# Roundtable on Sustainable Biofuels

An initiative of the EPFL Energy Center

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

## 7th Virtual Meeting of the Working Group ENV, 3 April 2008
## Conservation/Biodiversity and Technologies
## Summary

[For the full minutes of the meeting, please consult background paper #25]

## 1. News

- The organisation of a workshop regarding the **identification and mapping of biological conservation areas** (HCVs, HNVs,…) is still under discussion.
- **Two regional outreaches** will be held in the oncoming weeks (**Colombia** in May, **India** in June).
- The **Steering Board** will virtually meet on the 30th of April and in person on the 9th and 10th of June 2008.

## 2. Principle and Criteria on Conservation and Biodiversity

The discussion was based on the **background paper #23** (http://cgse.epfl.ch/webdav/site/cgse/shared/Biofuels/ENV%20WG/Background%20papers/env_paper%2023%20-%20backgnd%20paper%20conservation%2003Apr08.pdf).

### 2.1 General points of discussion:

- "Net effect" could leave the impression that some intentional trade-offs would be acceptable.

**Decision: Flag this aspect for the IMP Working Group in this guidance for certifiers.**

- The Working Group agrees to replace **"should" by "shall"** in all the 'requirements' column.
- **Indirect impacts.** Producers cannot alone address this; the RSB wants to organise a more general reflection, beyond mere environmental consideration, with other organisations involved.
- Illegal **fishing and hunting** on the plantation should be mentioned somewhere in the table.

**See suggestion of additional criterion in annexes.**

- Carbon sequestration is an ecosystem service, hence covered under criterion
- The **duty of identifying HCVs will not be the RSB's**, but that of the national stakeholders.
- Some participants suggest setting a sort of RSB "plus", in line with the **scorecard concept**.

### 2.2 Criterion 7a (Environmental Impact Assessment):

- As **national procedures** might be weak, **the Working Group on Implementation will need to discuss and agree on the basic requirements for an EIA. "and international" is added in the last bullet of requirements.**

### 2.3 Criterion 7b (Protection of HCV areas etc…):

- **A definition of "no net loss" from the biodiversity perspective is needed**. The condition for implementing this part of the criterion would be that **the exact high conservation value should be maintained**, which looks impossible for pristine ecosystems or some of the most complex environmental services.
- The **stakeholders that would have a valid claim to judge whether there is net loss or not**; these will likely be the same experts involved in the interpretation and identification of HCV areas.
- **Cut-off date:** The approach of consistency with other roundtables or standards is supported by the group but some participants consider that the cut-off date should not be feedstock dependent.

**Decision: the cut-off date is to be further developed over the implementation phase, in consultation with local stakeholders.**

### 2.4 Definitions:

The following definitions will be added: **Biological Conservation Areas (IUCN), Native ecosystems, Conservation Areas, Multi-stakeholder process** , **Conversion** (direct and indirect), **Plantation**, **Exotic species, Invasive species, Environmental Impact Assessment, Land Management plan, Waste products, Millennium Ecosystem Assessment, Buffer Zone**, **Small Landowner, Small agricultural parcel, Habitat connectivity**, **Environmental Performance**, **Net loss of High Conservation Value**.

## *3. Principle and Criteria on Technologies: Technology*

### 3.1 Principle:

The Working Group is supportive of the **second option proposed**, with **"performance"** instead of "safety" and "improve" instead of "increase". "New" might be suppressed to avoid confusion.

### 3.2 Criterion 11a:

- Participants mention that some aboriginal communities might **face difficulties of access to the information about technology options**. This aspect is to be fully taken care of under the rural/social development principle.
- One remark came, requesting that **traditional use and rights on plants**, like mentioned by the Union for the Protection of New Varieties of Plants convention, should not be negatively influenced.

**Secretariat**: as long as it does not involve biofuel production, traditional uses of plants or biomass are not to be restricted by the standards.

### 3.3 Criterion 11b:

**As participants do not see the intent and relevancy of this criterion and no consensus is reached, it is kept under bracket for now.**

### 3.4 Criterion 11c:

- **Guidance**: **"Technologies must be applied following national or international risk assessment and recommended measures must be followed to avoid environmental damage."**
- Considering this controversial debate on genetic flow vs possibility to use harvested seeds, the Expert Panel considered we could only require farmers to have **all of the information to make decisions.**

### 3.5 Criterion 11d:

- **"Use of Genetically Modified Plants, Micro-organisms and Algae for biomass production."**
- An environmental performance could also mean a reduction in the toxicity of inputs.

### 3.6 Criterion 11e:

- Genetic diversity is covered under the principle on conservation and biodiversity (criterion 7c).
- **Contained systems** to be defined.
- **The processing and field scales** need to be defined.

## *4. Conclusions:*

As no members of the Working Group on Environment expressed major disagreement with the principle and criteria on Conservation/Biodiversity and Technologies, the secretariat considers a consensus has now been reached on the proposed tables, with several points of detail to be improved. Updated tables are shown in annexes. Some minor aspects will request the group to give its agreement through emails.

**THANKS TO ALL THE PARTICIPANTS FOR THEIR CONTRIBUTION!**

# *Annex 1: Principle and Criteria on Conservation*
# [Related Indicators to be developed over the second semester 2008]

| **7. Biofuel production shall avoid net negative direct and indirect impacts on biodiversity and areas of High Conservation Values** | | | |
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| **Criterion** | **Requirements** | **Responsibilities** | **Guidance for Implementation** |
| 7.a Environmental assessment | • HCV areas, native ecosystems, ecological corridors and other public and private biological conservation areas shall be adequately identified and mapped through a participative and multi-stakeholder consultation process. This identification must be performed prior to any exploitation of the area of concern. No exploitation can occur before the formal identification of the area.<br>• Ecosystem functions and services shall be locally evaluated. | • The producer is responsible for collecting the necessary elements of information about a potential production area through an environmental impact assessment and land management plan appropriate to the scale and intensity of the production.<br>• Maps of HCV areas, native ecosystems, ecological corridors and other public/private biological conservation areas, as well as information about local ecosystem functions and services may be provided by competent authorities and/or producers, appropriate to the scale and intensity of the production. | • Producers or cooperatives unable to perform an environmental impact assessment and/or a land management plan will need support.<br>• Governments and conservation organisations should support and coordinate national identification of High Conservation Values (HCV) Areas, native ecosystems, ecological corridors and other biological conservation areas to provide producers with maps and other relevant data.<br>• Environmental Impact Assessments must involve local and/or indigenous communities, and be performed in accordance with national and international guidelines. |
| 7.b Protection of HCV areas, native ecosystems, ecological corridors and other biological conservation areas | • **No direct conversion** of HCV areas, native ecosystems and other public and private biological conservation areas into plantation or production site after the 1st of January 2008.<br>• **No net loss** of any High Conservation Value.<br>• Indirect conversion and loss must be assessed and mitigated.<br>• No use of exotic invasive species | • The producer is responsible for not converting HCV areas, native ecosystems and other biological conservation areas and not degrading any of the High Conservation Values.<br>• Government, inter-governmental agencies, NGOs, producers, and the private sector to monitor and mitigate indirect impacts on HCV areas, native ecosystems and public and private biological conservation areas. | • Limited exploitation, consistent with appropriate management plan can occur so long as HCVs are maintained.<br>• *[Conversion of areas having irreversibly been degraded after the 1st of January 2008 is allowed.]*[*]<br>• Indirect effects are less likely to occur if the biomass comes from waste products, degraded land, or from a significant improvement in yield compared to the regional average.<br>• The RSB works with government, inter-governmental agencies, NGOs, producers, and the private sector to monitor and mitigate indirect impacts on HCV areas, native ecosystems and public and private biological conservation areas. |

[*] Cut-off date to be defined by the Implementation Working Group, in consultation with local communities and experts.

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| 7.c Ecosystem Functions (EF) and Services (ES) | • Avoid, minimise or mitigate negative direct and indirect effects on EF and ES. | • The producer is responsible for the preservation of EF and ES. | • Impacts on local EF and ES and potential changes due to the production must be evaluated in accordance with the Millennium Ecosystem Assessment. |
| 7.d Buffer Zones (BZ) | • The production site must not damage any existing BZ.<br>• BZ to be set between production site and HCV areas, native ecosystems, ecological corridors or other public and private biological conservation areas.<br>• Surrounding zones, including riparian areas and slopes, to be kept in their original state or restored if previously degraded. | • The producer is responsible for collecting the information on the existing Buffer Zones and to avoid damaging them.<br>• The producer is responsible for setting BZ between the production site and surrounding areas, as well as keeping surrounding buffer zones in their original state or restore these whenever possible. | • Where necessary, BZ must be created on the production site, not outside.<br>• Appropriate BZ must be set according to national requirements, the type of area that requests specific protection and/or the characteristics of the crop under cultivation (e.g. pesticide spray characteristics).<br>• Clusters of individually-owned small agricultural parcels can be considered as a single production site. |
| 7.e Ecological Corridors (EC) | • No disruption of existing Ecological Corridors<br>• When possible, restoration of previously degraded Ecological Corridors<br>• On production site, habitat connectivity and wildlife movement shall be enhanced | • The producer is responsible for collecting information about Ecological Corridors in the potential area of production<br>• Governments may provide necessary information and support/guide producers through a national ecological corridors management plan.<br>• The producer is responsible for avoiding the disruption of ECs, restore previously degraded ECs when possible and enhance habitat connectivity and wildlife movement on production site. | • If an EC is identified in the production site, it must be maintained in its original state.<br>• If habitat connectivity or wildlife movement is reduced on the production site, a significant area of the production site must be set aside to restore an equivalent connectivity.<br>• A part of the production site may be dedicated to restore habitat connectivity and wildlife movement on a voluntary basis. |
| 7.f Illegal hunting and fishing | • Hunting, fishing, ensnaring, poisoning and exploitation of endangered and protected species are prohibited on the production site.<br>• The traditional access to flora and fauna of indigenous people is tolerated in accordance with the UN Declaration on the Rights of Indigenous People | • The producer is responsible for ensuring that no hunting, fishing, ensnaring, poisoning and exploitation of endangered and protected species happen on the production site. | • Hunting, fishing and use of flora can be tolerated for local communities on the production site, if not of endangered or protected species, as per national laws and IUCN classification.<br>• No endangered or protected species can be killed, damaged or harvested on the production site.<br>• Traditional uses of fauna and flora by indigenous people are allowed in accordance with the UN declaration on the Rights of Indigenous People and/or national law. |

# *Conservation Definitions (to be completed)*

**Degraded Lands** are lands being highly and irreversibly damaged by anthropogenic activities from an ecological perspective (low biodiversity value).
*Note: Definition to be reviewed after consultation of WWF's methodology on identification of degraded lands. Other definitions welcome.*
**Ecological Corridor** (EC) is understood as "a thin strip of vegetation used by wildlife and potentially allowing movement of biotic factors between two areas". *(European Environment Agency definition).*
**Ecosystem Functions** (EF) include ecosystem physico-chemical integrity, regeneration and succession; genetic, species, and ecosystem diversity; natural cycles that affect the productivity of the ecosystem.
**Ecosystem Services** (ES) are the benefits obtained by people from ecosystems. These include provisioning, regulating, cultural and supporting services, as defined by the Millennium Ecosystem Assessment.
**The six High Conservation Values** are those defined by the HCV network (www.hcvnetwork.org)
**Producers** are understood as farmers or land owners growing biomass, as well as any owner of biomass processing units.
**Biological Conservation Areas (IUCN):** "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means"
**Native ecosystems**
**Conservation Areas** (public and private)
**Multi-stakeholder process**
**Conversion** (direct and indirect)
**Plantation**
**Exotic species**
**Invasive species**
**Environmental Impact Assessment**
**Land Management plan**
**Waste products**
**Millennium Ecosystem Assessment**
**Buffer Zone** (note: many countries have their own definition of BZ)
**Small Landowner**
**Small agricultural parcel**
**Habitat connectivity**
**Environmental Performance**
**Net loss of High Conservation Value**

## *Good practices in Conservation supported by the RSB*

During the course of our discussions, many good practices have been identified that should not be considered minimum requirements but should somehow be encouraged in the Roundtable. The concept of a 'sustainability scorecard', with 'unacceptable', 'acceptable', and 'better' practices identified for each principle has been endorsed by the RSB Steering Board. The Implementation Working Group will be discussing how to encourage producers and suppliers to progress towards these practices (for instance, progress requirements, making markets for better practices, etc.).
So far, the good practices related to conservation identified by the group include:
- Use of degraded and/or idle land (to avoid indirect conversion of HCV areas through displacing other agricultural activities)
- Use of native species
- Creating and using a regional landscape management system
- Avoiding monoculture (also relevant for some other principles, e.g. soil quality)

Implementing these practices would improve a producer's sustainability score, above their compliance with the minimum requirements. It is likely that the ENV Working Group will return to this definition once some implementation mechanisms have been drafted in the IMP Working Group.
Some other good practices have been mentioned during our discussions but are not related to conservation (e.g. no-till practices). They are likely to be moved under other principles or a separate category gathering all good practices together.

# *Annex 2: Principle and Criteria on Technologies*
# [Related Indicators to be developed over the second semester 2008]

| **11. The use of any technology must increase production efficiency and environmental safety along biofuel value chain** | | | |
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| **Criterion** | **Requirements** | **Responsibilities** | **Guidance for Implementation** |
| 11a Information and Transparency | Information on the use of technologies along the biofuel value chain must be fully available in accordance with national and international legislation on Intellectual Property | The technology provider is responsible for providing any technical information to the buyer. The producer is responsible for providing relevant information on the technologies used along the biofuel value chain. | - The technology provider must not withhold any relevant information that might influence the choice of a producer to use a technology.<br>- The producer must be able to provide information about any technology used along the biofuel value chain.<br>- The use of hazardous technologies must comply with any relevant national and international legislation.<br>- The use of biotechnologies must be in full compliance with the Cartagena Protocol on biosafety and relevant legislation.<br>- The obligation to systematically indicate the presence of GMOs in the end-product must be defined in accordance with the consumer country's legislation. |
| 11b* Freedom of choice and Ownership | All stakeholders in the value chain must respect the freedom over production and choice of technologies. The use of a given technology cannot be imposed on any stakeholder, except through legislation. | Producers, companies, banks, regulating authorities and all stakeholders involved in the biofuel value chain. | - At any time, any stakeholder must be able to freely decide whether or not to use a given technology along the biofuel production process, in accordance with the Free Prior Informed Consent (FPIC).<br>- One stakeholder's business model and strategy cannot deprive another stakeholder of his or her freedom and control over production and choice of technologies.<br>- The provision of technologies should not be obtained in counterpart of a financial/material dependency, such as debt and feudality. |
| 11c Minimization of environmental risk | The choice of technologies used along the biofuel value chain must seek to minimize the risk of damages to environment | The responsibility of minimizing impacts on environment must be shared among all producers and providers.<br>Regulating authorities are responsible for ensuring that least hazardous technologies remain financially competitive as compared with most hazardous | - Technologies must be applied following national or international risk assessment and recommended measures must be followed to avoid environmental damage. Environmentally damaging technologies are understood as any practice or material with a known risk of physical, chemical or biological damage to ecosystems. |

* This criterion has not yet received the Working Group's consensus.

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| | | technologies. | |
| 11d Use of Genetically Modified Plants, Micro-organisms and Algae for biomass production. | The use of Genetically Modified Plants, Micro-organisms and Algae for biomass production must improve the productivity and maintain or increase social and environmental performance, as compared to the common practices and materials under local condition. Possible genetic contamination must be adequately monitored and buffered. | Producer, companies | - An improved productivity is understood as a higher amount of biomass obtained per hectare/acre of cultivated crop.<br>- An increased environmental performance is a reduction in the required amount of land & water, as well as in the amount and toxicity of chemical application or any other input.<br>- An improved social performance is a reduction of the risk of crop failure/economic losses and/or an increased income for producers relative to available conventional technologies under local conditions, and a more equitable distribution of profit in the value chain.<br>- Common practices are the conditions under which non GM Organisms of the same species are produced locally. |
| 11e Use of Genetically Modified Organisms (GMOs) in biomass processing | Genetically Modified Organisms (GMOs) for biomass processing must be used in contained systems only. Possible genetic contamination must be adequately monitored and buffered. | Producer and process unit owners. | - The release of genetically modified material outside the biomass processing unit must receive the approval of national health and safety regulating authorities. In absence of enforced legislation on dissemination of genetically modified material outside processing units, this material can not be disseminated outside the contained systems of the biomass processing unit. This includes the treatment of water effluents and wastes. |

# *Technologies Definitions (to be completed)*

The technologies involved in biofuels production are:

- **Biomass Production:** agricultural technologies (Use of Genetically Modified Organisms, tilling technologies, seedling technologies, harvesting technologies, use of fertilizers, use pesticides, etc…)
- **Biomass Process:** Physical, Chemical and Biological Technologies involved in the transformation of raw biomass into biofuels, including bioengineering (use of enzymatic processes, Genetically Modified Organisms and others).
- **Biofuel Transport and Storage**

The terms to be defined are:

**1. Environmental Performance**
**2. Intellectual Property**
**3. Biofuel Value Chain**
**4. Cartagena Protocol on Biosafety**
**5. Free Prior Informed Consent**
**6. Risk Assessment**
**7. Genetically Modified Plants/ Algae/ Micro-organisms**
**8. Biomass production**
**9. Biomass processing**
**10. Contained system**
**11. Health and Safety regulating authorities**
**12. Water effluent**