensus on the raw data and the assumptions underlying the different models, the findings of the analyzed studies clearly do not converge.

1. The estimates of the greenhouse impact of land use change associated with biofuels vary significantly from one study to another. For Searchinger et al (2008) this ranges between 127 to 232 g CO<sub>2</sub>/MJ. According to the data used for the California low carbon fuel standards - 2009) the figures range from 15 to -13 g CO<sub>2</sub>/MJ. For EPA (2010) they range from -4 to -64 g CO<sub>2</sub>/MJ and IFPRI (2010) concludes that this -43 g CO<sub>2</sub>/MJ.

2. According to the JRC and Institute for Energy study for DG Climate Action only a limited amount of models provide results in terms of greenhouse gas emissions attributable to Indirect Land Use Change. The models analyzed by JRC – IPTS for DG AGRI provide only information for changes in cropping patterns in the EU (CAPRI model), and the results for extra-EU countries are incomplete as AGLINK-COSIMO cannot identify land use changes associated with all relevant feedstocks or all countries.

Two models are helpful in this respect (FAPRI-CARD and GTAP) but their results diverge considerably. For FAPRI-CARD the EU rapeseed biodiesel emissions over 20 years are approximately 221.6 g CO<sub>2</sub>/MJ. On the other hand the GTAP estimates the emissions for the EU biodiesel mix over 20 years at 57 g CO<sub>2</sub>/MJ.

3. It appears clearly from the literature review done on behalf of DG energy that it is not possible to conclude from the studies which feedstocks perform better in terms of limiting Land Use Change. While the AGLINK and GTAP models conclude that EU Biodiesel production entails half as much land use change as EU wheat ethanol, the LEITAP analysis concludes to the exact opposite.

4. Similarly, the results of spatial allocation models reveal contrasting evidences: while the economic analysis carried out by IFPRI places most of the land demands into Brazil, most of the cropland expansion according to JRC-IPTS is allocated to the EU27 region. As the JRC “new methodology” study suggests, the globalized models currently available cannot picture the reality of cropland distribution in the world, thus conclusions on the geographical location of indirect land use impacts cannot be justified.

## Conclusions:

The currently available studies have clear shortcomings. In addition to points raised above, it appears that no study on Indirect Land Use Change has so far taken into account the effects of the EU sustainability scheme whose precise objective is to regulate direct land use change. No studies evaluating the impact policy (GHG emissions threshold and land use restrictions) were identified in the literature review done on behalf of DG Energy. In addition, when determining the types of biofuels will be consumed in the future, none of the studies take into account the legal limitations in terms of GHG emissions savings.

In our view it is somewhat of a paradox to justify legislating on the issue of Indirect Land Use Change on the basis of studies that generally assume that legislation has little or no impact on land use and the subsequent greenhouse gas emissions.

The confrontation of the currently available studies does not allow determining which biofuel would have a better ILUC performance based on feedstock or production area. The notion of a pathway specific ILUC factor therefore seems to be unfounded.

#### FEDIOL-COCERAL recommendations

The science relative to Indirect Land Use Change is inconclusive for the time being. It is therefore not appropriate at this stage to take specific measures to deal with ILUC. The current legislation already provides ambitious sustainability criteria for biofuels which help addressing any uncertainty regarding the carbon profile of biofuels.

The Renewable Energies Directive includes an ambitious decarbonisation mechanism. By 2018, all biofuels from new installations taken into account in the renewable energies targets will need to demonstrate that they provide a GHG saving of at least 60%. This represents a significant challenge for the industry. In addition this GHG savings provides a cushion taking into account any uncertainty relative to the GHG emissions.

The implementation of an Indirect Land Use Change factor in the greenhouse gas emission calculation of biofuels is at best premature. FEDIOL and COCERAL specifically reject the notion that differentiated ILUC factors could be introduced for specific biofuel pathways (per production area or feedstock). This would represent a major risk in terms of WTO compatibility and cannot be substantiated scientifically.

It should be noted that increasing the greenhouse gas savings threshold as the result of the implementation of an ILUC factor may have unexpected consequences. This would put the pressure of reaching the 2020 targets on a reduced number of crops. The introduction on an ILUC factor (or factors) would mechanically reduce the number of pathways and concentrate the demand for biofuels on a few feedstocks therefore entailing significant pressure for the relevant markets. The implementation of a factor would require at the very least an impact assessment to measure its practical implications.