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29 October 2010

European Commission  
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## EUROPEAN COMMISSION INDIRECT LAND USE CHANGE (ILUC) PUBLIC CONSULTATION

### Introduction

Indirect Land Use Change (ILUC) is a global phenomenon which is the sum of Land Use changes caused by several factors. Among the main contributors to the ILUC are agriculture, urbanization, population growth, industrial activities, and poverty. Especially in developing countries, poverty is a major cause of deforestation. Due to multiple drivers for ILUC, the most effective way to mitigate ILUC is to control direct land use of the major users. This cannot be done on the national country or continent level but needs to be handled through international systems. It is not reasonable to assume that ILUC could be controlled by imposing restrictions on one industrial sector. Addressing LUC and indirect LUC (ILUC) by one sector, i.e. biofuels will lead to leakage into other sectors and this will not have the desired outcome of reducing deforestation.

In order to better focus the controlling actions and resources on the root causes of the reduction of carbon stock, analysing the underlying reasons for land use change is essential. All actions which contribute to the phenomenon should be studied and the causal relationships understood. All industrial sectors which utilize land shall be included so that the problem is not displaced from one sector to another.

For the production of biofuels, the same feedstocks that are used to produce energy products may also be used by a number of other industries, i.e. chemical, animal feed as well as the food industry. Substitution across the sectors means that in order for the rules to be effective they must apply across all branches of the industry. This approach would effectively limit the harmful effects on any one particular sector. Trying to combat ILUC by starting with a minor user of global commodities is merely poor policy making and in this case, may also be threatening the targets of actions against climate change.

The biofuel industry in EU is required to meet strict environmental criteria (Land use change) as well as Greenhouse Gas criteria. It is the only commodity industry in the world which has such strict requirements. The biofuel industry also has regulation as a driver to improve its carbon performance (Fuel Quality Directive) which is directly linked to the biofuel price in the market. It is therefore guaranteed that this industry both fulfils the environmental criteria and tries to improve its carbon performance over the full life cycle of the product. There are also incentives for the biofuel industry to improve the greenhouse gas performance of feedstock production (agricultural production) and these will be benefited by other customers using these feedstocks (primarily food, feed and

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chemical industries). It can therefore be assumed that the EU's biofuel industry will play an important role in driving the agricultural development towards GHG global responsibility due to these built in drivers in EU's regulation. These effects have not been understood and acknowledged in the wider public discussion as the Renewable Energy Directive and Fuel Quality Directive requirements are not in force before 2011. It would therefore be extremely counterproductive to eliminate these positive sustainability factors and drivers from global agricultural markets due to any restrictions to biofuel industry to use freely global agricultural market.

Neste Oil believes that policies should be technology and feedstock neutral. The biofuel industry is under intense development and all economic operators and biofuel pathways should be given the chance to improve the sustainability of their pathways.

As a conclusion, Neste Oil is convinced that the biofuel industry has the capability to improve the environmental, economic and social sustainability of feedstock production and that these improvements will be transferred to other commodities and industries. The Indirect Land Use change issue should not be used to remove this possibility from certain crops or areas. The same rules and regulations should be applied across all industries and commodities.

### Specific answers to questions in the consultation

**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?**

**No. Scoping the impact of indirect land use change to biofuels fails to recognize the overall nature of the ILUC.**

In order to estimate the magnitude of possible ILUC effects, computational general equilibrium models such as GTAP, CEPII/IFPRI or partial equilibrium models such as AGLINK or FAPRI as well as causal descriptive models have been used.

A comparison of the results of these models has shown that the model results depend critically on the assumptions used. And as the models rely primarily on historical data as their basic inputs they only poorly are able to take into consideration policy changes which would have a major effect on the final outcome. A major flaw in the models is the basis on which the relative percentage of land types to be converted is made. This is normally based on what has happened in the past and on expert opinions and modellers' judgement. There has not been sufficient time to carry on this research and to engage in consultation with the producer countries and organizations.

Also the top down nature of models is unable to represent solutions on individual, local or regional level. The primary decision making of farmers and other land users is not so much as to how they are able to deliver goods to the market but on how they can maximize income and improve their own food security, i.e. per hectare income is maximized by the choice of the crop like palm oil instead of highland rice or cassava used as food/cash crop.

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In addition we believe that there is lack of accurate data concerning carbon stocks, land use history and socioeconomics. In general, the data is based on a very small sample size which causes problems in interpreting the results of models i.e. they can not be tested accurately for conclusions.

The existing analytical work is also very inadequate in capturing the role of poverty and unemployment in some geographical areas as the underlying driver for LUC. Stopping biofuel production will not improve the circumstances of the poor. In fact biofuel feedstock production is a major employer and this will reduce pressure on expansion into carbon rich areas.

The other major problem with ILUC is the estimation of its magnitude. In order to estimate ILUC on a g CO<sub>2</sub>e/MJ basis, a wide number of scenarios are modelled as we peer into the future. The main questions to be addressed are how much fuel will be needed, how would this effect prices, how much could be produced by higher yields, how much will consumption be reduced in traditional markets, how much will the co-products of the biofuel chain reduce expansion of other biofuel chains, how much land will be needed, where will this expansion occur, what carbon stocks are in this land, how much carbon may be sequestered by the biofuel chain, what efficiency gains may be met over time etc. None of these questions have exact answers and a number of combinations are possible. Added to these variables one must also look at trade policies, the effect of local, national and international legislation and the influence of GDP growth in key markets and also the price of oil and energy as it influences fertilizer production costs. Clearly it is not possible with any degree of accuracy to give a value for ILUC. Models are only useful to present an order of magnitude when and if certain factors play out.

As a conclusion, ILUC models are not yet accurate enough to demonstrate direct causality of actions i.e. practical solutions to impact LUC of other activities cannot be defined.

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

**No, not at the moment, if the EU action is to limit to biofuels.** On the basis of the available evidence it would be prudent for the EU to further asses and address various options to address indirect land use change. It is important to model the consequences of the EU policy action if a feedstock was not approved and the effect of this on land use change. As the primary goal is to reduce the risks of possible future carbon stock changes as the result of EU biofuel policies and mandates, then the EU should first identify the risks, the potential to reduce these risks on the regional or national level and ensure that appropriate policy measures are enacted.

International agreements on protecting carbon-rich habitats would prove to be an efficient tool to address the question. To protect the most vulnerable, carbon-rich habitats, multilateral framework of agreements and legal structures are needed.

Indirect land use change is beyond the control of an individual economic operator. Individual economic operators may only be held responsible for the impacts of their own

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operations over the whole product life cycle, where they have full control (micro level impact). Indirect land use changes are outside the control (macro level) and thus outside the scope of an economic operator. Therefore it is mandatory that measures influencing the overall system be dealt with by international agreements and treaties.

**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 whether indirect land use change impacts of biofuels vary according to:**

- **feedstock type?**
- **geographical location?**
- **land management?**

**No, it is not possible to draw sufficiently reliable conclusions.** Action should be taken at this stage which does not discriminate against any feedstock or biofuel. The biofuel production chains must be given the opportunity to make improvements and this should be based on critical analyses which include all of the important stakeholders. As stated earlier, attempts to introduce control tools might easily provide counterproductive.

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

C. Take action by discouraging the use of some categories of biofuel

**No. Including an indirect land use change factor in greenhouse gas calculations for biofuels would definitely be a counterproductive action.** The Renewable Energy Directive gives general guidelines for GHG calculations. Detailed definitions and guidelines for conducting life cycle assessments are available in e.g. ISO standards 14040 and 14044. Applied principles should follow the official and agreed international standard systems.

Having a generic ILUC factor in the LCA formula would mean that the calculation would not represent a specific system in question. The formula would then represent the LCA for the specific case for other factors except for the generic ILUC factor.

Having a crop/area specific ILUC factor would lead to a risk for discrimination either based on the crop or production region. There is also a risk for ceasing positive development, especially in the developing countries, if the area or crop specific ILUC factor is applied.

**D. Take some other form of action**

Please say what action and why

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chance to improve the sustainability of their pathways. ILUC models are not yet accurate enough to demonstrate direct causality of actions i.e. practical solutions to impact LUC of other activities cannot be defined.

Neste Oil believes that if ILUC actions are taken before the full understanding of the phenomenon the policy should be to offer incentive to do additional ILUC mitigation actions by the operator. The example of such incentives could be added bonus (ILUC) for improving agricultural practices. These instruments could be linked to REDD plus systems or Global Climate Fund operation.

Now since biofuels are meant to reduce greenhouse gas emissions, it is argued that a full cycle carbon balance should include the contributions from ILUC. Already in the current EU legislation, strict criteria on sustainability have been laid out in the RED which must be met for the biofuels to be counted. This means that even if economic operators fully comply with the legislation meeting all the sustainability criteria, they will be penalized if other economic operators choose not to follow these strict guidelines in order to meet the demands in the food or chemical sectors. This surely is not and should not be the intention of the legislation.

As the intention of the RED directive is to improve the environmental performance of biofuels, then the only workable solution to this problem will be to have all sectors included.