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SUMMARY REPORT

ON THE WORK CARRIED OUT BY EUROPEAN CLIMATE CHANGE PROGRAMME (ECCP) EXPERT GROUP ON CLIMATE POLICY FOR LAND USE, LAND USE CHANGE AND FORESTRY (LULUCF)

This paper sets out the background and main findings of the work carried out by the ECCP-LULUCF expert group. The purpose is to highlight critical issues related to the inclusion of the LULUCF sector in the EU's climate change mitigation efforts. It aims to identify points of convergence and divergence in the group, therefore reflecting a range of views of different stakeholders. More detailed reports and presentations from the individual meetings are available on CIRCA¹, all of which will be used to guide the Commission in its further work.

1. INTRODUCTION

The European Climate Change Programme (ECCP) is the European Commission's main instrument to discuss and prepare the development of the EU's climate policy. Launched in 2001, the programme has hosted working groups covering a wide range of climate policy issues, including agriculture, sinks in agricultural soils and forest related sinks.²

The formation of a new group on climate policies for land use, land use change and forestry (LULUCF) was triggered by provisions in the Climate and Energy Package³ which require the Commission to assess different

¹ See http://circa.europa.eu/Public/irc/env/clim_lulucf/library

² See <http://ec.europa.eu/environment/climat/doc.htm> for results from the working groups

³ The legal basis for the Commission's work is laid down in Articles 8 and 9 of Decision 406/2009/EC and Article 28 of Directive 2009/29/EC

modalities for including LULUCF in the EU's greenhouse gas (GHG) reduction commitment and, as appropriate, come forward with a proposal. The group convened five times between April and September 2010 and a range of stakeholders participated in the work, including experts from environmental NGOs, trade associations, public administrations in Member States, academic institutions and the European Commission (see Annex for a list of participants). Members were invited on the basis of their professional competences and they acted in their personal capacity. The group has based its work on presentations by invited experts and discussions within the group. Each meeting has been summed up in a report, accompanied by the underlying presentations, which can be found on http://circa.europa.eu/Public/irc/env/clim_lulucf/library.

2. OBJECTIVE AND MANDATE OF THE GROUP

The overall objective of the group was to assist the Commission in its work on developing and assessing options for the possible inclusion of LULUCF in the EU's GHG reduction commitment. The work was guided by the requirements of Decision 406/2009/EC and was oriented towards providing incentives for climate change mitigation, reflecting the specific circumstances of forestry and agriculture, on a scientific basis in order that the work stands up to the scrutiny of stakeholders.

The group addressed three key questions. Firstly, what is the potential magnitude of the contribution of LULUCF to the EU's GHG reduction effort? Secondly, should emissions and removals related to LULUCF be included in the commitment and, if so, how should this be done? The answer to this question was to be guided (according to the above decision) by principles including *environmental integrity*, *harmonised modalities*, *accurate monitoring*, *accurate accounting* and *permanence*. And thirdly, as it was agreed in the *Climate Change and Energy Package* that all sectors must contribute to climate change mitigation in the EU, whether Member States have sufficient tools to provide incentives for mitigation or can incentives usefully be provided at the EU level? The main findings are set out below.

3. MAIN FINDINGS

3.1 Mitigation measures and potential

It is possible to define a set of measures in the sector that would help mitigate climate change. In the short run, the most effective measures are those aimed at reducing carbon losses (in forestry e.g. reducing forest conversion or disturbances such as fire prevention, in agriculture mainly through the preservation of grasslands and organic soils), but measures aimed at enhanced carbon sequestration (such as afforestation and

increasing organic carbon in agricultural soils) can also be important, mostly in the medium and long run. Some members of the group stressed the importance of enhancing sustainable production while maximising uptake of CO₂ and substitution benefits. In addition, it was noted that significant regional variations exist and affect the relevance of the different measures, making generalisations difficult.

Whilst some members felt that mitigation strategies for land activities should focus on increasing and/or protecting carbon stocks on land, several members stressed that strategies should consider the overall, economy-wide mitigation benefits and must include a portfolio of measures consisting of, in addition to "strict" LULUCF measures (i.e. measures strictly linked to preserving or enhancing carbon stocks), the use of biomass for substitution of GHG intensive material and energy use. Options must be assessed "holistically", taking into account the full range of impacts. A level playing field between different mitigation options (i.e., taking into account all GHG impacts in all sectors, emissions and removals alike) will help reaching environmental targets in a balanced way between sectors.

It is important to consider the long cycles of agriculture and forestry and how these relate to the short timeframe set for political climate change mitigation targets when formulating a policy for LULUCF. Preliminary results indicate that the additional mitigation potential by 2020 of strict LULUCF measures is relatively limited for the EU-27, with significant variations between Member States, but that this potential increases by 2030 and beyond. However, carbon stocks cannot be increased forever, as they are limited by the carrying capacity of ecosystems (saturation). Mitigation benefits through material and energy substitution are not limited by saturation (these can continue indefinitely, provided that the resource is managed sustainably), but their scale is limited by the productive capacity of land. One of the key challenges is therefore to establish a framework where short-term incentives are consistent with actions that are beneficial in the long run.

3.2 How to address the principles contained in the Effort Sharing Decision

How to interpret environmental integrity

There is no conclusive definition of the concept, but a number of important criteria were raised. Most of the discussion focussed on whether accounting rules reflect real changes in emissions to the atmosphere and on their implications for the broader environment. The following are the most important concepts raised by various members.

The completeness of accounting and reporting is important; in principle, all anthropogenic GHG emissions should be accounted for as well as all pools and activities, although some members noted the difficulties related to

including all activities at this stage (considering, for example, issues discussed elsewhere in the report, e.g. under monitoring) and rather stressed the importance of putting in place a process leading towards full coverage while avoiding cherry picking. Complete accounting over time would address the reversibility of emissions and removals.

Another point raised was the importance of transparency in the case that LULUCF is to be included in a reduction commitment so that the impact of accounted debits and credits of the sector is clear. Also, accounting rules should ensure that debits and credits are the result of additional and anthropogenic efforts.

A key issue was how to account for emissions related to natural disturbances, not least as they may become more frequent as a result of climate feedbacks. Some members felt that some of the proposals currently discussed in the international negotiations do not sufficiently capture emissions related to natural disturbances. Hence a balanced/symmetrical accounting of emissions and removals is crucial.

Some emphasized that the inclusion of the sector in the commitments should not lead to a watering down of the mitigation effort (consistent with the precautionary principle), but should complement and strengthen the commitment regime.

Some members stressed that “environmental integrity” should take into account environmental impacts of mitigation policies and measures beyond GHG emission and removals, most notably those on biodiversity and water resources.

To what extent is harmonisation needed?

“Harmonisation” may be relevant to several elements of the commitment regime, in particular the monitoring and reporting system and the accounting rules. The distinction was made between, on the one hand, standardisation which is a top-down approach that follows a common system of nomenclature and employs common definitions, variables and methods and sampling densities and, on the other hand, harmonisation, which is a bottom-up approach that focuses on developing methods that make different systems comparable despite the lack of standardisation.

Harmonisation was discussed primarily in the context of monitoring and reporting, in particular national forest inventories. In that context, standardisation would be difficult to achieve within the foreseeable future, but harmonisation of inventories (which are rather heterogeneous) is possible and ongoing. It was suggested that the differences in currently used definitions (e.g., of “forest”), inconsistencies among Member State inventories and incompleteness in reporting of land categories, activities and pools makes comparability between Member States difficult. Rather than an immediate move, a process should be put in place to identify where further

harmonisation could facilitate a comparison of results in different Member States and allow a more consistent presentation of the EU inventory.

Whilst differences among national inventories are largely due to technical and objective reasons (like significant variations among national circumstances, availability of data, well-established national systems in different countries) and to a large extent unavoidable, differences in accounting rules (e.g., which activities to account for) are generally less justifiable on technical grounds and should be limited as much as possible so that accounting regimes are comparable.

Accurate monitoring and reporting

Definitions of accuracy in monitoring exist (UNFCCC/IPCC⁴ and EU), however, views of members ranged between those considering the current system with key categories sufficient to meet the definitions and those considering improvements to methodologies as well as to the quality of monitoring in Member States necessary. The difficulties related to factoring out of non-anthropogenic effects remains a problem.

The uncertainty of estimates is relatively large in LULUCF (30-40% at the EU level). It was noted, however, that there is a difference between carbon pools and also that the uncertainty is comparable to that found in some other sectors, most notably agriculture, which are already part of the EU's GHG reduction commitment. Nevertheless, the uncertainty in trends of LULUCF is relatively high. Invited experts said that, from a cost/effect point of view, it would be justified to focus monitoring on the most critical carbon pools and activities, such as organic soils and land use changes.

Members tended to agree that, whilst annual reporting is possible, it can hardly be a solid basis for annual accounting because basic data are generally gathered on a longer time scale (e.g., for forest inventories, generally every five to ten years). Increasing the frequency would require huge resources, and the results would remain of limited relevance due to significant inter-annual variability of emissions and as most management changes need longer time scales to take effect. Therefore, for most LULUCF activities meaningful changes can be detected only for periods of several years or longer.

It was recognised that, although not unique in this respect, greenhouse gas inventories for LULUCF rely largely on data sources (forest inventories, activity data in agriculture) that were set up for objectives other than GHG calculations and therefore have limitations in the accounting context.

⁴ "Accuracy is a relative measure of the exactness of an emission or removal estimate. Estimates should be accurate in the sense that they are systematically neither over nor under true emissions or removals, so far as can be judged, and that uncertainties are reduced so far as is practicable. Appropriate methodologies conforming to guidance on *good practices* should be used to promote accuracy in inventories." (IPCC Good Guidance Practice for LULUCF, Annex A: Glossary, p.G2)

Accurate accounting

Whilst there is no commonly accepted definition of “accurate accounting”, accurate can be taken to mean being "as close as reasonably possible to the true value". It was suggested that the current cap on forest management is an inaccurate way of factoring out non-anthropogenic effects. Views differed on what accounting rules should do, but several members noted the need for giving a correct incentive on the margin, balancing different mitigation options (i.e., strict LULUCF measures and the use of biomass for the substitution of GHG intensive material and energy), moving towards more complete accounting and ensuring consistency between rules agreed in the EU and in the UNFCCC and taking into account national circumstances.

Many members favoured the explicit inclusion of changes in the harvested wood products (HWP) pool to reflect better the actual timing of emission from timber harvesting. Opinions differed as regards the benefits of an explicit inclusion, given the limited availability and quality of data and the added administrative burden that may be required relative to the impact on accounting. It was recognised that those MS unable to account for the HWP pool explicitly could use the current, default approach of assuming instantaneous oxidation, which is generally believed to be conservative. However, concerns were raised regarding the treatment of internationally traded wood products which, some thought, could increase the uncertainty of estimates and make intra-EU calculations problematic (as it is important to ensure that MS and EU data are consistent).

3.3 LULUCF in the EU's GHG reduction commitment

Although views differed in the group, most members tended towards favouring an inclusion of LULUCF in the EU's GHG reduction commitment in order to account for the emissions and removals of these activities and to provide incentives for mitigation activities, provided that certain conditions are met. These include factors such as reliable and cost-efficient monitoring and reporting, how the commitment is defined (e.g., the inclusion of the sector should not water down the existing commitment through business-as-usual activities) and how the sector is included (e.g., type of accounting rules and whether there is a separate target for the LULUCF sector). Some members argued that the inclusion of forest management is not advisable, due to the risk of discouraging mobilisation of wood products and biomass for energy.

It was noted that leaving the sector out of accounting seems unlikely given that the EU's target will have to be compatible with an eventual international agreement, and under such an agreement at least some LULUCF activities (such as afforestation, reforestation, deforestation and probably forest

management) are likely to be mandatorily included, whilst others will be allowed at least on a voluntary basis.

Some members said that it is necessary to include the sector to level the playing field between different mitigation options, among other things to address the assumption of carbon neutrality for bioenergy in the energy sector, which is contingent on changes in carbon stocks to be counted in the LULUCF sector.⁵ Others were of the view that there are alternative or complementary ways of addressing this issue, e.g., by introducing binding sustainability criteria or by accounting bioenergy emissions in the energy sector. Other members said that when addressing LULUCF emissions all uses of biomass (for energy, materials, feed, chemicals etc.) should be treated consistently.

It was generally felt that, if LULUCF were to be included in the EU commitment, a full, mandatory inclusion in the 2020 target of all LULUCF emissions and removals is not necessary or feasible. Those who favoured the inclusion of the sector generally supported mandatory accounting for afforestation, reforestation, deforestation and, possibly, forest management. However, their views differed more on when cropland management and grazing land management should be included on a mandatory basis. It was noted, however, that most emissions in the latter activities could be more cost-efficiently monitored by focusing efforts to hot spots (such as organic soils and land use changes), which are confined to a small fraction of the total land area, whilst the limited availability of activity data for the base year/period (needed for net-net accounting) might be alleviated by using a later base year/period for the purposes of LULUCF accounting.

Whilst some participants felt that the EU should include the sector in the commitment only if there is an international agreement requiring it to do so, several others would consider to include it unilaterally even in the absence of an agreement. However, the latter group is divided among those who would support inclusion only if it became clear that there would be no international agreement in the near future, and others who said that the EU should not wait for the outcome of international negotiations. It was noted that the EU and UNFCCC processes can feed each other and that this type of parallel processes is not unusual, e.g., the EU decided to include aviation in the domestic policy framework in the absence of international rules agreed for that sector. There was a general agreement, however, that rules agreed in the EU and UNFCCC must eventually become compatible.

⁵ According to the revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (Vol. 3, Energy, p. 1.10) "biomass fuels are included in the national energy and emissions accounts for completeness. These emissions should not be included in national CO₂ emissions from fuel combustion. If energy use, or any other factor, is causing a long term decline in the total carbon embodied in standing biomass (e.g., forests), this net release of carbon should be evident in the calculation of CO₂ emissions described in the Land Use Change and Forestry chapter."

In terms of how to include LULUCF in the commitment specified in the climate and energy package, several options were discussed. There was a general agreement in the group that the sector should not, in the present context, form part of the EU Emission Trading Scheme for reasons such as:

- The ETS is designed for individual installations. For the LULUCF sector, it would follow that individual land holdings (farms, forest estates) should be subject to the ETS. That would require a monitoring system at that scale, which would be very expensive and technically challenging to develop, as the current monitoring and reporting system is designed for national inventories.
- The EU ETS requires annual compliance (decisions are made about compliance on an annual basis and cannot be repealed), whereas material changes in LULUCF occur on longer time scales and estimates are not available on an annual basis. In addition, LULUCF inventories are often subject to substantial recalculations, which makes it doubtful that final and reliable data could be generated on an annual basis to match the strict rules for comparability and accuracy in EU ETS.
- Difficulties in allocating allowances (e.g., how to treat stands with different age classes and the large number of small entities)
- Reversibility of removals and implications for liability etc. would require substantial system-wide changes which, in the view of some, would jeopardise the functionality of the ETS.

Views differed on whether to include the sector in the Effort Sharing Decision (ESD). Benefits would include ensuring a link with related sectors such as agriculture (which is already part of the ESD) and an improved scope for a cost efficient achievement of ESD targets, but challenges include, in particular, compatibility with the ESD's annual compliance system (for reasons similar to those discussed under the ETS above). To accommodate the specificities of the LULUCF sector, the ESD would need to be significantly amended.

There was discussion on the possibility of creating a separate framework, which would allow the inclusion of the sector in the overall EU target without inclusion in the ESD or the ETS. Such a framework could be designed to specifically address the characteristics of forestry and agricultural land use, and would need to consider relevant inter linkages with other sectors. This option needs to be developed in more detail to facilitate an assessment. It was noted that, depending on how it would be integrated in the commitment regime, a separate LULUCF framework could run the risk of marginalising the sector.

In terms of how to relate the sector to a commitment, some members argued that a sector specific target is needed to achieve any emission reductions/increases in removals but noted that there are problems in setting

a target, in particular because of the uncertainty surrounding emissions and removals and the difficulty in defining the basis for setting a target. Others said that LULUCF did not require a specific target (as other sectors do not have such targets either), but should be part of an economy-wide target⁶.

3.4 Policy instruments

Some members noted that mitigation in LULUCF is not contingent on the sector's inclusion in the accounting framework; incentives can be created through other means.

The group tended to agree that to incentivise climate change mitigation in the sector, preference should be given to using (possibly adapting) existing policy instruments, rather than developing new ones. Coherence between different policy areas is important. The Common Agricultural Policy provides a toolbox of policy instruments that can be used to incentivise mitigation in agriculture and certain forestry measures. A number of existing measures relevant for mitigation are underutilised by Member States. Considerable progress is possible as part of the ongoing reform process but several members pointed specifically to the need for improved data and monitoring (at spatial scales appropriate to the relevant policy instruments) and related research, in particular on soil (e.g. soil maps), a better uptake of relevant measures by Member States within their national or regional Rural Development Programmes, and the need for better consideration of regional differences. It was also suggested that more emphasis could be added to forestry.

Several members said that landowners and producers should be rewarded for mitigation efforts but that to establish a direct link would be difficult for the same reasons as an inclusion of the sector in the EU ETS is difficult. The promotion of mitigation may be more effective if based on rewarding activities (the undertaking of certain measures) rather than outputs (the absolute changes in emissions and removals).

4. NEXT STEPS

This report, in conjunction with the records of the individual meetings of the group, will help inform the Commission in the assessment of whether and how emissions and removals related to LULUCF shall be included in the EU's GHG reduction commitment. Additional important input will come from ongoing studies, the public consultation (10 September to 5 November 2010) and a specific consultation with Member States.

⁶ It should be noted, however, that current targets are not economy wide as they are limited, on the one hand, to sectors in the EU ETS and, on the other hand, to sectors covered by the ESD.

ANNEX – GROUP MEMBERS

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