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## **CEEweb background paper**

### **Theme II: Biodiversity and Climate Change**

#### ***Fifth Intergovernmental Conference Biodiversity in Europe***

*The background paper is prepared by CEEweb for Biodiversity with the participation of Pan-European NGOs. It targets NGOs and other participants of the Fifth Intergovernmental Conference Biodiversity in Europe that takes place on 22-24 September 2009 in Liege, Belgium. The paper is also used and discussed at the NGO preparatory meeting preceding the Conference on 21 September 2009.*

#### **Introduction**

Climate change is undoubtedly a major challenge for mankind in the 21st century. Immense joint efforts will be required from the governments in the near future to prevent global warming from reaching dangerous levels (2 degrees Celsius increase in average global temperature). Until recently, most emphasis has been put on cutting direct greenhouse gas emissions produced by various human activities. However, the direct emission is only one among a number of factors leading to climate change. If not designed properly, climate change mitigation and adaptation actions may lead to biodiversity loss and therefore eventually even enhance climate change. At the same time, biodiversity conservation and restoration itself holds a huge potential for mitigation and adaptation actions. This option is not sufficiently used for the moment.

Thus, on one hand the following should be fully taken into account: climate change is caused by both greenhouse gas (GHG) emissions and changes in natural ecosystems. On the other hand, it should be a priority to avoid such climate change mitigation measures that threaten biodiversity and indirectly contribute to climate change. Similarly to mitigation, adaptation to climate change also has serious implications for biodiversity, where coherence and connectivity play an important role.

The Parties to the Convention on Biological Diversity (CBD) have convened the second Ad Hoc Technical Expert Group (AHTEG) on Biodiversity and Climate Change. This expert group is to provide biodiversity related information into the ongoing negotiations of United Nations Framework Convention on Climate Change (UNFCCC). One of the draft findings of the CBD AHTEG state that "maintaining natural ecosystems (including their genetic and species diversity) is essential to meet the ultimate objective of the UNFCCC because of their role in the global carbon cycle and because of the wide range of ecosystem services they provide that are essential for human well-being". In line with this, discussions on interlinkages between climate change and biodiversity at the PEBLDS 5th Biodiversity in Europe conference need to reveal coherent and effective measures to tackle the common root causes for both biodiversity loss and of climate change.

**The results of the Conference should find a way into the new CBD Strategic Plan.** Besides, the 5th Biodiversity in Europe conference is the only Pan-European coordination meeting, where governments will discuss the biodiversity relevant questions before the UNFCCC COP 15 meeting to be held in Copenhagen. Thus the Conference provides a unique opportunity to **reach a Pan-European agreement on recommendations for an upcoming post Kyoto protocol.** We aim to channel our recommendations to this agreement.

## Recommendations

### Holistic approach

A good tool for analyzing policy measures is DPSIR model (Driving Forces-Pressures-State-Impact-Response) developed by European Environmental Agency (EEA). If we apply this holistic approach to the changing climate (being the State) and its adverse effects (being the Impacts), our Responses will be the mitigation and adaptation measures. These Responses can target the Impacts (e.g. building river dams as adaptation to extraordinary floods), the Pressures (e.g. regulating anthropogenic CO<sub>2</sub> emissions while keeping the current economic framework) or the Driving Forces (e.g. decreasing our total demand for energy and space).

Nowadays most of the efforts are directed to addressing either the Impacts or the Pressures. However, if the Driving Forces remain untouched we are not likely to achieve our goal. The humanity should realize finally that there is no realistic chance for the conservation and sustainable use of biodiversity and consequently for human well-being on the global scale, as long as our demand for energy, natural resources and anthropogenic space keeps increasing in the current trends. Until it is not understood, we may magnify the problems by eliminating one pressure while enhancing another at the same time.

Therefore the application of DPSIR model when developing policies would help us finding the common drivers behind climate change and the loss of biodiversity, and target these drivers with appropriate responses. As such a response, **we recommend reducing the total environmental pressure on biodiversity. Such target would also be a way to mitigate climate change. We also urge to set limits for the use of natural resources** (e.g. water and biomass – both relevant for climate change and biodiversity), **and for sealing of land** (also relevant for the release of GHG from the soil).

### Mitigation

The net changes in GHG emissions originating from afforestation, reforestation and deforestation activities since 1990, should already be measured and added to the aggregate anthropogenic carbon dioxide equivalent emissions by Annex I countries (Article 3 section 3 of the Kyoto Protocol). Additional human-induced activities in land-use change and forestry (such as sources and removals by sinks in the agricultural soils) shall be included in the next commitment period (after 2012).

Supporting the above, we should make sure that the value of biodiversity as carbon sink is really understood and taken up in policies on all levels. Given the amazing amount of carbon locked up in ecosystems, preserving them is an essential task, while destroying them releases all this carbon (e.g. deforestation and drainage of peat bogs leads to direct GHG emissions, combined with indirect GHG emission and environmental pressure through the intensification of land use). Therefore we urge that **ecosystem products and services as well as natural surface cover areas should get the same priority as anthropogenic greenhouse gases in climate change mitigation**. For that we suggest that the carbon market is used in a broader way, namely, each activity with impact on nature should be considered also in terms of carbon market. This should apply to all countries and responsibility should be shared by the suppliers as well as by the beneficiary countries in terms of ecosystem products and services. **It should strengthen the real responsibility of all stakeholders dealing with nature**. The contracting parties to the UNFCCC and CBD should take responsibility for their actions when dealing with non-contracting parties in terms of carbon market.

### *Actions:*

- in the post-Kyoto agreement, include CO<sub>2</sub> source and sink potentials of all categories of Land Use, Land-Use Change and Forestry activities (LULUCF) into the aggregate anthropogenic CO<sub>2</sub>-equivalent emissions on a compulsory basis
- introduce a 'biodiversity check' of all new renewable energy source (RES) initiatives which might harm biodiversity, such as planting crops for biofuels, planting fast-rotation softwoods in marshes, meadows and wetlands as a source of wood chips for energy generation, mega-projects for wind energy and solar energy, etc.
- financially reward countries and land owners for keeping semi-natural wetlands (especially peat bogs and mires) intact, as well as for improving peat bog hydrology and restoring degraded bogs (and so increasing carbon sinks)
- In line with REDD (Reducing Emissions from Deforestation in Developing countries), reward forest restoration and preservation of existing biodiversity-rich forests, and penalize monocultures, intensive high-carbon forestry and deforestation (except for removing alien species in order to restore valuable species-rich grasslands or other kinds of native habitats)
- recognizing the value of a range of ecosystems for capturing and storing carbon, include them in any carbon credit or carbon tax system
- adopt classification criteria and guidance for all activities dealing with nature in terms of carbon market shares as a supportive material for the policy makers
- the Parties must implement the guidance principles also in their trade policy, which, given the virtual pressure it involves, significantly contributes to climate change
- reassess all international instruments for amendments regarding new responsibilities for the Parties, Contracting Parties or Partners for the conservation and sustainable use of biodiversity

### **Adaptation**

Sufficient cover of natural or semi-natural ecosystems is indispensable for mitigation (due to their role in global carbon cycle), but it is just as well true for adaptation to climate change. However, there is a significant difference between the two in their scales in time and space. The mitigation function of ecosystems can be expected on the long term, and happens on the global scale. Contrary, their adaptation capacity is already performed on the short term and primarily on local and regional levels. We underline that it is equally vital for every country to ensure the best possible operation of ecosystems by saving their natural interactions and structures. These actions will protect humankind against climate change to some extent even if the limitation of CO<sub>2</sub> level is failed.

The ongoing establishment of ecological corridors and networks should be completed to allow migration of species and habitats as climate zones shift. Establishment of these corridors and networks requires **genuine and effective pan-European cooperation**. Efficient cooperation between all countries in Europe is essential to prepare for increasingly more numerous and successful invasive alien species (IAS) too. In fact, this is the only way to combat IAS at a European level. However, legally protected areas and ecological networks alone are not likely to be sufficient for the adaptation of biodiversity to climate change. For that more is needed: **our landscapes as a whole should remain or become climate-**

**friendly.** It is obvious that a mosaic-like, diverse and coherent landscape providing various connections between locations of natural habitats is the most viable, and that is how man-dominated landscapes also need to look like. Therefore, we ask for **immediate actions to adjust land use practice to climate change by strengthening the resilience and adaptive capacity of ecosystems.**

*Actions:*

- set limits and scientific sound criteria for green-field investments
- set limits and scientific criteria for the cultivated fields size (land use) which should be separated by semi-natural habitats on a compulsory basis
- rationalize the current man-made infrastructure, which fragments ecosystems
- rehabilitate natural surface cover on significant part of man-dominated land with a gradual timing
- remove payments in agriculture and forestry that favour intensive farming methods
- support the further development and implementation of new adequate financial mechanisms for biodiversity protection and conservation
- provide subsidies/incentives to the owners of land according to their biodiversity richness in terms of ecosystem services

### **Future policy on biomass and biofuels**

Energy plantations and biofuel production are yet another common area of concern in the struggle against climate change and biodiversity loss. Intensively cultivated large homogeneous fields limit the natural resources' ability of renewing, withdraw biological diversity and further worsen the structure of land cover. This is due to their high demand of territory and chemicals that leads to soil degradation and loss of biodiversity. Taking land from nature for biomass production is harmful for the Earth's ecosystem, and the claimed advantages of biomass use (including 'energy security' and CO<sub>2</sub> concentration) do not outweigh this harm.

Therefore, we urge that by no means should permission be given for transforming natural or semi-natural land into biofuel plantation. Otherwise, biomass production might further increase CO<sub>2</sub> and CH<sub>4</sub> load due to the degradation of habitats and ecosystem functions. The increase in GHG emission due to biomass production can be orders of magnitude bigger than the emission saved by the biomass grown on the area. Furthermore, switching to renewable energy can only be effective in environmental view, if it substitutes fossil energy, instead of simply contributing to the growing energy demand of man. In any case sources which are not depletable (solar and wind energy) must be preferred to biomass.

*Actions:*

- give more support for research and pilot projects to develop energy sources from biomass which will support biodiversity – for example converting hay and cuttings from semi-natural grasslands and reedlands, which usually are not used (resulting that farmers stop mowing), into some sort of bioenergy

- develop new biomass and biofuels policy, together with a platform of information exchange, where each country should be transparent in their programmes and results
- elaborate scientifically based guidance and adopt it on global level for the possible locations and maximum areas of plantations
- before giving permissions on biofuel and biomass production on national level, impact assessment studies should be completed that follow the above guidance

### **National level policy**

Environmental policies and activities must be more transparent and coherent, including climate and biodiversity policies as well as sustainable development strategy, energy policy and spatial planning. These fields should mutually reinforce each other instead of being cut into several sectors that might easily get in conflict with each other. Climate change policies must be adjusted to include biodiversity considerations and biodiversity policies must include climate change mitigation and adaptation measures, respectively. The linkages between climate change and biodiversity must be communicated to the stakeholders as well as the general public.

Nevertheless, the most important task to be done on national level is to tackle the socio-economic drivers which are behind the increasing production of greenhouse gases and loss of carbon sinks. Therefore, we support incorporating environmental policy into a holistic policy framework, in which the reduction of total environmental pressures is targeted.

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**CEEweb for Biodiversity is a network of non-governmental organizations in the Central and Eastern European region. Our mission is the conservation of biodiversity through the promotion of sustainable development.**