

UPDATE ON BIOFUELS AND INDIRECT LAND-USE CHANGE

Background / Context

The Renewable Energy Directive (2009/28/EC) attempts to limit negative consequences of expanded European demand for bioliquids and biofuels by proposing a series of sustainability criteria, set out under Article 17. To be counted towards the renewable energy in transport target, biofuels are subject to a greenhouse gas (GHG) reduction target, as well as sustainability criteria regarding the protection of high carbon stock areas, protected areas and high biodiversity value areas.

The Directive sets ambitious targets for all Member States, such that the EU will reach a 20 per cent share of energy from renewable sources by 2020 and a 10 per cent share of renewable energy specifically in the transport sector. The mandatory 10 per cent target for transport will be mainly reached through biofuels. This target was decided despite some of the provisions to ensure the sustainability of such biofuels remaining undefined. Important elements will, therefore, be developed and adopted via the comitology procedure in the coming months. For this purpose a 'Committee on the Sustainability of Biofuels and Other Bioliquids' was created by Article 25 of the Directive. As for other comitology committees this will be presided over by the Commission and composed of representatives of Member States. This means that important elements concerning biofuel sustainability will be decided upon in a procedure where historically the Commission exercises strong influence. These provisions include, among others:

- The establishment of 'criteria and geographic ranges to determine which **grassland** shall be covered' by the sustainability criteria;
- Adaptations to **technical and scientific progress** can be attached to the Directive at any time; and
- Verification approaches will be defined in Winter 2009/Spring 2010.

Moreover, by March 2010 the Commission is also expected to bring forward proposals on:

- A report reviewing the **impact of indirect land-use change on GHG emissions** and addressing ways to minimise that impact, and, if appropriate, accompanying legislative proposal, will be completed by March 2010; and
- A decision on **biomass sustainability criteria**. A report on this is expected to be made public by the end of 2009, along with proposed modifications.

Much of the debate over the suitability and coverage of the sustainability criteria has focused on the issue of land use change. This is due to the target boosting biofuel production and the significant possibility of displacement of agriculture into high carbon stock areas and biodiversity-rich areas.

Review of recent developments

Grasslands

Grasslands, both natural and non-natural, are often of high biodiversity value. Biofuel production can, directly and indirectly, have a significant impact on this biodiversity, an issue the Directive tries to address. However, due to the ambiguities and unconventional definitions used, the definition of highly diverse grassland has become a source of extensive debate, in particular with regards to what the definition covers and how it should be operationalised. The extent and coverage of grasslands will be decided and approved under the comitology procedure Winter 2009/Spring 2010.

Paragraph 3 of Article 17 states that biofuels and bioliquids 'shall not be made from raw material obtained from land with high biodiversity value'. It goes on to qualify this statement by clarifying that for the purposes of the Directive this means land 'that had one of the following statuses in or after January 2008, whether or not the land continues to have that status':

- a) Primary forest and other wooded land;
- b) Areas designated for nature protection; or
- c) Highly biodiverse grassland that is:
 - (i) natural, namely grassland that would remain grassland in the absence of human intervention and which maintains the natural species composition and ecological characteristics and processes; or
 - (ii) non-natural, namely grassland that would cease to be grassland in the absence of human intervention and which is species-rich and not degraded, unless evidence is provided that the harvesting of the raw material is necessary to preserve its grassland status.

Multiple terms have been used within the Directive in the context of grassland; this has caused some confusion as to what grassland is covered by point c. At present there is no clear hierarchy of meaning or definitions set out. Within the Directive, references of importance to grasslands are made at three different levels and the interconnectivity of these clauses is of importance in interpreting meaning.

The wording of the Directive implies no hierarchy between highly biodiverse natural and non-natural grasslands; these are deemed as equally important. While the distinction between the two grassland types is useful in aiding identification of grasslands to be protected and the evidence base required, the lack of hierarchy between natural and non-natural means the primary objective is simply protecting highly biodiverse grasslands. Logically, therefore, if a grassland can be identified as highly biodiverse it should be avoided for the purposes of biofuel and bioliquid production, even if it is not possible to distinguish precisely whether it is deemed natural or non-natural.

The biodiversity-related aims of the Directive refer to “land with high biodiversity value” and specifically “highly biodiverse grasslands”. According to the Convention on Biological Diversity (CBD), “biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”¹.

It is therefore important to note that the overarching biodiversity aims of Directive 2009/28/EC are broader than those outlined in the clauses defining “highly biodiverse² grasslands, which only refer to natural grasslands and ‘species-rich grassland’. In other words, natural grasslands and non-natural species-rich grasslands are a subset of highly biodiverse grasslands. In particular, the term “species richness” is usually used with respect to plant species richness (and normally only higher plants, i.e. excluding mosses and liverworts etc).

It is important to ensure that a broad definition of grasslands is taken, including biotopes that can have a high proportion of shrubs, trees, mosses, other plants, bare soil or exposed rock. Many habitats of importance are likely to be intermediate or transitional habitats (between forest and steppe, wetlands and grasslands, and desert and grasslands) or consist of complex mosaics of habitats.

Under the Directive, natural and non-natural grasslands are distinguished by the fact that the former would remain grassland in the absence of human intervention, while the latter would cease to be grassland in the absence of human intervention. Firstly, it is vital to note that just because human activity is taking place in an area does not automatically classify it as non-natural. The vast majority of natural grasslands globally will be being used for some form of agriculture, primarily extensive grazing of livestock. The presence of farming activities cannot, therefore, be used as a basis to distinguish between natural and non-natural grasslands.

The Directive clause regarding non-natural grasslands is more complex to interpret than for natural grasslands. This is partly due to the wide array of potential non-natural grassland types. Further confusion is added by the incorporation into the definition of highly biodiverse non-natural grasslands the requirement that they be ‘species-rich and not degraded’. The process and level of detail in any assessment needed to determine whether non-natural grassland is highly biodiverse will vary based on what category of non-natural grassland exists on a site.

These issues must be taken into account and addressed by the Commission prior to establishing the criteria and geographic ranges that determine which grassland will be covered by the sustainability criteria, using the best available scientific evidence and relevant international standards.

¹ <http://www.cbd.int/convention/articles.shtml?a=cbd-02>

Indirect Land Use Change (ILUC)

The Directive includes a list of default values for the GHG savings of different biofuels, assuming no change in land use. In addition it sets disincentives to directly converting land for the production of biofuels. This is necessary because much of the carbon stored in soils and forests is released when the land is cleared and the soil disturbed. However, it includes no provision for calculating the GHG emission impacts of indirect land use change (ILUC) resulting from existing crop displacement. Several environmental organisations, national technical agencies and scientific institutions consider this a dangerous flaw in the Directive, capable of negating any GHG savings from using biofuels as an alternative transport fuel.

As a first step in addressing ways to minimise the impact of ILUC, the Commission drafted a preparatory list of possible policy elements², and invited experts and stakeholders to submit comments by 31 July 2009. Policy elements considered at this preparatory stage include:

1. Extending to other commodities and countries the restrictions on land use change that will be imposed on biofuels consumed in the EU;
2. Reaching international agreements on protecting carbon-rich habitats;
3. Doing nothing;
4. Increasing the minimum required level of GHG savings;
5. Extending the use of bonuses (e.g. to biofuels that do not come from land and to biofuels from idle land);
6. Setting additional sustainability requirements for biofuels from crops/areas whose production is liable to lead to a high level of damaging land use change;
7. Including an ILUC factor in GHG emission calculations for biofuels; and
8. Other policy elements that respondents may wish to raise.

Environmental NGOs, led by Birdlife, Friends of the Earth, Transport and Environment (T&E) and the European Environmental Bureau, are in agreement over supporting option 7: the incorporation of robust ILUC factors in the GHG calculation methodology for biofuels. This option is considered the only short-term and mid-term option to be practically feasible within the limited timescale of the target (2020). The position of environmental groups is that ILUC factors should be based on modelling that specifically considers the increase in GHG emissions due to the additional production of biofuels. Factors should be crop/region specific, based on the results of modelling. The precautionary principle is the foundation of the NGOs' position. On the basis of this, the factors devised should ensure that only those biofuels that deliver considerable GHG emissions should be produced. An ILUC factor

² Indirect land use change - Possible elements of a policy approach - preparatory draft for stakeholder/ expert comments,
http://ec.europa.eu/energy/renewables/consultations/doc/iluc_preparatory_consultation_doc.pdf

of 0 should be set out for biofuels, such as those from waste materials that do not use land. If this is not achieved, it is expected that the NGOs will use the Commission's review of implementation of the 10 per cent target in 2014 as an opportunity to ensure that environmental concerns are properly considered and the target modified. Indeed, a downward adjustment of the target is currently considered the easiest and most effective measure to reduce the environmental impacts of increased biofuel production, and in particular, of indirect land use change (ILUC).

In the longer term, and in support to the above option, environmental groups support the development of *international agreements on protecting carbon-rich habitats*, one other option envisaged by the Commission.

Pre-consultation on ILUC

The European Commission recently published the results of its pre-consultation exercise³, where NGOs and Member States were invited to comment on the Commission's list of policy options.

Most Member States support the option to extend possible ILUC restrictions on biofuels to non-EU countries and other agricultural commodities. This would, however, have serious international trade implications. As a result, reaching international agreements on protecting carbon-rich habitats is seen as the preferred solution in the long term. In this regard, Austria argues in its submission that sufficient nature protection measures already exist within the EU, so, presumably, any new measures would be applicable only to imported biofuels. Member States also generally favour extending the use of bonuses to encourage certain types of biofuel production, but do not see this as a sufficiently effective way to address the particular problems related to ILUC.

Member States are, however, deeply divided over the issue of including an ILUC factor in the calculation of GHG emissions. Indeed, the battle lines remain largely unchanged since the negotiation of the Renewable Energy Directive in 2008.

Germany, Denmark, the Netherlands and the UK strongly favour including an ILUC factor in an amended policy. They argue that a level of uncertainty on ILUC effects cannot be used to justify inaction, and that ILUC due to additional biofuels production has the potential to outweigh any GHG benefit. This view received strong support from the European Parliament during negotiation of the Directive.

On the other hand, echoing the Commission's initial concerns, Austria, France, Italy, Spain and Poland oppose including an ILUC factor, arguing there is insufficient scientific evidence to assess the ILUC impacts of different types of biofuels. Until further research is completed on the issue, they believe the level of GHG savings required by Directive 2009/28/EC provides a sufficiently large 'cushion' to prevent adverse GHG emission impacts of ILUC. Their concern is that introducing an ILUC factor at this stage would discourage biofuel and bioliquid production regardless of their sustainability. This view is supported by Indonesia and Argentina, two

potentially major exporters of biofuels, as well as Brazil, a major producer of sugar cane for ethanol.

Key future developments

The comments gathered in the ILUC pre-consultation process will feed into the Commission's drafting of a formal consultation process, to be conducted in the autumn of 2009. A report reviewing the impact of ILUC on GHG emissions and addressing ways to minimise that impact, and, if appropriate, an accompanying legislative proposal, will be completed by the Commission and submitted to the European Parliament and to the Council by March 2010 – nine months ahead of the deadline set in Directive 2009/28/EC. This would enable Member States to take ILUC impacts into account in their National Renewable Energy Action Plans, which must be submitted by 30 June 2010.

Should the Commission opt for a legislative proposal, this will go through the co-decision procedure in 2010. Legislation is not likely to come into force until the end of 2011.

In 2014 the Commission will review the sustainability of biofuels and suggest modifications to the Directive, as appropriate.

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