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European Commission  
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The Bellona Foundation's ID nr: 8837191406-22.

## **SUBMISSION FOR PUBLIC CONSULTATION ON ILUC**

The Bellona Foundation would like to thank the Commission for the opportunity to comment on the public consultation on indirect land-use change (ILUC) with a consultation period from 30/07/10 to 31/10/10. Please find our comments below.

The Bellona Foundation is an international environmental NGO based in Norway. Founded in 1986 as a direct action protest group, Bellona has become a recognised technology and solution-oriented organisation with offices in Oslo, Brussels, Washington D.C., St. Petersburg and Murmansk, as well as representatives in a number of EU Member States. Altogether, some 75 engineers, ecologists, nuclear physicists, economists, lawyers, political scientists and journalists work at Bellona.

The comments from Bellona to this public consultation are based on our earlier work on solutions to the climate challenge. Therefore, we would like to briefly explain our main findings and our general views and approach to biomass as a resource before we go into answering the specific questions in the consultation document. Finally we summarise recommended action points to the Commission.

### ***Background – the Bellona vision***

The Intergovernmental Panel on Climate Change (IPCC) published its 4th report by the end of 2007. Here, it was stated that in order to avoid the most dangerous consequences of climate change, global emissions must be reduced by 50-85 % within 2050, and emissions must reach a peak no later than 2015<sup>1</sup>. More recent research has indicated that their findings were too optimistic<sup>2 3</sup>.

In 2008, Bellona published the report "How to combat global warming"<sup>4</sup>, where we looked at existing technologies and their potential to reduce greenhouse gas emissions with 85 % by 2050. Four main findings came out of this report: 1) the need for development of large amounts of renewable energy, 2) that energy efficiency will play a key role in order to achieve this reduction, 3) that developing ways in which we can capture CO<sub>2</sub> from energy production and industrial processes and store the CO<sub>2</sub> in geological formations will be a crucial part of the solutions, and the fourth main finding was that we will need to develop carbon negative emissions through capturing biogenic CO<sub>2</sub> and store it. This means that without large amounts of sustainably produced biomass, we will not be able to reduce greenhouse gas emissions as much as the IPCC says is required. Because we will need substantial amounts of sustainably produced biomass in the future, there is a strong need for policy makers to

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1 <http://www.ipcc.ch/ipccreports/ar4-syr.htm>

2 James E. Hansen, "Scientific reticence and sea level rise", <http://pubs.giss.nasa.gov/abstracts/2007/Hansen.html>

3 W. T. Pfeffer et al., "Kinematic Constraints on Glacier Contributions to 21st-Century Sea-Level Rise", <http://www.nature.com/climate/2008/0810/full/climate.2008.93.html>

4 [http://www.bellona.org/filearchive/fil\\_Bellona\\_CC8\\_Report\\_-\\_Final\\_version\\_-\\_30\\_mai.pdf](http://www.bellona.org/filearchive/fil_Bellona_CC8_Report_-_Final_version_-_30_mai.pdf)

incentivise innovations and developments of new biomass sources, as well as using the existing sources in the right way.

Now, the best way to avoid indirect land use change (ILUC) effects from biomass production is to develop and use biomass feedstocks which does not compete with land used for food or other purposes. This implies that we need to focus on developing micro- and macro-algae production as well as saltwater plants for bioenergy and biobased products purposes. It is even possible to produce energy and products with negative ILUC values, for example through solutions which contributes to what Bellona calls “restorative growth”. By restorative growth, we mean innovative, industrial processes which lead to re-vegetation and creation of green jobs through profitable production of food, water, biomass and electricity. The idea is to use existing technologies in combination to use resources which we have in excess (sunlight, saltwater etc), to produce resources which we lack (energy, biomass, freshwater). The findings above must be taken into account when answering the questions asked in this public consultation on ILUC;

Firstly, since reducing greenhouse gas emissions is one of the main arguments for increasing the use of bioenergy (i.e. for transport, power and heat) in the EU, ensuring that such an increase actually contributes to reduced emissions is of course of crucial importance. Given that ILUC has an impact on the emissions from biomass production; it must be taken into account.

Secondly, the policy must ensure that there is room for a market to be built for sustainable bioenergy and biobased products as alternatives to fossil sources in the long term. Balancing these two considerations is a challenging task which highly relates to this ILUC consultation. However, it will also have implications for shaping policies regarding fossil fuels and other uses for biomass than biofuels.

## ***EU policies***

In April 2009, the EU legislature adopted the Renewable Energy Directive (RED), requiring Member States to use renewable energy sources to meet 10 % of their transport needs by 2020.<sup>5</sup> This target will be met in large part through increased use of biofuels, which are considered a renewable source under EU law. Under the National Renewable Energy Action Plans (NREAPs) submitted to date, biofuels will by 2020 have a share of 9.5 % in surface transport energy. First-generation biofuels will have a share of approximately 90 % – in other words, comprising 8-9 % of overall transport needs.<sup>6</sup> At the same time, the EU legislature adopted amendments to the Fuel Quality Directive (FQD) requiring a 6 % reduction in lifecycle greenhouse gas (GHG) emissions from fuels consumed in the EU by 2020.<sup>7</sup>

To “force” member states to increase their share of renewable energy in the transport sector through the 10 % target will contribute to faster changes in the sector than without such a goal.

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<sup>5</sup> Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (hereinafter “RED” for Renewable Energy Directive).

<sup>6</sup> COD/2008/0016.

<sup>7</sup> Directive 2009/30/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and introducing a mechanism to monitor and reduce greenhouse gas emissions and amending Council Directive 1999/32/EC as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC (hereinafter “FQD” for Fuel Quality Directive).

However, it is crucial that the solution which achieves this goal is actually renewable. Therefore, strict sustainability criteria for the biofuels are necessary.

Combining strict sustainability criteria with a GHG-reduction target for transport fuels in the FQD as well as measures for improving energy efficiency and incentivise electrical cars and public transport, will contribute to an environmentally friendly development in the transport sector. Also, there is a need for determining the true environmental effect of the fossil fuel which the biofuel is supposed to replace. Thus, the reference value for emissions from fossil fuels must be evaluated and it must be secured that potential ILUC effects are equally taken into account for the fossil reference value.

Another important consequence of the EU biofuels policy is that it has impact on the demand for biomass feedstocks in general. Since biomass is an important input not only for biofuels production, but also in biobased products, bioheat and biopower, increased demand for biomass feedstocks in general will have unintended consequences for several industries. Also, when producing biofuels for transport from biomass feedstocks, one will always produce other products at the same time. This underlines that the sustainability criteria set by the Commission need to be valid for all biomass feedstock production, no matter what it is used for.

### ***The specific consultation questions:***

**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?**

All the studies find that there are ILUC-effects. Thus, the results from the analytical work referred to do give a basis for determining that production of biofuels creates indirect land use change. Not taking this effect into account could potentially mean that the environmental effects of biofuels are underestimated (or even overestimated in certain cases such as in the case for ethanol from wheat in the E4Tech study).

However, there are many uncertainties regarding the assumptions and numbers in the models. Bellona would like to highlight that it is particularly important to do more research on the carbon stock values for different types of biomass production, and to get closer to an answer on how much carbon is stored where in which biomass sources.

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

Yes, Bellona believes that the findings in the studies mentioned above imply that EU policy must take ILUC effects into account.

**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?**

Yes, the studies carried out for the Commission point to different values for different feedstocks. However, indirect land use change will be difficult to distinguish on a geographical basis. In any case, there must be an option for disaggregated values for individual producers, as for direct GHG savings calculations under the RED.

Bellona believes that the problem with the approach taken in question number 3 is that ILUC is not a static concept. Thus it can be influenced over time, both by public policies and by the producers. Which categories of feedstock type, geographic location and land management have the better ILUC effect can therefore vary over time. This implies that there is a risk for making the wrong choices if linking a static value to a certain type of biomass. The policy therefore needs to give the producer incentives to reduce ILUC over time, and even develop negative ILUC values through so-called restorative growth explained above.

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

Due to the method in the RED, ILUC effects are difficult to take into account unless a so-called ILUC factor is linked to specific feedstocks. Such an approach would have to be developed in close cooperation with both environmental NGO's, research institutions and the industry itself, so as to find policy solutions taking ILUC factors into account, but at the same time, ensure that long term solutions towards a zero-emissions society are developed.

In that sense, a market for sustainably produced biofuels must be built for the future, as it is the only potential renewable alternative for certain parts of the transport sector, such as aviation. In order to secure this development goes in the right direction, the industry needs predictability for making investments, and the effects of ILUC must always be most up to date. This implies that an ILUC factor should regularly and as often as possible be adjusted to new science and findings.

There are large challenges in securing low GHG emissions with existing biomass sources, and it is of crucial importance that funds for research, development and demonstration of new sources of biomass are secured. In addition to developing new biomass sources, low- emissions technology for production methods must be developed. This includes the opportunity for production of bioenergy and biobased products in combination with carbon capture and storage (CCS) technology. By capturing biogenic CO<sub>2</sub> and storing it geologically, carbon negative solutions can be achieved.

## ***Summary***

Bellona acknowledges that policy action to address and reduce ILUC of biofuels production is a challenging task. We appreciate the specific questions asked by the Commission in this consultation, but we find it challenging to give clear and detailed answers. However, our response can be summarized in the 3 points below.

- 1. As soon as possible introduce in the existing sustainability criteria an ILUC factor linked to feedstock type based on the academic work already done - and at the same time initiate further work to develop this method to make it as correct as possible. That work should be done in close cooperation with environmental NGO's, research institutions and the industry. Broad participation is required in order to balance the need for a predictable framework within which the industry can develop a market, as well as for securing that such a market development is bound in an environmentally satisfactory direction. Such a policy must incentivise reducing the ILUC effects. The Commission could for example use existing advisory groups for this work, such as the European Biofuels Technology Platforms working group on sustainability.**
- 2. Establish and coordinate a funding program for developing and increasing the supply of sustainably produced biomass feedstocks, including new and innovative sources such as saltwater plants and algae. Such a program should also include research on different qualities of different biomass types and aim at recommendations on which types of biomass should be used for which purposes. Also, developing industrial processes which contribute to negative ILUC factors through restorative growth should be aimed at. Financing of this work should be organised through public-private partnerships with the Commission, Member states and the industry, e.g. after the model of NER 300 funds.**
- 3. Develop procedures/methodology for evaluating and adjusting the policy measures in accordance with the most recent scientific evidence, as well as for securing predictability for the industrial development. Both the 10 % target and the sustainability criteria should be evaluated as often as possible and on a regular basis.**