



Open consultation on requirements for a sustainability scheme for energy uses of biomass-

Response from BirdLife International

September 2008

BirdLife International and its Partner organisations across the EU welcome this consultation and its focus on the sustainability of bioenergy. We regret, on the other hand, the fact that the Commission has only belatedly acknowledged the relevance of this issue, having meanwhile already tabled a proposal for the Renewable Energy Directive (RED) that completely ignores the need to ensure the ecological (and social) sustainability of biomass used for energy in the power and heating sectors (while proposing weak and ineffective standards for the transport sector).

Climate change is the greatest long-term threat to humans and wildlife. Strong EU policies are essential to ensure that average global temperature increases stay within 2°C above pre-industrial levels, in order to avoid catastrophic climate change. The Renewable Energy Directive is key to strong EU action. Without a meaningful Directive, the EU will fail in a significant part of its commitment to a post-Kyoto global deal on climate change.

It is essential – and achievable – that the Renewable Energy Directive does not cause wider ecosystem damage and contribute to climate change itself, as could happen if it ended up supporting unsustainable biomass production.

BirdLife principles for the Renewable Energy Directive:

- We strongly support the 20% renewable energy target, and see this as an essential component in the fight against climate change;
- Measures must not harm ecosystems and contribute to the current global biodiversity crisis;
- Environmental safeguards must be put in place for all renewable energy developments;
- The 10% mandatory target for biofuels should be dropped from the Directive.
- Robust sustainability standards should be set for bioenergy (biomass use for energy), in particular concerning the impacts on natural resources, biodiversity, other environmental aspects and social impacts. The entire biomass chain must be considered including transportation and storage, the type of biomass production (forestry, agriculture, plantations or residues from these processes), chain of custody and trading conditions. Standards must cover not only the direct impacts of biomass growing, harvesting, processing and burning, but also the indirect land use changes induced by the allocation of agriculture or forest land to energy production.

- Biomass is a limited resource and its use often puts strain on other natural resources such as biodiversity, water and soil, although managed sensitively, it could also provide opportunities to achieve environmental benefits. It must thus be prioritised for the sectors and applications where it can provide the greatest overall environmental benefit, including the highest GHG savings.

QUESTIONS

PART A – General questions and scope

Question A1

Is there a need for a sustainability scheme for biomass for electricity and heating purposes?

Yes

If yes, should such a scheme be introduced at:

EU level, and as such to have a single scheme across the EU

We believe that the only feasible way to ensure the sustainability of biomass production is through a harmonised EU level framework. This is the most simple, efficient and effective way to proceed for the following reasons:

- The EU is setting a common renewable energy target and harmonised rules for achieving it. If the EU objective is to be achieved in a way that actually contributes to the EU climate objectives and at the same time does not undermine other key EU objectives and engagements (on biodiversity, water etc), it must be accompanied by adequate standards and certification. Setting targets at EU levels but standards at Member State level is likely to end up with gaps and incongruence that would jeopardise the common goals.
- Biomass will be freely traded inside the EU and hence needs to have common rules across the common market. This is both in order to facilitate such trade and to minimise the risk of standards being circumvented by companies “shopping around” for the lowest standard.
- Setting standards for biomass requires quite complex technical work and it doesn’t make sense to duplicate it over and over again.
- Standards will have to comply with international trade rules and will most probably require a certain amount of negotiation and specific agreements with the EU trading partners. Such negotiations are much more effective when the EU acts as a block and trade negotiations are an exclusive EU competence.

Question A2

A biomass sustainability scheme should be:

Legally binding, where only biomass which meet the sustainability criteria would count towards the national renewable energy targets laid down in the RES-Directive (this is the approach followed in the biofuels sustainability scheme)

All biomass production, or at least any purposefully harvested biomass, can in principle have significant environmental impacts, not least because of the volumes of biomass involved. According to the best available data, 332 million m³, or 42% of all wood use in 2005 in EU 27 went to energy production¹, and the amount of wood use for energy production will only increase due to the promotion of renewable energy. It is thus essential that any biomass use

¹ Mantau, U., Steierer, F., Hetsch, S., Prins, Ch. (2008) Wood resources availability and demands – Part I National and regional wood resource balances 2005. Background paper to the UN-ECE/FAO Workshop on wood balances, Geneva, 2008.

for energy driven by the EU target be subjected to certification of compliance with robust sustainability criteria. This must be a legal obligation if it is to cover effectively all biomass use. Sustainability must be ensured all along the supply chain, but ultimately the most important role is played by the farmers and foresters actually producing the biomass who thereby have a direct impact on the land. However, the most efficient way of enforcing a certification system is by putting the obligation to demonstrate sustainability at the same point of the production chain where the “credit” is allocated for contribution toward the renewable energy target, and hence for any government support (such as tax breaks, supplier obligations, feed in tariffs etc). Biomass is used in very different ways: in some chains multiple biomass producers supply one big end energy producer while in other cases one big biomass processor supplies many small end users. This means that rather than putting the obligation at a fixed point in the supply chain, it is better to harmonise the sustainability certification with the renewable energy generation certification that is already included in the RED. Excluding household heating does not make sense, especially in the case of modern systems based on pellets or woodchips. While the end users might be using small individual amounts of biomass, the processors transforming, for example, wood into pellets, are likely to be driven by economies of scale and hence become very big. A major wood pellet factory can become a huge customer for wood, substantially influencing land use choices in the area around it. Pelleted wood is already the most traded biomass fuel and its demand is growing fast; results from different studies² indicate that about 1/3 of global wood pellets production is being traded internationally, occasionally beyond the EU borders.

Question A3

Biomass is defined as/considered to be: the biodegradable fraction of products, waste and residues from biological origin, from agriculture (including vegetal and animal substances), forestry and related industries, as well as the biodegradable fraction of industrial and municipal waste.

Please indicate which of the following biomass for the production of heating and electricity should be considered by a biomass sustainability scheme:

Solid biomass:

- *forestry harvesting residues (stems, tops, bark, branches, stumps, leaves and coarse roots)*
- *forest-based produce such as fuel wood*
- *wood-processing residues (sawdust, shavings, woodchips, wood briquettes and pellets)*
- *energy crops*
- *agricultural/ crop residues (cereal straws, bagasse, husks, cobs, nut shells, grains)*
- *recovered post-consumer wood*
- *biodegradable fraction of municipal waste*
- *other biodegradable fraction of industrial waste*

Biogas derived from:

- *animal manure*
- *slurry*
- *green waste*
- *waste food*

² Alakangas, E., Heikkinen, A. Lensu, T. & Vesterinen, P. (2007) Biomass fuel trade in Europe – Summary report. VTT-R-03508-07, EUBIONET II-project, Jyväskylä.

UNECE/FAO (2006) Forest products trade flow data. Timber Bulletin Volume LIX (2006), No. 5.

Bioliquids derived from (the term bioliquids is used for electricity and heating purposes,

- *whereas biofuels refers to transport uses):*
- *plants and vegetable oils*
- *tall oil*
- *black liquor*

Please explain your choice(s):

All of the above.

All biomass likely to influence land use should be subject to full sustainability standards and certification. Waste streams should be certified as genuinely only comprising waste products that have not been diverted from other uses (such as animal feed, paper production or compost), that is to say products that would otherwise be discarded. Such standards and certification are essential in order to avoid the “recycling” of new raw material to dodge sustainability rules. By-products should be considered as waste only if their market value is significantly less than the value of the main production.

The following should always be subject to meeting standards and certification:

- forest-based produce such as fuel wood
- energy crops
- plants and vegetable oils

The following should only be subject to certification of origin (ie being indeed what they are claimed to be):

- other biodegradable fraction of industrial waste
- animal manure
- slurry
- green waste
- waste food
- tall oil
- black liquor
- wood-processing residues (sawdust, shavings, woodchips, wood briquettes and pellets)
- recovered post-consumer wood
- biodegradable fraction of municipal waste

The following should be considered co-products and assigned into the first (full certification) or second (only origin certification) category depending on their relative value:

- forestry harvesting residues (stems, tops, bark, branches, stumps, leaves and coarse roots)
- agricultural/ crop residues (cereal straws, bagasse, husks, cobs, nut shells, grains)

The logic behind such a system is that full sustainability certification is only needed when biomass production is likely to lead to new pressure on land and natural resources (and hence to new environmental and social pressure; e.g. driving further agriculture expansion into natural habitats or pushing up price for food and value of land). In the case of waste recovery, no new pressure would arise (as long as the waste is not being diverted from another use), indeed in many cases the energy use would result in reduced environmental pressure.

However, the system must be robust enough to resist foreseeable abuse. It is conceivable that if waste were completely excluded from the certification system, vast amounts of unsustainable raw material would be simply declared to be waste. In the case of harvest

residues from agriculture or forestry, it is conceivable that the same “waste” co-product that is currently not influencing production choices would start influencing them, and hence land management choices, once it has acquired sufficient market value. For example, this is conceivable with straw, which is currently usually just a by-product of cereal production. However, the emergence of a lucrative market for straw for co-fired CHP plants could give it enough economic value to fundamentally alter the profitability of cereal cultivation in certain areas, leading to the expansion of such cultivation at the expense of valuable habitats and carbon stocks such as grasslands. Any such co-product which begins to drive market value for a commodity should therefore be re-classified as a biomass source that requires certification.

In the case of forestry residues harvesting and stump extraction – their collection could cause other negative impacts on the ecosystems not necessarily connected with land-use change but harmful for water cycle, erosion, nutrient availability, biomass etc. Such harvesting should hence be subjected to specific standards, even if the material collected would currently be considered as waste (in the sense of not having any economic value).

Finally, it should be noted that in terms of how we choose to use our biomass resource, the material use of a waste product (e.g. as a soil improver, construction material, or as a material in the chemical industry) is higher in the waste hierarchy and locks in carbon as opposed to burning the biomass for energy.

Question A4

In your opinion, are there any types of biomass used for electricity, heating and cooling which should never be counted towards renewable energy targets for reasons of sustainability?

Yes, some types should not be counted

If yes, please explain your choice and indicate the types of biomass that should be excluded, and the circumstances under which they should be excluded:

The definition of biomass (as source of renewable energy) must clearly exclude all fossil biomass (including peat) and any other source of biomass that is not renewable within a time horizon of up to 50 years, such as logs from mature forest trees. Sustainability definitions must exclude any biomass that cannot safely be demonstrated to have been sustainably produced through a robust, independently audited and transparent certification system.

From a scientific point of view, all fossil fuels are biomass as they derive from carbon fixed by photosynthesis. Oil, natural gas and coal, all represent ancient biomass. However, the whole idea of using biomass as a source of RENEWABLE energy is that it does not lead to a net transfer of carbon into the atmosphere but recycles atmospheric carbon through current plant growth. This means that renewability is only meaningful within the time frame of the current climate crisis. Even if current emissions will be recaptured only a century or two from now (a very short term in geological time), this will make no contribution to averting the current climate crisis that must be dealt with within the coming decades. From this point of view, burning peat or old growth forest is absolutely equivalent to burning standard fossil fuel. It may actually be worse because, apart from releasing long locked carbon, in many cases the destruction of forest and peat land also prevents or decreases ongoing carbon capture processes. Peat is therefore not a legitimate source of bioenergy.

The same applies to old growth forest. In the case of forest, there are ongoing exploitation systems that harvest forest on cycles longer than 50 years but in that case, energy should only be produced from logging and processing waste of ONGOING activities. Almost half of the overall number of forest species depends on decaying wood. Forest inventories and numerous research studies show that conservation of the European biodiversity requires a substantial increase in dead wood resources, securing their necessary continuity and connectivity. Therefore, bioenergy should never lead to an increased pressure on old growth forests which represent an extremely valuable carbon stock, as well as habitat for biodiversity, or to the reduction of the decaying wood resources.

By definition, the whole idea of a sustainability standard is to exclude any production that does not comply with the standard itself. This must be judged on a case-by-case basis for every batch of actual biomass used for energy production. At the same time, such standards must also encourage markets for sustainable produce and inspire consumer confidence.

PART B – Greenhouse gas methodology

To measure compliance, the design of the scheme has to ensure that the sustainability criteria can be applied to individual consignments of biomass. For instance, requirements related to minimum greenhouse gas emissions savings can be checked from an individual consignment of biomass, by determining the origin of the biomass and any greenhouse gas emissions incurred in its cultivation, production or transport (life-cycle analysis). To assess life-cycle emissions, we need techniques which can efficiently be applied to individual consignments of biomass. Article 15(2) of the proposed RES Directive contains a criterion for minimum greenhouse gas savings for biofuels of 35% relative to the replaced fossil fuel (petrol or diesel), based on the data and methodology in the proposed Directive (see Annex VII of the proposed Directive)

Question B1

The RES Directive proposes a required minimum greenhouse gas (GHG) savings for transport fuels (biofuels) of 35%. The methodology for calculating GHG savings is set out in Annex VII of the RES Directive.

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The European Commission is working to establish data to calculate life-cycle GHG emission figures for all types of biomass used for electricity and heating. The following types of biomass are being analysed: processed wood fuel (pellets, wood briquettes, wood chips, sawdust), black liquor, fuel wood, timber and forest residues, i.e. stems, tops, branches, leaves, stumps and coarse roots etc.

The final methodology chosen to calculate greenhouse gas savings will allow for setting a specific cut-off figure (such as 35% for biofuels). Assuming that the methodology is the same for all types of biomass, in your opinion, the level of ambition for minimum greenhouse gas savings of biomass for heating and electricity purposes

- **should be the same as for biofuels for transport**

Please give reasons for your view:

The 35% GHG saving cut off point proposed by the Commission for biofuels is shamefully low and makes a mockery of the claim that the biofuels target is meant to be a tool to fight climate change. The lowest acceptable level of GHG saving for a source of renewable energy

supposed to be contributing to climate change mitigation should be set at 60%, with a view of increasing it progressively with the ultimate aim of true carbon neutrality.

That said, there is no reason to set less ambitious standards for certain technologies or sectors. We should set a minimal standard, and ideally give extra support for higher performance and then let technologies compete so that biomass ends up allocated to the most efficient end use. Fuel GHG balance should be based on GHG emissions from burning in an “average” installation. This should be calculated at an EU level on the bases of the current market shares of prevailing end uses³. Separate efficiency standards should be applied to the installations themselves in order to ensure that new ones bring significant improvements on the current standard. This is the case with biofuels where GHG efficiency of fuels should be considered separately from CO₂ efficiency standards of cars. The same goes for wood pellets and boilers or for biogas digesters and gas fired CHP plants.

Question B2

GHG methodology for biofuels allocates zero emissions to cultivation or collection of certain biofuel feedstocks. Annex VII, point 16, third paragraph, states that "wastes, agricultural crop residues, including straw, bagasse, husks, cobs and nut shells, and residues from processing chains, other than biofuel processing chains, with no potential food or feed use shall be considered to have zero life cycle greenhouse gas emissions up to the process of collection of these materials".

Please indicate which bio-wastes and residues should (in a greenhouse gas methodology) be considered to have zero greenhouse gas emissions at the point of collection, Please explain your choice(s):

The following could be assigned a 0 emissions value at point of collection as they represent clear waste streams that are unlikely to give rise to significant GHG emissions:

- wood-processing residues (sawdust, shavings, woodchips, wood briquettes and pellets)
- recovered post-consumer wood
- biodegradable fraction of municipal waste
- other biodegradable fraction of industrial waste
- animal manure
- slurry
- green waste
- waste food
- black liquor

The following should NOT be assigned an arbitrary emission figure:

- forestry harvesting residues (stems, tops, bark, branches, stumps, leaves and coarse roots)
- forest-based produce such as fuel wood
- agricultural/ crop residues (cereal straws, bagasse, husks, cobs, nut shells, grains)

Harvested products (agriculture and forestry residues and fire wood) cannot be treated in the same way as industrial or household waste. They are a co-product and if that co-product assumes an economic value it will influence land use choices and hence GHG emission levels. Land use related GHG emissions can be very significant⁴, particularly in the case of nitrogen fertiliser use or when land has been cleared for the establishment of plantations leading to the

³ If for example wood pellets are currently used in household stoves, small scale CHP plants and in co-fired power plants, the “efficiency” of wood pellets should be calculated through the average performance of currently installed stoves, CHP and power plants, weighted by their share in the overall use of EU wood pellets.

⁴ Fargione et al 2008 - Land clearing and carbon debt

destruction of valuable carbon stocks such as forests and grasslands (or even worse – peatlands). An even more important and complicated issue is indirect land use change⁵, arising for example when agriculture land is taken out of food production to establish energy crops or forestry plantations.

Question B3

*The RES Directive also defines how to allocate greenhouse gas emissions to **co-products**, which are produced in processes and systems with multiple outputs (e.g. refineries, cogeneration of electricity and heat, production of rape meal as a co-product with biodiesel). The allocation of greenhouse gas emissions in the biofuels sustainability scheme is done by allocation based on 'energy' values of co-products. It is important to assess whether this approach is also appropriate for biomass in general. Please indicate what you consider to be co-products of electricity and heating production using biomass and if there are any co-products produced during any part of the production chain (cultivation, processing and fuel in use) which cannot be accounted for in terms of 'energy-allocation'?*

We do not have a view on this question.

Question B4

The sustainability criteria also consider land-use issues. Articles 15(3) and 15(4) of the proposed RES Directive define certain categories of land that cannot be used for the production of biofuels and other bioliquids, to protect biodiversity and to avoid conversion of high carbon stock land for biofuel feedstock production, as follows:

Biofuels shall not be made from raw material obtained from land with high biodiversity values:

- a) forest undisturbed by significant human activity, that is to say, forest where there has been no known significant human intervention or where the last significant human intervention was sufficiently long ago to have allowed the natural species composition and processes to have become re-established;*
- b) areas designated for nature protection purposes, unless evidence is provided that the production of that raw material did not interfere with those purposes;*
- c) highly biodiverse grassland, that is to say grassland that is species-rich, not fertilised and not degraded.*

Biofuels should not count towards renewable energy targets or benefit from any support if the use of biofuels results in major reduction in carbon stocks through land use change, that is

- a) conversion of wetlands, that is to say land that is covered with or saturated by water permanently or for a significant part of the year, including pristine peatland*

- b) conversion of continuously forested areas, that is to say land spanning more than 1 hectare with trees higher than 5 metres and a canopy cover of more than 30%, or trees able to reach these thresholds in situ;*

A possible approach would be to argue that such land requirements should be identical, regardless of the types of biomass under consideration and that they should therefore also be applied to biomass. Please indicate whether you would share this approach and if not why not.

Yes, but the current directive text is highly inadequate and ineffective and would fail to prevent large scale destruction of biodiversity and carbon stocks. The current Directive text also completely fails to take account of indirect land use changes induced by biomass production.

⁵ Gallagher 2008 The Gallagher review of the indirect effects of biofuels production. Renewable Fuels Agency. http://www.dft.gov.uk/rfa/db/documents/Report_of_the_Gallagher_review.pdf

Explanation:

It certainly makes sense to use the same safeguards for all bioenergy production, regardless of the sector where it is to be used. However, these safeguards must be robust and watertight which is absolutely not the case with the current biofuels sustainability criteria proposed by the Commission in the RED.

The following paragraphs explain the minimal changes that would be needed in order to transform the above proposed set of standards into an effective tool capable of ensuring the sustainability of bioenergy.

Ecosystem and biodiversity protection

In order to protect valuable biodiversity, land of High Conservation Value and Key Biodiversity Areas (defined by the Forest Stewardship Council (FSC) and International Union for Conservation of Nature (IUCN) respectively) should be protected from development. Our proposals below build on the sustainability standards outlined in the European Parliament's Environment Committee proposal for the Fuel Quality Directive (Report A6-0496/2007).

Article 15 – Sustainability criteria for ~~biofuels and bioliquids~~ bioenergy

DELETE PARAGRAPH (3). REPLACE WITH

(3)

Bioenergy taken into account for the purposes referred to in paragraph 1 must be produced in a manner that ensures:

- no significant negative impact on biodiversity, and in particular no feedstock production or extraction takes place inside or in proximity to valuable nature or government protected areas, or High Conservation Value Areas unless consisting of legal and sustainable forestry and agricultural practices serving legitimate conservation purposes;

High Conservation Value land should be defined in the *Definitions* section of the Directive.

Article 2 – Definitions (based on the HCV network definition, already in use for example by the FSC)

Insert (j)

(i) Areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).

(ii) Globally, regionally or nationally significant large landscape-level areas where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance

(iii) Areas that are in or contain rare, threatened or endangered ecosystems

(iv) Areas that provide basic ecosystem services in critical situations (e.g. watershed protection, erosion control).

(v) Areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).

(vi) Areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

It is important to note that it is acceptable to remove plantations from high nature conservation value non-woodland habitats, such as peatland and lowland heathland, where this restores the biodiversity value of the land.

Paragraph 15.5 refers to cross-compliance within the existing European Common Agricultural Policy. This provides insufficient environmental safeguards, particularly with respect to conserving natural resources, such as soil and water. Cross-compliance rules do not include sufficient rules on pesticide use, on fertiliser use, on grassland conversion, or on over exploitation of water resources. Furthermore, cross-compliance is often based on inadequate verification, for example through spot-checks of 1% of farms annually, which cannot be considered as an adequate audit. The following wording should be added to provide sufficient protection and to guard against ecologically unsustainable practices, including the use of genetically modified crops:

Article 15.5

Add: In the production and processing of raw materials for bioenergy in both the Community and third countries, sustainable agricultural practices shall be applied such as limited use of agrochemicals, minimum impacts on water quality and availability, and inclusion of measures to retain or improve soil quality and avoid soil erosion.

In the production of raw materials for bioenergy, both in the community and in third countries, no genetically modified plants and products thereof shall be used.

Bioenergy must not damage land with high carbon stocks

It is essential that bioenergy is not made from raw materials obtained from land with high carbon stocks. The proposal fails to include degraded (i.e. already drained) peatlands that store significant carbon stocks across the globe. Increased destruction of these sites would cause further large-scale releases of greenhouse gases.

Article 15

(4)

(a) wetlands, that is to say land that is covered with or saturated by water permanently or for a significant part of the year, including ~~pristine~~ all peatlands.

We welcome the inclusion of wetlands and forests, but are concerned that ‘intermediate ecosystems’ between forest and grassland that are important for carbon storage are omitted, for example scrubland areas including the Brazilian Cerrado and African savannah. Also, previous drafts of the Directive acknowledged permanent grassland, which is an extremely important carbon store. We would like to see the wording proposed in these earlier drafts reinserted. Furthermore, the definition of continuously forested areas should be in line with internationally recognised definitions of the UN Food and Agriculture Organisation (FAO) and the UN Convention on Biodiversity (CBD), which both define forests as land spanning more than 0.5 ha with a canopy cover of more than 10%.

Article 15

(4)

(a) ...

- (b) Continuously forested areas, that is to say land spanning more than **0.5 ha** with trees higher 5 metres and a canopy cover of more than **10%** or trees able to reach these thresholds *in situ*.
- (c) Savannah and scrubland, that is to say areas of mixed tree, shrub and grassland.
- (d) Permanent grassland, that is to say rangelands and pasture land which have been under grassland vegetation and pasture use for at least 20 years and are not forest.

Social safeguards are also essential

We propose the following development and social sustainability criteria, based on internationally recognized and accepted Conventions, be adopted. Without these, it cannot be ensured that the production of feedstock for biofuels on the EU market does not lead to violations of human rights, land-rights abuses and displacement of people.

Article 15

Insert paragraph 8

(8) The social sustainability criteria for bioenergy shall be as follows:

- a. All bioenergy feed stocks are produced under labour conditions compliant with the relevant conventions and recommendations of the International Labour Organization;
- b. Land rights of local communities and indigenous peoples are respected as set out in the UN Declaration on the Rights of Indigenous Peoples and other relevant international frameworks such that:
 - i. the right to use the land can be demonstrated and is not legitimately contested by local communities with demonstrable rights;
 - ii. use of the land for bioenergy production does not diminish the legal rights, customary rights or traditional rights of other users without their free, prior and informed consent.
- c. Appropriate processes are in place through which local communities are consulted about matters affecting them, and through which they can provide their views through their own institutions;
- d. Contracts with smallholder farmers are reasonable, transparent and complied with. In particular:
 - i. agreed payments are made in a timely manner and that all costs, fees and levies are clearly explained and agreed in advance;
 - ii. pricing of inputs, services and produce is clearly explained;
 - iii. debt repayment schemes are fully transparent and operate on a reasonable rate of interest.

It is essential that indirect effects are included

An increasing number of recent scientific studies⁶ have identified indirect land use change (also called displacement or leakage) as the most critical factor in determining whether biofuels deliver environmental benefits or not. Any land-use change for the production of biofuels, unless they are produced on abandoned agricultural land, results in substantial increases of greenhouse gas emissions that will take many decades and sometimes centuries to be compensated by carbon uptake through the growth of crops for biofuels. The research also reveals that almost all biofuel production resulted, directly or indirectly, intentionally or not, in new lands being cleared, either for food or fuel. It is therefore essential that crops or plantations causing significant negative indirect impacts are excluded.

Therefore, new research is needed. A proper mechanism for addressing displacement effects must be developed by a Committee of independent experts. This committee should also have the mandate to ensure that certain crops from certain regions, which have a large impact on displacement of other agricultural activities, are excluded from accounting towards the target, as a precautionary principle. Until this Committee provides robust sustainability standards for indirect land use change, any new production of biofuels and bioliquids from agricultural crops should come only from idle land (as defined) or an increase in efficiency of productivity at the project level that do not displace other agricultural production.

Article 15

Insert paragraph (9)

(9) A Committee of independent experts will develop a mechanism to accurately assess and address the indirect effects of bioenergy on land-use change and indirect effect on degradation of natural forests or other natural ecosystems, to be applied from 31 December 2010 at the latest.

Question B5

The greenhouse gas methodology for calculating emission savings when using biofuels and bioliquids also takes into account land use issues, by penalising conversion of high-carbonstock land to lower carbon stock land. The penalties are based on data for carbon stock of certain land used for biofuel feedstock provisions on the basis of values provided by the International Panel on Climate Change (IPCC) as indicated below:

land use carbon stock (tons of carbon per hectare)	
<i>oil palm plantation</i>	189
<i>permanent grassland, that is to say, rangelands and pasture land which have been under grassland vegetation and pasture use for at least 5 years and are not forested</i>	181
<i>lightly forested area (forest that is not continuously forested area)</i>	181
<i>arable (including grassland not considered as permanent; plantation of tree borne oil seeds; land that has been set aside in accordance with Article 2, paragraph 1 of Commission Regulation (EC) 796/2004⁴ and land that was tropical forest, was cleared before January 2008, and had the status of abandoned land in January 2008)</i>	82
<i>desert and semidesert</i>	44

⁶ E.g. Fargione, J. et al. 2008. Land clearing and the biofuel carbon debt, Science Express

The wider use of biomass requires consideration of a broader range of feedstocks, including residues and bio-wastes. With IPCC data being valid mainly for land used by annual crops and forests, land used by feedstocks such as perennial grasses and short-rotation coppice may need to be added to the standard data list. Please state which emission factors and calculation methods could be developed for perennial grasses and short rotation-coppice that are not covered by the above table.

We don't have specific emission factors and calculation methods to suggest for perennial grasses and short rotation-coppice although we agree that these should be calculated based on the best available data. However, the proposal to approve biofuels and other biomass grown on newly destroyed carbon stock land by setting the baseline dates for biofuel standards at January 2008 is unacceptable. This is a considerable weakening of the cut off date of 1990 designed to protect against deforestation under the Kyoto Protocol Clean Development Mechanism. It also conflicts with existing voluntary international standards such as Forest Stewardship Council (baseline date 1995). It is essential that the date of 1990 agreed under the Kyoto Protocol should be upheld. A continuous shifting forward of the cut off point for "acceptable" deforestation keeps sending the message to forest owners and forested countries that they have an interest to get rid of their forest as soon as possible so that they will be able to claim "sustainable" land use the next time the cut off point is postponed.

PART C – End use efficiency of biomass

Question C1

The greenhouse gas methodology developed for biofuels does not take into account the end use of the energy, because it was developed for road transport, where most vehicles have similar end-use efficiencies. However biomass can be processed at very different efficiency levels in different applications such as very low efficiency burning in small open fires and very high efficiency burning in some large co-generation plants, where the useful heat is delivered through district heating. Please indicate whether you think the end use efficiency of biomass in electricity, heating and cooling should be accounted for in a sustainability scheme and if so, how?

- *End-use efficiency should not be part of the sustainability scheme*
- *End-use efficiency should be included in the greenhouse gas calculation methodology*
- *A bonus should be granted for efficient uses of biomass in national support schemes*
- *Inefficient uses of biomass should be banned*
- *Penalties for inefficient uses of biomass, such as not counting towards renewable energy targets*

Please explain your choice:

Penalties for inefficient uses of biomass, such as not counting towards renewable energy targets. And inefficient uses of biomass should be banned.

The claim that transport vehicles do not present differences in efficiency is disingenuous. The most efficient models emit 99g/km CO₂ whereas the most fuel inefficient emit 259g/km CO₂. Even within a vehicle class such as family cars, the emissions range is 104-146g/km CO₂. The GHG efficiency of fuel and the efficiency of combustion in the energy producing installation (whether it is a car, stove or power plant) should not be mixed or confused. All energy sources must be used as efficiently as possible. This requires the introduction of efficiency standards for all new installations using biomass for energy. The most inefficient installations should simply be banned (and the same should of course apply to the most inefficient fossil fuel powered installations). This could for example be the case for any new

biomass fuelled power plant that does not recover heat. Certain inefficient uses of biomass cannot be banned for practical and social reasons, as in the case of burning raw wood in open fireplaces. However, these uses should be excluded from the target and from any state support attached to it.

Question C2

The Commission proposed in Article 12(5) of the RES Directive that Member States should promote biomass conversion technologies that achieve a conversion efficiency of at least 85% for residential and commercial applications and at least 70% for industrial applications. Please comment on whether you agree with these efficiency thresholds:

The 85% efficiency threshold is acceptable for all new burning installations (boilers, heating systems, CHP installations). There is no justification for requiring industry to comply with lower efficiency standards. EU policy should treat all sectors on the same footing and push all biomass use toward higher efficiency.

However, as explained above, in the case of feedstocks and processed feedstocks coming from agriculture or forest harvest (as opposed to domestic and industrial waste streams), a minimum GHG efficiency of 60% should be required for the feedstock itself. While new installations must be highly efficient it is likely that much biomass will be burned in existing installations. This will certainly be the case with wood pellets, biogas and other compact processed biomass that can be sold on to end users. In these cases, sustainability cannot rely on the high performance of a handful of new installations but must look at how the biomass will most probably be used. Otherwise, we might end up supporting the production of energy crops that deliver almost no GHG emission reduction.

D – Sustainable forest management

Forest biomass represent important sources of renewable energy that can reduce greenhouse gas emissions when they are used efficiently to replace fossil fuels and producing environmentally friendly products. Forests also provide habitats for a variety of animal and plant species (biodiversity) and serve economic and social functions. Substitution for fossil fuel is only one way in which forestry and the forest-based industry contributes to the reduction of greenhouse gases. Other ways are through the carbon sink function of the forest, the sequestration of carbon in wood products and the substitution of energy intensive products. Sustainable forest management has a long tradition in Europe and is the key objective of international processes, such as the Ministerial Conference on the Protection of Forests in Europe (MCPFE) and the United Nations Forum on Forests.

Sustainable forest management is defined by MCPFE as: The stewardship and use of forests and forest lands in a way and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national and global levels, and that does not cause damage to other ecosystems.

Sustainable forest management aims at producing an annual sustained yield of timber, fibre for energy while maintaining or increasing forest carbon stocks and other social and ecological benefits. Inside the EU, sustainable forest management practices and the enlargement of the forest area have resulted in increased availability of forest resources and expanded carbon stocks in the forest. Wood can be used for several different purposes: either for energy, or as raw materials for pulp and paper production, construction, chemical industry and furniture or panel making etc. Woody biomass from forests for energy generation besides traditional fuel wood often comes as a by-product of harvesting in forests

for timber (bark, tops, branches, stumps, roots) or from first thinning. The other important sources of wood for energy are wood residues from wood processing (sawdust, chips) and post consumer recovered wood. Therefore, it could be justified not to require sustainable forest management criteria simply to be applied to energy uses of biomass, because much of the biomass used for energy comes as by-product from other harvesting or industrial processes. Due to such integrated production it may also be questionable that sustainable forestry criteria can be developed for energy uses of wood only. Moreover, as forests are managed not only to provide wood for energy purposes but for other purposes too, it is likely that any criteria developed for use of wood for bioenergy, may lead to the application of sustainability criteria for the use of wood for other purposes, and it is not the objective of this consultation to consider sustainability criteria for non-energy uses of wood.

Question D1

Taking the above into account, in your opinion, should sustainable forest management criteria for forest biomass for energy purposes be developed?

Yes

Please explain your response:

Strong incentives for the use of forest biomass for energy production are likely to increase significantly the pressure on forest resources both inside and outside the EU. This increased pressure will have far reaching implications for biodiversity, landscape, water resources, and competing uses of wood and forest and, especially outside Europe, very significant social implications. Increased biomass harvest for energy will also reduce forests value as carbon stocks and may even reduce their function as carbon sinks. These problems cannot be brushed aside and must be addressed by requiring any forestry operations enjoying any public support through the RED to comply with comprehensive sustainability standards for their forest management. The fact that such a requirement will increase the sustainability of other production lines should be seen as a welcome positive side effect, not as a problem.

In principle the EU should strive to ensure that all timber comes from sustainably managed forests. Under such circumstances, there would be no special need for criteria for energy use of biomass (except for the issue of GHG balance). However, this is not currently the case as, to date, there are no legally binding requirements for implementation of sustainable forest management (SFM). There are commitments made by the countries participating in the MCPFE process through the Helsinki resolutions 1 and 2 from SFM practices. There are also criteria and indicators as well as operational guidelines for SFM. However, apart from being voluntary, these are only suitable as assessment tools for monitoring trends and therefore cannot be used as substitutes for minimum agreed-upon forest management standards which underpin certification (FAO, COFO, 12-16 March, 2001). Criteria and Indicators only proved suitable for monitoring trends and reporting at national level and do not represent the situation on the ground. PEOLG are not concrete and detailed enough to provide standards for sustainable forest management and therefore are not a valuable framework leading to claims of achieving sustainable forest management in Europe.

Furthermore, Pan-European Process is not the appropriate place to develop detailed guidelines for sustainable forest management because of the lack of participation of all groups; their content is less demanding than legal requirements in several European countries. Hence, we do not believe it is justified to rely on the assumption that the timber for energy as well as other purposes is coming from sustainably managed forest and strongly recommend

development of legally-binding sustainability criteria for biomass for bioenergy with genuine participation of all major groups.

Additionally, there are new forest practices emerging with the increased demand of biomass for energy purposes such as uprooting of tree stumps and collection of forest residues after felling which are currently not subjected to any sustainability compliances. Also there should be additional criteria, not currently existent, specifying minimum carbon savings.

In the background to the next question it also must be acknowledged that MCPFE principles are not sufficiently precise to serve as clear criteria. All standards need to assess forest management at unit level, i.e. on-the-ground implementation. National-level criteria and indicators need to be complemented by criteria and indicators at forest management unit level (FAO, COFO, 12-16 March, 2001).

Question D2

If the EU decides to develop sustainable forest management criteria, a common understanding is needed with common criteria. The European Community is committed to sustainable forest management (SFM) through several international processes, including the Ministerial Conference on the Protection of Forests in Europe (MCPFE), which led to the development of sustainable forest management principles and indicators (to help governments report on sustainable forest management). The Pan-European Operational Level Guidelines for Sustainable Forest Management, as endorsed by the Lisbon Ministerial Conference on the Protection of Forests in Europe (2 to 4 June 1998) and improved by the MCPFE expert level meeting in Vienna in October 2002, are based on the following principles/ indicators:

- a) Maintenance and Appropriate Enhancement of Forest Resources and their Contribution to Global Carbon Cycles (such as maintenance and enhancement of forest area, forest per capita, maintenance of age structure and / or diameter distribution and carbon stock)*
- b) Maintenance of Forest Ecosystem Health and Vitality (such as control of deposition of air pollutants, maintenance of soil conditions)*
- c) Maintenance and Encouragement of Productive Functions of Forests - Wood and Non-Wood (such as balance between net annual increment and annual felling of wood, quantity of marketed roundwood and non-wood goods)*
- d) Maintenance, Conservation and Appropriate Enhancement of Biological Diversity in Forest Ecosystems (such as maintenance of tree species composition, maintenance of share of natural regeneration and share of planting and seeding and maintenance of naturalness of forest, protection of threatened forest species)*
- e) Maintenance and Appropriate Enhancement of Protective Functions in Forest Management (notably soil and water i.e. prevent erosion and protect water supplies)*
- f) Maintenance of Other Socio-Economic Functions and Conditions (such as contribution of forest sector to GDP and existence of occupational safety and health requirements and accessibility for recreation and maintenance of cultural and spiritual values)*

The six principles from the MCPFE are insufficiently precise to serve as clear criteria, and as a result, the application of these principles varies from region to region. In contrast, the sustainability scheme for biofuels and other bioliquids includes very precise criteria, which is to prohibit the use of raw material from undisturbed/ primary forests (i.e. highly biodiverse forests), but the biofuel/ bioliquid scheme does not say anything about harvesting from other types of forests.

Today, the most common way to apply the principles of MCPFE is through certification schemes, which today all work on a voluntary basis and include the Programme for the Endorsement of Forest Certification (PEFC), the Forest Stewardship Council (FSC), the

American Tree Farm system, Malaysian Timber Certification Council and the Dutch Keurhout and the majority of the forests certified through these schemes are either in Europe or North America.

In view of this, please indicate options for precise and measurable criteria for sustainable forestry which could be applied globally and which would comply with the MCPFE principles:

Any criteria that could be applied globally are very general and can only offer a framework for more precise ones at national and forest management unit level. This is also the case with existing certification schemes where common principles and criteria are applied by elaboration of national standards adapted to the country conditions. For example under FSC when there are no national standards, interim generic standards can be used but the ultimate aim is for the latter to be phased out quickly and national regulations developed instead. At global level there could be general criteria determining minimum standards.

Answers to next question are also valid here.

Question D3

These six MCPFE criteria presented in Question D2 are currently implemented through market based voluntary certification initiatives. There are other options which can be considered. Please choose one option:

- *To develop harmonised operational common sustainability criteria to be applied to all forests (globally) and to ensure that only biomass which comes from sustainably managed forests should count towards renewable energy targets. This would warrant the development of common sustainability criteria, and proof of compliance could be through certification or through other methods, such as bilateral agreements etc.*
- *EU could develop minimum requirements for forest certification schemes on the basis of which forest certification schemes would be accredited and the certificate would be the only possible proof of compliance.*
- *EU should not take action on sustainable forestry for energy purposes, but instead promote the already existing voluntary schemes globally.*
- *EU should require Member States to develop long-term, e.g. 10 year period, planning tools for sustainable forest management for forest in their own territory (this would exclude any requirements for non-EU forest)*

Please explain your choice and how your choice could best be applied in practice, paying particular attention to countries where there are no existing schemes for SFM:

Option two (European meta-standard) is the most realistic one as it would guarantee a minimum level of quality of sustainability certification while allowing the needed flexibility in development of specific standards. In parallel, within the EU, Member States should be required to develop long-term forests management plans in order to ensure a strategic, rational and ecologically compatible use of forest resources. The sustainability meta-standard would serve as a safety net, in particular against unsustainable production coming from outside the EU while the strategic planning approach would allow for an active steering of the forestry sector toward a balanced and sustainable path.

The EU should set obligatory biomass sustainability criteria that exclude the use of non-sustainable biomass. Existing or future sustainability schemes should be assessed against these EU criteria. This would allow for a level playfield and non-discrimination in trade while allowing the development of specific standards tailored for different regions, production systems etc. There is no forest certification system currently that takes into account

greenhouse gas balance and low carbon emissions in the biomass production phase so just referring to existing standards will not be sufficient⁷. If existing certification systems comply with the EU minimum criteria and are accredited for meeting the requirements for independent verification and transparency then only certificates issued by them should be allowed to prove sustainability.

Different certification standards have different quality of performance. Big differences are observed even within one certification scheme in different geographic regions. The quality of certification bodies is crucial for technical implementation of certification. Hence, besides the minimum criteria requirements there should be set of requirements regarding certification systems - weak and non-transparent systems should be excluded minimum level of performance that should be achieved; a mechanism to control environmental claims to be in place. There should be also requirements for regular monitoring of certification scheme so that performance on the ground is guaranteed. Monitoring of certification bodies should emphasise the actual performance on the ground, transparent auditing process, development of effective system for dealing with controversies and genuine third party participation.

Although we favour option 2, option 4 could also be valuable if Member States transpose sustainability criteria into their national legislation, allowing the development of legally-binding national forest management criteria, developed to be appropriate to local conditions in those Member States.

E – Verification

It will be necessary to verify compliance of claims about sustainability of biomass. Please indicate any instruments/ standards or schemes which could be used to verify compliance:

Compliance verification should be based on independent third party auditing. Such system should include the following elements in order to be robust and abuse-resistant:

- **Participation:** The participation of all interested parties (including local populations and NGOs) must be secured in the drafting/review, governance and site-based compliance audit of the standard. It is important that environmental, social and economic interests are represented at all stages. All parties should have the possibility to submit their opinions and views during the certification process. There should be clear and transparent procedure for considering this input by the auditor: all input should be recorded and addressed.
- **Transparency:** Standard setting, governance, certification and audit stages must be transparent by making the results of the audit available to the public. Full documentation of the process should be available to the parties involved in the consultation process.
- **Robust audit process:** The audit process must include accreditation of auditors by the standard/system setting body, initial certification of owners/sites for compliance with the standard, and audits to confirm continual standard compliance. These steps must be robust according to set criteria, be transparent and include stakeholders. How a standard is audited can make it less robust.
- **Right to appeal:** Securing the possibility to appeal against auditor decision in the case of unsatisfactorily addressed controversies. All parties should be included and their

⁷ Joint research by IFEU (Institut für Energie – und Umweltforschung) and FSC for the German Federal Environmental Agency evaluated 20 certification systems from the field of agriculture and forestry, has found that none of the existing system is adequate for direct application to biomass for energy production, due to the fact that sustainability in terms of land use change has never been taken into account in certification systems.

objections taken into account, using existing national legislation on ensuring full participation where appropriate. Parties involved in the consultation process should always be informed about the possibility and procedure of appealing.

- **Auditor integrity:** Including annual audits of the certification bodies by the organizations that accredit them. It is important to avoid a key problem in all certification systems – forest owners employ an auditor to audit their forests. These auditors have a clear incentive to be lenient in order to be re-employed the following year and not lose out to their competition. A potential solution to this issue is to oblige forest owners to rotate auditors so that they will be audited by a different auditor each year reducing the incentive for lenience. An alternative approach is that auditors are chosen and paid for by a fund that the audited companies pay into rather than by the audited company. Whichever solution is chosen, it is important that there are checks on this system to ensure its integrity.