

Biofuel issues in the new legislation on the promotion of renewable energy

Energy and Transport Directorate-General, European Commission

The World Conservation Union (IUCN) welcomes the Commission's efforts to move towards a sustainable biofuel system. IUCN supports the transition to energy systems that are ecologically sustainable, socially just and economically efficient.

However, as EU Environment Commissioner Dimas acknowledged, "we have to move very carefully". Biofuels represent a green trade-off in terms of land and water use, and ultimately for ecosystems and livelihoods. Appropriate and robust sustainability standards and incentives for international biofuel trade, which fully consider environmental, social and greenhouse gas (GHG) lifecycle impacts, are required to reduce and manage the associated risks and drive the positive potential of biofuels. EU framework policies, such as the Biodiversity Communication Action Plan and commitments to the Millennium Development Goals, would be complemented by promoting biofuels that enhance ecosystems and livelihoods as well as reducing risks of international biofuel markets.

The Environment Commissioner's recent admission that the EU did not foresee the problems raised by its proposed biofuel targets is indicative of the complex issues surrounding the production of biofuel feedstock. IUCN appreciates the promise of new guidelines by the end of 2010 with sustainability criteria for energy use of biomass to ensure that its target is not damaging, though is nevertheless concerned that biofuel policies are ahead of the science. Driven by government mandates and subsidies, investments in first generation biofuels are already increasing production, accelerating biodiversity loss through conversion of peat forests, rainforests, savannas and "set-aside" agricultural land. Meanwhile, necessary tools and criteria for still in development.

Well-informed policy decisions are needed to provide guidance towards overall objectives, avoid "lock-in" into inefficient, unsustainable and inequitable biofuels, and promote further investment in more sustainable energy options. While targets for biofuels help provide the market certainty needed to promote investments in more sustainable second generation options, they should be set in a way which accounts for:

- The relationships between biomass production, energy, biodiversity and ecosystems, and conservation and sustainable use of biological resources and fair and equitable benefit sharing.
- The need to encourage and support Parties to carry out research that enables negative impacts from biofuel production to be effectively managed, and positive relationships between biofuels and biodiversity conservation to be developed, augmented and promoted.

IUCN recommends the Energy and Transport Directorate-General to reconsider the framing of mandatory targets to ensure that appropriate mechanisms can be put in place to ensure their sustainability. Furthermore, recognising the small contribution biofuels can make for reducing overall GHG emissions, IUCN recommends, a target for the transport sector as a whole, with built-in mechanisms to create regulatory and market incentives for other, more effective and sustainable energy options.

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The World Conservation Union (IUCN) is the world's largest and most important conservation network. The Union brings together 83 States, 110 government agencies, more than 800 non-governmental organizations (NGOs), and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership. The Union's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

Recognizing the potential and the challenges of biofuels

If planned and managed well, in conjunction with community stakeholders, biofuels may have ecosystem and livelihood benefits. Biofuel markets may create incentives for landscape restoration, such as developing abandoned and degraded lands, thereby promoting rural development. Rural communities could also benefit from higher income from local, regional and global biofuel markets.

However, if poorly managed, biofuel feedstock developments can exacerbate existing agricultural impacts, which are already a leading cause of biodiversity loss. These include: deforestation; soil and land degradation; water pollution and scarcity; potential invasive tendencies of alien plant species introduced for biofuel production; and higher GHG emissions, through land-use change, fertilisers, farming practices and fossil-fuel powered farm machinery. Weak tenure and access regimes may result in the further marginalisation of vulnerable groups such as women and the landless poor.

Given the EC's commitment to both the Kyoto agreements and the Millennium Development Goals, criteria and incentives for sustainable biomass production should promote the most environmentally sound solutions and address social issues, particularly in producer countries. Rural communities should benefit from the livelihood and development opportunities associated with biofuels.

Whether biofuels have a positive or negative impact depends on the type of feedstock used, how and where it is grown, and how and where the biofuel is processed and transported.

- "First generation" biofuels are produced from the edible parts of crops, growing demand for which contributes to increased land-use change and commodity prices, undermining food security.
- "Second generation" biofuels are generally more sustainable and energy efficient as they are produced from cellulosic biomass, like straw, agricultural waste, woods and grasses. However, the technologies needed to break down ligno-cellulose are not commercially available and, due to their high cost, are unlikely to be affordable for the poor.
- "Third generation" biofuels based on algae and/or genetically modified plants are currently the subject of much research and investment given their high energy content and yield potential.

Ensuring a coherent approach within the EU

Together, climate change and biodiversity loss are the most urgent environmental challenges facing the EU¹, and safeguards must therefore be in place to ensure that tackling climate change does not undermine EU efforts to address biodiversity loss. From this perspective, IUCN wishes to emphasize to the Energy and Transport Directorate-General the following specific points concerning the sustainability of the EU Directives on Renewables and Fuel Quality:

- GHG emission reduction is one of pillars of the EU biofuels policy and the proposed minimum reduction of 35% compared to the fossil fuel equivalent is welcome. Market-based mechanisms could be used to incentives a system of continuous improvement (i.e. 40-80% and > 80%)..
- The system for calculating GHG savings developed by JRC/EUCAR/Concawe does not incorporate GHG emissions from land-use change. The Roundtable on Sustainable Biofuels (RSB) is developing a tool for complete GHG calculations, based on tools being developed by other EU Member States. A similar calculation tool should be adopted for the EU biofuels policy..
- The criteria should include landscape and ecosystem management approaches as promoted under the UN Convention on Biological Diversity, including the precautionary approach for risk assessment, to help ensure that biofuels contribute positively to ecosystems and livelihoods rather than undermine them. Existing systems for identifying biodiversity priorities, such as Protected Areas and High Conservation Value Areas should also be incorporated.
- The EC should build on the work of Member States who are developing more advanced criteria, which is further being compiled by the RSB in a consultative process with stakeholders from producer countries (such as that of the RSB) to ensure harmonisation across the EU and producer countries, and to ensure effective implementation of the criteria.
- As *indirect* negative effects of biofuel feedstock production are unlikely to be addressed through sustainability schemes, pro-active measures to avoid risks of displaced agricultural production should be developed in a wide consortium of stakeholders. In addition to regulatory approaches, alternative financing for ecosystem services and payments for avoided deforestation could be used as market mechanisms for internalising costs of displacement. The Commission should provide the enabling legislative framework for such policies.

¹ As mentioned by Stavros Dimas, EU Environment Commissioner in his [speech](#) to the Brussels Green Week (2006)