

The European Commission's proposal to mitigate indirect land use change from biofuels

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This short paper sets out some ways forward for EU policy on biofuels following the European Commission's ILUC proposal¹. It builds on research papers and projects that we have undertaken over the past nine months (listed at the end of this document) and discussion with a number of key actors in the debate.

1.1 Indirect Land Use Change - the issue

Land use change induced by biofuels results when the demand for certain feedstocks, specifically agricultural crops, cannot be accommodated entirely within the existing area of agricultural land (for example through increased yields). As a consequence, either direct land use change results, for example converting non-agricultural land into cropland for biofuel crops; or the demand for biofuel feedstocks displaces food and feed production onto other, non-agricultural land. This in turn results in indirect land use change (ILUC) and associated GHG emissions. When these additional emissions are taken into account, the potential GHG emissions savings arising from the use of biofuels rather than fossil fuels are reduced significantly (or in some case emissions could increase compared to fossil fuels), ultimately undermining the goal of reducing GHG emissions in the transport sector.

Some have argued that marginal and unused agricultural land can be used to grow biofuel feedstocks, removing any ILUC effect. However, it is far from clear how much land falls into this category, much of it has relatively low agronomic potential (because of fertility, slope, access etc) and is often fragmented in fairly small parcels. Therefore, the feasibility of using it for commercial biofuel feedstock production given the economic realities of production on a sufficient scale and at a low enough cost is questionable. Correctly, it has been shown that when co-products from certain food crops used for biofuels, such as those that can be used for animal feed, are taken into account the overall land demand impacts are reduced. However, existing modelling studies show that nonetheless significant ILUC impacts are also expected when co-products are taken into account.

There are many other conjectures in this debate, touching on a variety of different sectors, and there remains uncertainty about the precise impacts of any change in policy, including those proposed by the Commission. Despite this, our review of the evidence in relation to ILUC and biofuels suggests that at least three things are clear:

- ILUC is a real and tangible problem affecting the sustainability of land based biofuels and their potential contribution to the decarbonisation of the EU transport sector;
- ILUC is a challenge for both industry and environmental interests alike but ultimately there is a common interest in the long term sustainability of energy supplies and we need clarity about the true impacts of different supply chains; and
- The effects of ILUC present a serious barrier to the effective implementation of the Renewable Energy Directive (RED) and Fuel Quality Directive (FQD).

¹ http://ec.europa.eu/energy/renewables/biofuels/doc/biofuels/com_2012_0595_en.pdf

1.2 Dealing with Indirect Land Use Change - the challenge for policy

Dealing with the ILUC challenge goes hand in hand with meeting the objectives of the RED transport targets.

- Biofuels need to be environmentally, economically and socially sustainable;
- Biofuels must result in genuine greenhouse gas (GHG) emission savings and take into account both direct and indirect impacts and emissions;
- The ILUC issue must be tackled both in the RED and FQD if the greenhouse gas emissions of the EU transport sector are to be effectively reduced.

Correct carbon accounting is necessary to ensure that existing and future policy mechanisms result in genuine emission savings. ILUC factors are one way of achieving this in the RED and FQD.

A critical review of the RED and FQD targets is necessary to help move transport onto a more sustainable and low carbon development trajectory. The current targets set out in these policies have led to the large-scale uptake and incentivisation of biofuels, not all of which are sustainable or lead to significant GHG savings. A critical review of these targets is foreseen already in the RED (Article 23(8)b)² and needs to go ahead on time in order to inform future policy needs in a timely manner.

Volume targets have proved an effective tool for incentivising uptake, however they lack the flexibility to adapt to changing evidence and also may limit innovation in the sector. In the short term, ie up to 2020, a sub target for sustainable advanced biofuels may serve a purpose in re-balancing the types of biofuels being taken up to meet the RED target and increasing the volume of advanced biofuels on the market. However, in the longer term these targets should be replaced by emission savings targets to increase the focus on core objectives and the flexibility of the approaches taken. This would reduce reliance on conventional land based fuels and feedstocks that have been popular because they can be mobilised easily to meet any target given existing infrastructure.

The impacts of any volume targets should be analysed carefully before they are enshrined in policy. Where there is uncertainty, environmental safeguards should be put in place to prevent perverse outcomes.

Multiple counting as a means of meeting volume targets has also proved an effective tool for mobilising certain fuels and feedstocks. It has allowed a differentiation between different feedstocks and made it easier for Member States to meet their transport targets. However, the current design of this tool in the Commission's ILUC proposal and the proposed list of feedstocks do not take into account adequately the existing uses of such feedstocks and their GHG emission savings potential when used in other sectors.

A robust policy solution for ILUC needs to take into consideration both short-term policy fixes (within the 2020 horizon) and longer-term goals for the transport sector. These are needed in order to set the future of EU transport and renewable energy policy on the right

² Article 23(8)b calls upon the Commission to review the ten per cent transport target sustainably in 2014, taking into account economic, environmental and social impacts. This review and the policies it influences sits in the wider context of renewable energy policy to 2030 and beyond

path and provide confidence to those who will invest in the technologies and infrastructure that will ultimately enable these policies to deliver the desired outcomes.

1.3 IEEP recommendations to take policy thinking to the next level

Between now and 2020:

Limit the contribution that conventional (food and feed) and land based biofuels can make to RED and FQD targets. This can be achieved by maintaining the five per cent cap proposed for the RED; introducing a parallel measure in the FQD; and extending the cap to all land-based feedstocks. This approach would signal the fading political support for conventional biofuels and their gradual removal from the EU biofuel sector.

Take full account of the GHG impacts of biofuels and their feedstocks to ensure that biofuels incentivised under the RED and FQD contribute genuinely to decarbonisation of the EU transport sector. This can be achieved by introducing ILUC factors into the RED and FQD as a workable means of accounting for ILUC emissions. This should be accompanied by an appropriate grandfathering clause to protect existing investments and other mechanisms to stimulate the development of genuinely low-ILUC biofuels.

Determine the availability of genuinely sustainable biofuel feedstocks that can contribute towards the EU targets. This should include *inter alia*: an inventory of EU bio-resources; a clearer set of sustainability criteria; and an examination of the economic and environmental impacts of diverting feedstocks into the energy supply chain.

Beyond 2020:

To signal a political shift towards advanced biofuels that result in greater GHG emissions savings a revised text should announce the phasing out of support for any biofuels from food and feed crops.

- No support should be granted, after 2020, to biofuels that do not lead to substantial GHG savings after [all] emissions have been accounted for.
- No support should be granted to the use of existing food and feed crops whether or not they lead to GHG savings, so as to avoid competition and price irregularities with other sectors.

To ensure ILUC impacts continue to be mitigated over the longer term, policy solutions should be developed that mitigate ILUC more directly. These could include but are not limited to:

- more transparent land use monitoring and reporting;
- land-use planning approaches in producer countries.

To move renewable energy policy to a more objective focused and flexible approach to decarbonising the transport sector by:

- ending volume targets for biofuels in renewable energy policy;
- strengthen fossil fuel reduction targets as currently enshrined in the FQD;
- reinforce vehicle CO₂ legislation as currently in place for cars, vans and light-duty vehicles with increasingly tight standards;
- improve support for alternative transport fuels such as electricity and hydrogen, taking forward some of the initiatives put forward by the Commission's Clean Energy in Transport package.

1.4 Reports and further reading

Allen, B, Kretschmer, B, Kieve, D, Smith, C and Baldock, D (2013) *Biofuels and ILUC – Q&A: Answers to common questions surrounding the ILUC debate*. Biofuel ExChange briefing No 5. Institute for European Environmental Policy (IEEP), London.

In this briefing we focus on four different areas: landuse; co-products and food crops; the agriculture sector; and other wider sustainability aspects of biofuels. These are explored through a series of questions that have been raised during the debate and some suggested answers. The report can be downloaded at:

http://www.ieep.eu/assets/1204/IEEP_2013_ILUC_Questions_and_Answers.pdf

Kretschmer, B, Allen, B, Kieve, D, Smith, C (2013) *The sustainability of advanced biofuels in the EU: Assessing the sustainability of wastes, residues and other feedstocks set out in the European Commission's proposal on Indirect Land Use Change (ILUC)*. Biofuel ExChange briefing No 3. Institute for European Environmental Policy (IEEP), London.

This briefing aims to provide information to assist understanding of the potential environmental consequences of an advanced biofuel industry relying on mainly wastes and residues as their feedstock base. It considers definitions for the feedstocks proposed; their existing uses; their sustainability profile and if there are any 'hidden' environmental risks from using these resources; and identifies potential environmental safeguards that could make certain feedstocks more sustainable. The report can be downloaded at:

http://www.ieep.eu/assets/1173/IEEP_2013_The_sustainability_of_advanced_biofuels_in_the_EU.pdf

Kretschmer, B and Baldock D (2013) *Addressing ILUC? The European Commission's proposal on indirect land use change*. Biofuel ExChange briefing No 2. Institute for European Environmental Policy (IEEP), London.

This briefing provides a short analysis of the European Commission's current proposal for EU legislation on indirect land use change (ILUC) and comments on its potential effectiveness in limiting the use of unsustainable biofuels. The report can be downloaded at:

http://www.ieep.eu/assets/1090/Biofuel_Exchange_briefing_note_Jan_2013_-_Commission_s_ILUC_proposal.pdf

Skinner, I (2013) *Alternative Means of Reducing CO₂ Emissions from UK Road Transport Towards 2020 And Beyond*. Biofuel ExChange briefing No 4. Institute for European Environmental Policy (IEEP), London.

This briefing provides an overview for non-transport specialists of the potential options and policy instruments that might be introduced in the UK specifically to reduce carbon dioxide (CO₂) emissions from road transport. It also discusses the issues and challenges associated with these, in the context of the wider policy framework, including that in place at the EU level. The report can be downloaded at:

http://www.ieep.eu/assets/1172/IEEP_2013_Alternative_means_of_reducing_CO2_emissions_from_UK_road_transport.pdf

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