

**Global biodiversity mechanisms:  
a thematic review of recent developments and future evidence needs**

**Strand Palace Hotel, London 20<sup>th</sup> May 2009**

**Biofuels Working Group Report**

May 2009

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# Global biodiversity mechanisms: a thematic review of recent developments and future evidence needs?

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## Biofuels - Working Group Report

### Biofuels [[ppt feedback](#)]

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#### 1. Key implementation requirements

The group felt that although the UK would have liked the current resolutions, decisions and language of the Multilateral Environmental Agreements (MEAs) to have gone further on biofuels, the UK should use the remits agreed to purposefully promote UK goals at different scales (e.g. sub-national through to international). . The UK Government is currently taking a cautious approach to biofuel targets given concerns over gaps in the evidence base in relation to both direct and indirect impacts, highlighted by the Gallagher Review<sup>1</sup>, and recognising the potential for biofuels to have both positive and negative impacts in the natural and social environment, domestically and internationally.

One of the key limiting factors to being able to achieve a sustainable biofuels industry is that the current MEA decisions and resolutions are not robust. They lack the necessary ambition and commitment of Parties to regulate the industry and agree common production standards. Progress to this end, made at the most recent CoPs, has been limited because of the consensus approach to agreeing resolutions and decisions and this will continue. Therefore, the UK should not only fully implement the current MEA obligations but go further and lead by example. Actions could range from increasing the evidence base on the impacts of biofuels on biological diversity through to identifying what the UK can do to further the international debate on biofuels; e.g. in agreeing a set of sustainability criteria and to foster international implementation - a great challenge.

#### 2. Key emerging issues

One of the key emerging issues on biofuels for the MEAs to consider is the need to assess and address the displacement effect on land use as a result of increasing biofuels production. Concerns over Indirect Land Use Change (ILUC), as a result of growing energy crops, have rapidly risen up the policy agenda in recent years and need to be addressed internationally. There is a need to know about what existing land cover is being displaced. ILUC due to growing crops for any bioenergy

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<sup>1</sup> Renewable Fuel Agency's Gallagher Review of the Indirect Effects of Biofuels  
[http://www.renewablefuelsagency.org/search.cfm?cit\\_id=175&widCall1=customWidgets.content\\_view\\_1&search\\_string=gallagher&usecache=false](http://www.renewablefuelsagency.org/search.cfm?cit_id=175&widCall1=customWidgets.content_view_1&search_string=gallagher&usecache=false)

should be prevented on land important for biodiversity, carbon and water resources, or for local communities. In already cleared areas, correct land use choices are also important to mitigate any further negative impacts i.e. selecting the crops that maximise long-term greenhouse gas savings. The question is being increasingly asked whether biofuels should be treated as a special case or whether the issues that they raise are similar to other concerns within an agricultural sphere: should we be seeking solutions specific to biofuels (and more widely bioenergy) or seeking solutions in a broader agricultural setting through a whole systems approach? The impact of a rising global population raises different, but parallel issues, in terms of land use, land use change and habitat conversion.

The UK should continue working to support the development of sustainability standards at relevant scales. Biofuel production is expanding and there is an urgent need to catch up quickly and implement effective sustainability measures, ideally at the global level. At EU level, there are agreed standards as part of the Renewable Energy Directive and, although basic, they do protect the most valuable habitat and carbon-rich areas. The UK now needs to transpose the Directive into national legislation, an important part of national implementation on renewable energy targets, and in doing so contribute to the UK's response to achieving agreed decisions and resolutions of the MEAs.

At a global level there is a pressing, and more difficult, problem: how to agree standards. The UK needs to continue working with the Global Bioenergy Partnership (GBEP)<sup>2</sup> and other fora - e.g. the Roundtable on Sustainable Palm Oil (RSPO) and the Roundtable on Sustainable Biofuels (RSB) to develop internationally agreed criteria and indicators, ensuring that all of the MEA issues are addressed.

Another important emerging issue is the need to better understand the impacts of agriculture and energy subsidies (both perverse and positive incentives) on land use at international and national levels. Following evidence from Wetlands International on palm oil production and CO<sub>2</sub>, the Netherlands government rescinded all subsidies supporting bioenergy power production that uses palm oil. A lot of work needs to be done to provide the evidence to underpin policies and look at the whole issue of incentives, to establish innovative financial mechanisms and inventive ways to change land use practices that have deleterious impacts. Developing countries are extremely keen to understand these issues, and know what policy-tools are available to promote more sustainable patterns of consumption and production of biofuels. Moving forward, wider mechanisms like the EU's Common Agricultural Policy – and its reform, and the role of World Trade Organisation's regulations in regulating biofuel trade in a sustainable, and fair and equitable way, need to be considered. The role that the MEAs should play in this debate needs to be decided.

### **3. Evidence and Research needs**

One of the most widely agreed points by the group was the requirement to collate existing scientific evidence on the impacts on biodiversity and natural resource management as a result of biofuel production, which still appears to be a big gap. There are still simple questions to be answered to help us understand the impacts of different types of biofuels at both domestic and international levels. The UK can lead by example by identifying what biofuel/biomass production can contribute best in a sustainable manner – where in the landscape, under what circumstances and at what scale – i.e. a landscape scale approach. The approach to biofuels should be to ensure they make a good contribution to the economy, are socially acceptable, and are not negative to the environment. The Rural Economy and Land Use Programme has been doing useful work under its RELU-Biomass Project<sup>3</sup>. More widely, the UK should establish better ways to manage land and water resources; this evidence would be a valuable contribution to the debate on how to bring forward these issues at the right scale and in a transferable way that could be replicated elsewhere in other countries.

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<sup>2</sup> Global Bioenergy Partnership <http://www.globalbioenergy.org/>

<sup>3</sup> RELU-Biomass <http://www.relu-biomass.org.uk/>

This evidence will also allow us to assess and maximise levels of sustainable domestic (or regional) production and what sustainable import levels are required. We need to understand if, and how, the MEAs can help Parties to disentangle these complexities and start dealing with issues – to establish robust policies and take appropriate actions. Although we are likely to be able to understand and predict the impacts of changes in crop type on habitats and species, it will be more difficult to predict impacts on ecosystem services. This might be possible in a qualitative way, but more difficult quantitatively.

Defra's 'Research Programme' was identified as one potential mechanism to coordinate the evidence collation needs (synthesize and use what we already have) and assess the evidence gaps, before any further detailed research is undertaken. Other useful mechanisms are:

- systematic reviews<sup>4</sup>, such as those undertaken at the Centre for Evidence-Based Conservation, University of Bangor; and
- work at Cambridge University<sup>5</sup> on defining and developing conservation evidence, identifying the questions of greatest interest to UK policy makers and, identifying the future issues facing the UK environment [N.B. workshops are planned during 2009 to identify the next important questions to be answered on biofuels].

There is also an emerging cross-Whitehall research programme on biofuels, led by Department for Transport and co-chaired by Defra's and DfT/BIS's Chief Scientific Advisers. During its scoping phase, one of the gaps identified was the lack of evidence on the impacts of biofuels on biodiversity, so this provides a key opportunity to ensure this work is taken forward within the UK. Specific recommendations will be made to Ministers on what further research is required to fill the gaps as well as the necessary funding requirements. Funding through the EU's Framework Programme 7 should also be maximised.

At the Convention on Biological Diversity (CBD) CoP10 in Japan in October 2010, there will be discussion on all the evidence that the CBD Executive Secretary has collected on minimising negative impacts on biodiversity. It is not the intention of CBD to develop its own sustainability criteria, but to feed into other international processes. It is therefore important that the UK maintains its involvement in international sustainability processes such as GBEP and the round tables, and feeds in examples of good practice. The MEAs should also strengthen their links with these various international initiatives.

Many developing countries are calling out for assistance and evidence on how to develop sustainable national biofuel production. Through conventions like the Ramsar Convention on Wetlands and its Scientific and Technical Review Panel (STRP)<sup>6</sup> there is the opportunity to provide the methodologies, advice, mechanisms and practical approaches to help guide national decisions (policies, partnership agreements etc.). UK evidence should be fed into such processes.

#### **4. The interface between science and policy**

A well functioning science-policy interface should allow the UK, and other countries, to ensure that biofuel (bioenergy) policies are scientifically robust, and that any targets to which we are bound can be delivered sustainably. This is lacking at present.

Significant shortcomings exist in the way science informs biofuel policy in terms of both the availability of relevant scientific information and the lack of recognised mechanisms to provide the

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<sup>4</sup> Systematic Review: creating an evidence-based framework for review and dissemination of scientific evidence to support biodiversity conservation. The framework enables systematic and unbiased assessment of evidence on effectiveness of interventions in achieving objectives as well as efficient identification of research gaps/requirements. <http://www.cebc.bangor.ac.uk/>

<sup>5</sup> Cambridge University scientific evidence for policy <http://www.zoo.cam.ac.uk/zoostaff/csg/sutherland.html>

<sup>6</sup> Ramsar's Scientific and Technical Review Panel [http://www.ramsar.org/strp/strp\\_rest\\_index.htm](http://www.ramsar.org/strp/strp_rest_index.htm)

evidence in the required way. There is a need to get ahead of the policy-making process and to anticipate the issues in time to input into developments in a policy-sensitive environment. For example, the EU's target<sup>7</sup> for energy in transport – 10% share of energy from renewable sources (mainly to come from biofuels) by 2020 - is an example where policies have been agreed ahead of scientific evidence, i.e. what types and amounts of biofuel can be produced and sourced sustainably through EU and global biofuel markets?

Evidence and research is needed to highlight which biofuels are best, and to ensure they are grown at the right scale and in the right place. At present there are insufficient mechanisms in place that target production to ensure sustainable development is achieved. Within the MEAs more evidence is needed to help in future negotiations and to strengthen the language of the decisions and actions.

The science-policy interface requires mechanisms that are able to provide policy makers with answers quickly. Firstly, this requires more and better horizon scanning to predict the most important questions to answer in advance of the formulation or implementation of policies. Secondly, mechanisms that bridge the science-policy interface and bring scientists and politicians together, such as the Natural Environment Research Council's Living With Environmental Change programme<sup>8</sup> are required. The UK should commission more 'joining-up' programmes and projects. The group noted that at the international level, discussions at the recent MEA meetings were very much politicised and would have benefited greatly from independent and credible analysis and advice on biofuels in advance of the policy discussions. A science-policy platform like the proposed Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) would therefore have been very useful.

## **5. Priorities from global, European and UK perspectives**

Strengthening the evidence base on the impacts of biofuels on biodiversity and natural resource management (e.g. water) and using better the information we already have was thought to be a key priority. It is critical to establish under which circumstances each biofuel can be beneficial economically, socially and environmentally. Valuation studies of the cost of impacts are necessary.

Identifying, creating and disseminating examples of UK biofuels (bioenergy) research, and good policy and practice should be undertaken, particularly in terms of knowledge and technology transfer to producer and developing countries. With evidence and good practice, the UK can lead by example and push a sustainable biofuels agenda forward, providing a strong negotiating mandate e.g. at the EU level and at MEA meetings, where the decisions and resolutions must be strengthened in the future.

The UK should establish strategic bi-laterals with key developing and producer countries to build practical understanding of how to implement sustainable practices internationally. Such bi-laterals could also function to foster mutual understanding of issues to help during negotiations at future MEA meetings. Getting other Parties to understand UK views and building alliances ahead of the MEA meetings would be beneficial.

The UK should continue to support and contribute actively to the work of international sustainability initiatives such as GBEP, RSB and RSPO. It is important for these initiatives to be linked-up with the MEAs such as the Convention on Biological Diversity, the Ramsar Convention on Wetlands, the Convention on Migratory Species and its relevant agreements. UK officials contributing to these initiatives should ensure that the links are made with all relevant parts of UK government responsible for, or with an interest in, biofuels policy (e.g. DfT, Defra, DECC, BIS and DfID) to ensure coherent cross-departmental science and policy positions. In terms of the work of GBEP, the UK should seek to ensure that work relating to sustainable production of biomass for bioenergy,

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<sup>7</sup> EU Renewable Energy Directive

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:EN:PDF>

<sup>8</sup> NERC's Living With Environmental Change programme <http://www.nerc.ac.uk/research/programmes/lwec/>

including biofuels, takes adequate account of the impacts on biodiversity. The GBEP sustainability criteria and indicators for bio-energy are expected to be ready by May 2010. The UK should look to engage in the debate on these at the CBD CoP10 and other MEA meetings. The longer term aim should be to get the MEAs to adopt robust sustainability standards.

The UK should work for strong co-ordinated EU positions on biofuels and bioenergy at future MEA CoPs.

The UK should work on a consistent and joined up approach to biofuel and bioenergy issues across the MEAs at future MEA meetings, and in other relevant international fora - e.g. in the development and evaluation of EU policy.