Response to the ILUC Consultation of the European Commission

The Renewable Energy Directive and Fuel Quality Directive require the European Commission (EC), by the end of 2010, to submit a report to the European Parliament and to the Council reviewing the impact of indirect land use change (ILUC) on greenhouse gas (GHG) emissions of biofuels and addressing ways to minimize that impact. The EC is seeking the views of stakeholders and other interested parties on a number of questions, listed below, to be submitted until 31 October 2010.

This document includes the response from the Secretariat of the Roundtable on Sustainable Biofuels (RSB) to the consultation on ILUC launched by the EC. The RSB Standard does not at this point address the issue of ILUC. How to address ILUC is a subject that is under discussion within the organization. As a multi-stakeholder organization, our members have widely differing views on the nature, causes and magnitude of ILUC. Therefore, we wish to highlight that the views expressed in this document do not represent a consensual view of the RSB or its members, but it is an opinion expressed by the Secretariat only.

Furthermore, it should be kept in mind that ILUC is not caused by biofuel production alone, but by any and all human activities that use land. This includes the production of food, feed, and fiber, as well as urban development. An effective policy that addresses ILUC should take into account all land use activities. Ideally, mitigation of negative land use change would be best addressed through concerted policies on a global scale and across sectors.

1) *Do you consider that the analytical work referred to above, and/or other analytical work in this field, provides a good basis for determining how significant indirect land use change resulting from the production of biofuels is?*

Given the underlying uncertainties in ILUC modeling, we believe that the analytical studies in general can only draw conclusions on the magnitude of the environmental impact of a biofuel mandate *within a margin of significant uncertainty*. As a result, any number estimate for ILUC should be accompanied by its associated uncertainty range.

Analytical work provides important insight into the potential magnitude of ILUC. Of special importance is the range of ILUC estimates that are reported, frequently within the same study. This highlights the uncertainty associated with any attempt at understanding and quantifying the impact on land use change (direct and indirect) of a biofuel policy.

It should always be kept in mind that the causes of deforestation are multiple and the cause-effect relationship between biofuels and deforestation is complex and region-specific.

The large uncertainty associated with any ILUC factor calculation cannot be emphasized enough. Substantial uncertainties remain associated with each analytical step in the assessment of the magnitude of an ILUC factor, including, *but not limited to* assumptions on:

- The types of biofuel that make up the pool of increased biofuel production (fraction of biodiesel vs. ethanol, types of biodiesel and bioethanol);
- The type of land converted (e.g., fraction of peatland/wetland) and the carbon stocks of the land;
- Yield of new lands and yield increases in existing lands (e.g., though double-cropping); and
- Co-product fate.

An important consideration in the calculation of an ILUC factor is the increased biofuel production scenario on which the calculation is based, including assumptions on the types of biofuel (e.g., fraction of biodiesel vs. ethanol, and the breakdown of different feedstocks). For example, IFPRI (2010)[1] assumes that a significant amount of increased biofuel use due to the EU RED will be met by Brazilian sugarcane ethanol; this assumption has very important impacts on the conclusions of the study.

Another important question is whether a general ILUC factor is calculated for the entire biofuel pool or for individual biofuels from different feedstocks. IFPRI (2010) conducted both analyses; in calculating land use change impacts for different biofuels, the study calculated the isolated effects of increased production of each type of biofuel. However, in reality a biofuel mandate will result in simultaneous increased production of many different kinds of biofuels and the real impacts of each individual type of biofuel on land use change might be very different than what is reflected by conducting an analysis of isolated increases.

2) *On the basis of the available evidence, do you think that EU action is needed to address indirect land use change?*

Yes. The analytical work referenced in the EC ILUC Consultation document and other work on the impacts of biofuel production on ILUC highlight that GHG emissions associated with ILUC as a result of increased biofuel production can be substantial, and important enough to constitute a large fraction of the total lifecycle GHG emissions of biofuels.

In light of this fact, we recommend

- that the EU consider the impacts of the EU RED biofuel mandate on global ILUC; and
- that policy mechanisms be introduced in the EU RED in order to reduce the risk of ILUC potentially caused by increased biofuel production and use.

3) *If action is to be taken, and if it is to have the effect of encouraging greater use of some categories of biofuel and/or less use of other categories of biofuel than would otherwise be the case, it would be necessary to identify these categories of biofuel on the basis of the analytical work. As such, do you think it is possible to draw sufficiently reliable conclusions on*

[1] International Food Policy Institute (IFPRI), "Global Trade and Environmental Impact Study of the EU Biofuels Mandate", Final Report, March 2010.

whether indirect land use change impacts of biofuels vary according to feedstock type/ geographical location/ land management?

Indirect impacts of biofuels vary according to all of the factors stated above. However, prioritizing or discriminating certain feedstock types or geographical regions might have unintended effects related to leakage: biofuels from these feedstocks and regions might not be used to fulfill EU RED biofuel quotas, but they might continue to be used in other markets (e.g., EU and global food and feed markets). Leakage must be considered in designing any policy that addresses ILUC.

Land management is inherently associated with individual operations (i.e., at the operator level). We believe that the cumulative practices of individual operators can have a significant impact on global ILUC. I.e., a policy designed to encourage operator-level practices that reduce the causes of ILUC will very likely have net beneficial effects.

ILUC associated with biofuel production can be understood as the conversion of land to replace provisioning services (such as food, feed and fiber) that are diverted towards biofuel production. Therefore, practices that reduce the amount of new land that must be brought into production have a net lowering effect on the magnitude of global ILUC. Some land management practices might have such a net lowering effect. They are discussed below in a more general context of policy mechanisms to address ILUC.

4) *Based on your responses to the above questions, what course of action do you think appropriate?*

A. *Take no action for the time being, while monitoring impacts including trends in certain key parameters and, if appropriate, proposing corrective action at a later date*

We believe this is not an appropriate course of action as explained above.

B. *Take action by encouraging greater use of some categories of biofuel*

We believe that encouraging certain practices might reduce ILUC and would be an appropriate policy measure, as explained below.

C. *Take action by discouraging the use of some categories of biofuel by, for example*

a. *increasing the minimum greenhouse gas saving threshold for biofuels*
b. *imposing additional sustainability requirements on certain categories of biofuel (these could, for example, require the use of practices that can help mitigate indirect land use change impacts)*
c. *attributing a quantity of greenhouse gas emissions from indirect land use change to all biofuels that use land.*
    - *If the latter, please say how this should be calculated, and demonstrated, for example:*

        - *a factor based on the estimated (modelled) land use change from a marginal extra quantity of crop production;*
        - *a factor based on the average land use change from crops over some recent period;*
        - *a factor based on any other consideration.*
    - *Please also say*
        - *whether it should be reviewed and if so how often*
        - *whether it should be implemented with any accompanying measures*

Options a) and c) above will effectively discriminate some biofuel pathways (e.g., feedstocks) from qualifying under the EU RED. This might improve the environmental performance of the biofuel pool used under the EU RED, but might not cause any positive change on a global level due to leakage.

If the use of an ILUC factor prevents some operators from exporting to the market regulated by the EU RED, the operator can export to any other market. Hence, using ILUC factors in the EU RED and excluding some biofuels from qualifying under the EU RED *might not reduce global ILUC*. Note that this is also true for direct GHG emissions.

AnILUC factor can be used in policy by, e.g., adding the GHG emissions associated with ILUC (the ILUC factor) to the lifecycle GHG emissions of biofuels published in Annex 5 of the EU RED (which are different for different types of biofuel feedstocks and pathways). The ILUC factor can be either feedstock-specific or the same factor for all biofuel.

In general, we believe that using an ILUC factor as the *sole* policy mechanism to address ILUC might not be an effective policy measure, especially if the ILUC factor is not operator-specific. However, the calculation of ILUC factors may help better understand the causes and magnitude of ILUC and thus may aid in the development of effective policy measures to reduce the risk of ILUC.

If an ILUC factor is used, ILUC becomes a "yes/no issue" for different types of biofuel or biofuel feedstocks, which will either meet or not meet the threshold. Under this scenario, operators have *no incentive to implement practices that reduce ILUC:*

- Fuel pathways whose default values are EU RED compliant (pathways whose total LCA emissions (direct and ILUC) meet the 35% GHG emissions reduction threshold) can be counted towards the EU RED quota: this creates no driver or incentives for operators to implement practices that reduce ILUC because there is no incentive to improve beyond compliance;
- Fuel pathways whose default values are not EU RED compliant (pathways whose total LCA emissions (direct and ILUC) do not meet the 35% GHG emissions reduction threshold) cannot be counted toward the EU RED quota: this creates no driver or incentives for operators to implement practices that reduce ILUC because such practices would not be credited towards compliance.

In general, if operators implement ILUC-reducing measures we believe that global ILUC can be reduced.

If operator-specific values of ILUC are used (which take into account practices implemented by the operator that affect ILUC), or the default ILUC value can be adjusted if the operator implements certain practices that reduce ILUC, *then this creates an incentive for operators to implement practices that reduce ILUC in cases where this moves them from non-compliance to compliance*. This is a preferable policy option.

Furthermore, if practices that reduce the risk of ILUC are required of *all* operators, then an even greater level of impact will likely be achieved.

Any such measure should be centered around the idea of *preventing the displacement* of existing provisioning services (e.g., food, feed, fiber). Biofuel production that comes from "additional" feedstock production, that is, feedstock that was previously not fulfilling any other provisioning service (i.e., feedstock that was previously not being used as food, feed, or fiber) could result in a net lower risk of ILUC.

Below we present some practices that *may* reduce the risk of ILUC. We wish to highlight that we also believe that more knowledge needs to be gained on the causes of ILUC and especially on the potential measures to mitigate it. Such practices include:

- Improved productivity (yield) of biofuel feedstock production on existing agricultural lands while ensuring that the increased productivity is attained sustainably;
- Improved productivity of biofuel feedstock production on existing agricultural/pasture lands through the implementation of agricultural good practices (such as crop rotations and double-cropping), the integration of biofuel crops with other crops, or crop-livestock integration;
- Use of co-products from biofuel and biofuel feedstock production, thereby increasing the amount produced from an area of land;
- Waste reduction along the chain of production of the biofuel as it has been shown that significant amount of feedstock and biofuel product is wasted along the chain of production;
- Use of feedstock with low land area requirement per unit of output (e.g., use of algae when the technology is mature);
- Use of feedstock that can be grown on land that is not used for food, feed or fiber production, including, but not limited to degraded, contaminated, and high-salinity land (e.g., use of halophytes);
- Use of waste as a feedstock; and
- Use of land that is underutilized for the purpose of producing food, feed or fiber, as long as production of biofuel feedstock can take place sustainably.

Furthermore, the concept of *compensating* for displacement could be considered. Biofuel operators could partially or totally compensate for the displaced provisioning services by, for example, helping other producers (through, e.g., economic means or transfer of know-how) increase their own production of food, feed or fiber.

To summarize, we recommend that a policy designed to reduce ILUC should include incentives or requirements for operators to implement certain practices that reduce the risk of ILUC.