Promotion of the use of energy from renewable sources. Renewable Energy Directive

2008/0016(COD) - 10/08/2010 - Follow-up document

The Commission presents a report on the feasibility of drawing up lists of areas in third countries with low greenhouse gas emissions from cultivation. It recalls that Directive 2009/28/EC (the Renewable Energy Directive) sets out sustainability criteria for biofuels and bioliquids. For biofuels, corresponding criteria are set out in Directive 98/70/EC as amended (the Fuel Quality Directive). They apply to biofuels and bioliquids produced in the EU and to imported biofuels and bioliquids. A part of these sustainability criteria is a mechanism to ensure that the biofuels and bioliquids used to meet EU targets have greenhouse gas savings of at least 35% compared to the fuels they replace when substituting fossil fuels with biofuels. In order to facilitate compliance with this criterion, the Directive contains default values for greenhouse gas savings for different fuel production pathways.

As a general rule, producers may always cite a default value for the biofuel and the bioliquid they supply, as an alternative to calculating an actual value. However, for raw materials cultivated in the Union, default values may only be used if the raw materials are cultivated in areas included in lists submitted by Member States, where emissions from cultivation can be expected to be lower than or equal to those reported under the Directive. The latter requires the Commission to report on whether a similar approach could be applied for raw materials cultivated in third countries, and this complies with that obligation.

Default values for greenhouse gas emissions: the default values in the Directive divide the greenhouse gas emissions from biofuel and

bioliquids production pathways into three parts: "cultivation", "processing" and "transport and distribution". The "cultivation" element typically contributes 30 – 70 % of overall emissions, depending on the pathway; "processing" is responsible for 25 – 60 %, and the remaining emissions (often relatively minor, normally in the range of: 2 – 20 %) come from "transport and distribution".

The main constituents of the cultivation element are fertiliser production, machinery emissions and N2O emissions from soil. The last of these accounts for 40 – 70 % of the cultivation emissions (in some cases even more), depending on the pathway. The report presents a comparison of total cultivation emissions and N2O emissions from soil together with overall total pathway emissions. Fertiliser production and machinery emissions from cultivation are not expected to be difficult to estimate, but N2O emissions show substantial spatial variation and are difficult to estimate. Different approaches to doing this exist and the uncertainty is considerable. Consequently, the report focuses on the feasibility of reliably estimating regional N2O emissions in third countries.

Status of research in the field of N2O emissions from cultivation of crops: the paper discusses the different ways of modelling N2O emissions: (i) process-based eco-system models replicating the processes and factors that cause emissions in the soil; and (ii) statistical techniques identifying correlations between controlling factors and emissions recorded through field measurements. Both approaches can be used to develop emissions factors such as those presented by the IPCC for accounting of greenhouse gas emissions under the UNFCCC. The paper discusses both models and indicates that they both have shortcomings.

Appropriate action to address the uncertainty of N2O emissions from cultivation in third countries: the understanding of factors influencing N2O emissions from agricultural soils is evolving rapidly, but is still rather limited. A better understanding of the issue is needed before attempts can be made to address

the issue in relation to third countries. The Commission has made the results obtained by the current work of JRC available on its website, together with a description of the methodology and the data used. The Commission aims to obtain feedback on the methodology and the data used, in order to improve the modelling, which at a later stage might serve as a basis for a legislative proposal. Of particular relevance is the improved understanding of N2O emissions from crops typically cropped in third countries, and the inclusion of those in N2O models. Statistical data on key parameters, such as soil characteristics, fertilizer use and yields are also limited in some regions and need attention.

Conclusion: the Commission is of the view that, while desirable, it is not yet feasible to set up legally binding lists of areas for third countries where a major component of the underlying calculation is uncertain and can easily be questioned, and where third countries have had no possibility to contribute on the methodology and data used. It is therefore not appropriate, at least at this stage to produce legislative lists for third countries based on the current modelling of N2O emissions from agriculture. However, it is important to enhance the understanding of the topic and survey the data used in view of a new assessment in 2012. The Commission has published the preliminary results of the JRC

work and will use this as the basis for a discussion with third countries in the framework of its dialogue and exchange with them under the

Renewable Energy Directive.