Initial appraisal of a European Commission Impact Assessment

European Commission proposal for a Directive on indirect land-use change related to biofuels and bioliquids


Background


Context

In March 2007, the EU leaders endorsed an integrated approach to climate and energy policy aimed at combating climate change and increasing the EU’s energy security, while strengthening its competitiveness and transforming itself into a highly energy-efficient, low carbon economy. Renewable energy, including biofuels, is an essential element of the EU’s energy and climate strategy. In 2009, through Directive 2009/28/EC on the promotion of the use of energy from renewable sources (the ‘Renewable Energy Directive’), the EU adopted mandatory targets to achieve by 2020 a 20 per cent overall share of renewable energy in the EU and a 10 per cent share for renewable energy in the transport sector. At the same time, an amendment was adopted to Directive 98/70/EC1 (the ‘Fuel Quality Directive’) which set a target of a 6 per cent greenhouse gas reduction for fuels used in the transport sector in 2020. Biofuels are expected to be a major contributor towards these targets.

To avoid possible negative side-effects, both directives impose sustainability criteria that biofuels and bioliquids need to satisfy in order to be counted towards the targets and receive support. The current biofuels sustainability criteria prevent the direct conversion of forests and wetlands and areas with a high biodiversity value for biofuel production and require that biofuels must emit a minimum of 35 per cent less greenhouse gases than the fossil fuels they replace. This requirement will increase to 50 per cent in 2017. The methodology defined in the directives to determine the greenhouse gas savings takes account of emissions associated with the direct conversion of land to grow biofuel feedstock (direct land-use change), as well as emissions coming from the production of biofuels. However, emissions associated with indirect changes in land-use are currently not included. Greenhouse gas emissions due to

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1 Directive 2009/30/EC.
indirect land-use change (ILUC) occur when crops or land that would have otherwise been used for producing food or animal feed are used for growing biofuels, and existing agricultural production geographically shifts to new land areas created by conversion of natural areas (such as forests or grassland).

The directives requested the Commission to review by 31 December 2010 the greenhouse gas emissions associated with ILUC and, if appropriate, to propose ways to address them. The Commission published a report on ILUC on 22 December 2010 in which it acknowledged that ILUC can reduce greenhouse gas emissions savings associated with biofuels and that, if action is required, ILUC should be addressed under a precautionary approach.

- **Problem definition**

In the context of the mandatory targets set by the directives to achieve the specified greenhouse gas savings, and the 6 per cent reduction in greenhouse gas intensity required by the Fuel Quality Directive, the Commission indicates that the key problem addressed in the present IA is whether and in which way greenhouse gas emissions associated with ILUC should be addressed.

The IA identifies two main drivers behind ILUC:

- The increased demand for crops resulting from increased biofuel use, coupled with poor land-use governance in areas with high carbon stock land, and
- The lack of complete accounting rules and emission targets for land-use change globally (IA, p. 16).

In its first very critical opinion on the draft IA, the Commission's Impact Assessment Board requested the report to provide a much broader perspective on the key policy issues at stake, as well as the scale of the problem, to better explain the relationship between existing and proposed EU measures and global greenhouse gas emissions and to provide a comprehensive overview of the EU biofuel market structure and a better explanation of the international trade implications. While the Commission seems subsequently to have followed most of these recommendations, for example by including an annex on the interactions between existing legislation and ILUC (annex VIII) as well as an annex on the biofuel production at Member State level (annex IX), the IA still appears to fall short of providing a clear picture of the key economic (for example, the industries involved), environmental and social policy issues at stake, the report mainly focusing on the technical aspects of ILUC. Insufficient focus appears to be given to the international context as the linkage with trade policies and WTO obligations is only briefly described and the effect of EU action on emission levels in third countries is hardly discussed. In addition, very little information is provided as to where each Member State stands in meeting the targets set by the directives.

In accordance with the Commission’s IA Guidelines, the problem definition section includes a baseline scenario for the assessment of ILUC. The Commission recognises very transparently that 'estimating the greenhouse gas impact due to ILUC requires projecting impacts into the future, which is inherently uncertain, since future developments will not necessarily follow trends of the past. Moreover, the estimated land-use change can never be validated, as indirect land-use change is a phenomenon that is impossible to directly observe or measure. Therefore modelling is necessary to estimate its occurrence' (IA, p. 12).

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3 COM (2010) 811 final
Annex III to the IA details the various modelling approaches, as well as the related uncertainties and limitations. For example, the macro-economic models used do not take into account the effects of the binding sustainability criteria for biofuels in the directives and consequently, these criteria are assumed not to have any effect. The Commission indicates that there are a range of key assumptions used in the ILUC models that can have a substantial impact on the ILUC estimates. Aspects where modelling is based on uncertain assumptions are: the treatment of co-products, yield developments, type of land converted, classification of land, elasticities, carbon stock values, and the modelling of pasture. Other aspects include: the drivers of deforestation and the implied causality, food and feed consumption, and the technology response to higher prices. Furthermore, models base their assumptions on existing correlations which are based on historical trends and are therefore not capturing potential changes in policies that may take place in the future (IA, annex III, p. 80-82).

The Commission indicates that the model used for establishing the baseline of the IA is the IFPRI-MIRAGE-BioF model, which the Commission considers to be the most suitable one to estimate the ILUC emissions in the EU context despite the existing limitations and uncertainties. Annex V to the IA contains a full description of this model.

Objectives of the legislative proposal

The general objectives of the Commission proposal are those of the directives. In the context of the Renewable Energy Directive, recital 65 summarises the general environmental objective related to the use of biofuels: 'Biofuel production should be sustainable. Biofuels used for compliance with the targets laid down in this Directive, and those that benefit from national support schemes, should therefore be required to fulfil sustainability criteria'.

The IA focuses on the specific requirement in the directives related to greenhouse gas emissions from ILUC and does not consider any wider environmental and social impacts associated with the use of biofuels, which the Commission says will be considered in the Renewable Energy Directive's biennial reports to the European Parliament and the Council.

Consequently, the general objectives presented above translate into a specific objective to 'Minimise the impact of indirect land-use change on greenhouse gas emissions of biofuels, within the wider policy objectives of the targets that by 2020 at least 10% of transport fuels are renewable and that greenhouse gas intensity in road transport fuels is reduced by at least 6% compared to 2010' (IA, p. 31).

The Commission indicates that the policy options will be evaluated in the context of the extent to which the options fulfil this specific objective.

Range of the options considered

The IA considered the five following options:

A. Take no action for the time being, while continuing to monitor: this option refers to the Commission's bi-annual monitoring and reporting of impacts, including ILUC, as required by article 23 of the Renewable Energy Directive. The option also implies continued monitoring of the scientific developments related to estimating ILUC emissions.

During the latest consultation exercise, this option was the option preferred by most of the industry, farmers' associations and biofuel producing third countries who believe that the current state of development of the models does not provide a good basis for determining the significance of ILUC.
B. Increase the minimum greenhouse gas saving threshold for biofuels: this option consists of increasing the current minimum greenhouse gas savings thresholds provided in the Directives, currently at 35 per cent compared to average fossil fuels, raising to 50 per cent in 2017 and to 60 per cent in 2018 for installations that started production in 2017. This option implies changing Article 17 of the Renewable Energy Directive and Article 7b of the Fuel Quality Directive. The main scenario considered for this option is an increase of the threshold to 60%. The IA indicates that this option was not supported by any particular stakeholder group.

C. Introduce additional sustainability requirements on certain categories of biofuels: this option consists of introducing additional sustainability requirements aimed at mitigating the risk of ILUC emissions. Two sub-options are envisaged:

Option C1 concerns country level actions aimed at improving land-use governance and protection of high carbon stock lands: under this sub-option biofuel producing countries including Member States are requested to implement LULUCF methodology\(^4\) based reporting and protection of high carbon stock land.

Option C2 concerns project/farm level actions. This sub-option refers to practices that could prevent ILUC by producing feedstocks without the need for additional land.


The IA states that most of the industry and farmers’ associations supported the use of international action to address ILUC emissions, although not necessarily in the terms outlined in sub-option C1. Most NGOs supported sub-option C2 in combination with option D.

D. Attribute a quantity of greenhouse gas emissions to biofuels reflecting the estimated indirect land-use impact: this is the option referred to in the Directives, which would require incorporating the estimated ILUC emissions of biofuels into the emission calculation.

Most NGOs and a few industrial stakeholders from the non-biofuel sectors supported this option during the last consultation exercise and this was also the most supported option during the international scientific expert workshop with academics and experts organised by the JRC in November 2010.

E. Limit the contribution from conventional biofuels to the Renewable Energy Directive targets: this option involves limiting the use of conventional biofuels from food crops by setting the maximum contribution of such biofuels towards the 10 per cent target of the Renewable Energy Directive to current production levels at 5 per cent. This option implies changing Article 3 of the Renewable Energy Directive.

Options A to D had already been identified in the Commission's December 2010 report, option E being a new option that was added following the recommendation of the IA Board in its second opinion. Although option E was therefore not included as one of the shortlisted options by the Commission in the consultation exercises, the IA indicates that options aimed at limiting the amount of conventional biofuels while increasing incentives for advanced biofuels were favoured by NGOs and certain industrial stakeholders.

While the design of the options appears to have been partly improved following the IA Board’s recommendations (for example with the inclusion of option E), the IA still lacks clarity on the

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\(^4\) Accounting for land-use, land-use change and forestry (LULUCF).
combination of options which would seem feasible. The only combination presented being the combination of option D with option C2. However, the IA mentions other possible combinations for which no analysis seems to be made: for example, the combination of option E with option C2, which is mentioned on page 61 of the IA, or the combination of option C1 with other incentives through trade agreements, which is mentioned on page 50. In addition, the IA is unclear regarding option D: at page 58 of the IA, the Commission presents the estimated ILUC emissions in response to scenario D4. However, this scenario is not presented anywhere in the IA. In fact, in annex XIV, which details the possible response scenarios to reduced biofuel availability, several scenarios are mentioned for option D, but scenario D4 is not included. This omission had already been spotted by the IA Board, which had requested DG ENER and DG CLIMA to include scenario D4 in annex XIV. This recommendation appears not to have been followed.

The IA concludes that a balanced approach based on option E, accompanied by complementary elements of options B and D, together with additional incentives for advance biofuels, would be the best way to minimise estimated indirect land-use changes.

- **Scope of the Impact Assessment**

All the options, except option C2 (for unexplained reasons), are assessed for their effectiveness in achieving the policy objectives outlined above and for their social, economic and environmental impacts. The IA includes an annex X on the impacts on biodiversity.

The Commission explains the assessment methodology used and the limitations underlying it. A sensitivity analysis is included for options B and D, both in the main text and in annex XIV. However, as indicated previously, scenario D4 appears to be missing from the analysis.

It should be noted that the assessment of the impacts is of a qualitative nature only. There is no quantification of the costs for industry or the Member States. The Commission justifies its purely qualitative assessment by arguing that ‘as the level of uncertainty of the indirect land-use change emission estimates included in the baseline is already high, the introduction of further uncertain results through assumptions on costs gives rise to counterintuitive results, and risks of misinformed assessment’ (IA, footnote 86, p. 37). However, the IA Board had stressed in its second opinion that the IA report should present in a clear manner how and at what cost each option would reduce the risk of undesirable emissions from ILUC and had asked the Commission to make a further effort to quantify the expected impacts.

In addition, although the IA Board had requested the report to provide a much more in-depth analysis of the impacts on a wide range of issues - notably impacts on the relevant industries, financial investment stability, soil and water questions, security of supply, third countries, food prices, social issues, income effects and consumer prices, as well as the impact on different Member States - the Commission’s assessment still only touches upon such issues very superficially. For example, the IA does not seem to make clear what the scale of the effort required of biofuel producers will be, nor does it appear to thoroughly discuss the different efforts needed by Member States to achieve the 2020 targets, their taxation policies and the impact on fuel and food prices.

In addition, the Commission recognises that some of the options result in biofuels made from certain feedstocks not being able to meet the sustainability criteria of the directives and that the deficit this might lead to would need to be covered by other feedstocks or means to comply with the targets. However, while the Commission mentions that a range of factors, such as costs, technical blending possibilities, technical vehicle specifications and infrastructure developments influence how this deficit can or cannot be covered, it indicates, without
providing any justification, that none of these factors have in fact been assessed in detail in this IA.

Moreover, the question of administrative burden and associated costs is hardly assessed and only for a limited number of options, despite the IA Board’s specific recommendation for an in-depth assessment of administrative costs for each option. As indicated previously, the Commission does not provide a full assessment of the impacts of the various combinations mentioned in the IA, except for the combination of option D with option C2. Even the preferred combination, namely option E with elements of options B and D, lacks a thorough assessment.

- **SME test**

SMEs do not appear to be mentioned in the IA at all, and since the Commission does not provide any detailed information on the type of industries involved in biofuel production, it is unclear what role SMEs play in this field, if any.

- **Subsidiarity and proportionality**

The primary objective of the directives is the protection of the environment and the functioning of the internal market. This proposal is therefore based on Articles 192(1) and 114 TFEU.

Article 7d of the Fuel Quality Directive and Article 19 (6) of the Renewable Energy Directive invite the Commission to address the issue of ILUC. The overall objective of the Fuel Quality and Renewable Energy Directives is to contribute to the goal of reducing economy-wide greenhouse gas emissions through the promotion of renewable energy sources. As a way to achieve this, they create an EU-wide market for sustainable biofuels. The Commission explains that the Member States are not able to meet these challenges individually as ILUC impacts necessarily have transnational aspects which cannot be dealt with satisfactorily by the Member States alone. In addition, the test of European added value is satisfied since the rationale for European action in the field of biofuels has already been decided with the adoption of the Fuel Quality and Renewable Energy Directives (IA, p. 27).

The proportionality of the proposal is not addressed in the IA. However, this aspect is addressed in the proposal itself.

No national Parliament has issued a reasoned opinion raising problems with respect to the subsidiarity principle.

- **Budgetary or public finance implications**

The Commission says that the proposal has no implications for the Union budget. It will entail costs for the biofuel producers and certain sectors, but these costs are not quantified in the IA. The IA does not contain any reference to impacts on Member States’ budgets.

- **Stakeholder consultation**

The proposal was preceded by several consultation exercises, the first one between June and July 2009 and the second between July and October 2010, following the publication of the relevant analytical work commissioned by the Commission. The opinions of the various stakeholder groups are indicated in the section relating to the presentation of the policy options and annex I of the IA provides more detailed information on the stakeholder consultation.
• **Quality of data, research and analysis**

The IA indicates that the Commission services launched a number of analytical exercises and a review of existing literature on the subject of indirect land-use change during 2009 and 2010. The links to the relevant documents are provided in annex I of the IA.

The International Food Policy Institute (IFPRI) was commissioned to prepare a 'global trade and environmental impact study of the EU biofuels mandate', on which the IA relies. This study takes into account stakeholder feedback collected through the different consultation exercises and has used the most recent biofuel demand estimates up to 2020, as outlined by the Member States in their National Renewable Energy Action Plans. Several other studies were also launched by the Commission services, a full description of which can be found in annex I.

The Commission is very transparent about the uncertainties and limitations associated with the methodology used in the IA. While it has made considerable effort to comply with the obligations set in the Commission’s own IA Guidelines, the quality of the IA is nevertheless affected by a complete lack of quantitative data and cost-benefit analysis, as well as by a rather superficial examination of the relevant impacts.

• **Coherence between the Commission’s legislative proposal and IA**

The IA and the Commission proposal seem to correspond. The proposal appears to be based on option E combined with elements of options B and D, as recommended in the IA.

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This note, prepared by the Impact Assessment Unit for the Committee on Environment, Public Health and Food Safety analyses whether the principal criteria laid down in the Commission’s own Impact Assessment Guidelines, as well as additional factors identified by the Parliament in its Impact Assessment Handbook, appear to be met by the IA. It does not attempt to deal with the substance of the proposal. It is drafted for informational and background purposes to assist the relevant parliamentary committee(s) and Members more widely in their work. This document is also available on the internet at: [http://www.europarl.europa.eu/committees/en/studies.html](http://www.europarl.europa.eu/committees/en/studies.html)

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