

## **RENEWABLE ENERGY ASSOCIATION**

### **House of Commons Environmental Audit Committee enquiry – “Are biofuels sustainable?”**

#### **Submission from the Renewable Energy Association**

##### **Introduction**

1. The Renewable Energy Association represents a wide range of renewable energy technologies in the UK and has some 100 members producing and/or associated with transport biofuels. The Association has been active for a number of years in developing acceptable forms of assurance for both greenhouse gas (GHG) savings and wider sustainability criteria, both under the auspices of the UK’s Low Carbon Vehicle Partnership and more directly with the Department for Transport in developing a carbon and reporting scheme under the Renewable Transport Fuels Obligation.

##### **Question 1**

*What are the possible positive and negative social, environmental and economic consequences of biofuels? How might trade-offs between climate benefits and environmental and social impacts be made? Is there a need to develop a new biofuel strategy for the UK or EU, to balance the environmental, social, economic and climate impacts of biofuels?*

2. The nascent biofuels industry in the EU, including the UK, is being developed in response to two key drivers:

- The need for transport, in particular road transport, to make a contribution to combating climate change. At present road transport accounts for about 25% of UK’s CO<sub>2</sub> emissions and continues to rise. There is a limit to how much other energy intensive sectors in the economy will be willing to continue to make their contribution without input from the transport sector. Currently, biofuels are the only fully commercially viable option for fossil fuel substitute that ensure some reduction in CO<sub>2</sub> emissions from transport.
- The need to contribute to fuel security in the face of geo-political instability and the approach of “peak oil”. Road transport is almost entirely dependent on fossil oil which for the most part has to be imported.

3. To these drivers must be added a number of other relevant factors:

- Consumers are becoming increasingly concerned about what they can do to contribute to cutting the UK’s carbon emissions. With regard to personal transport, the use of biofuels is at present the only option available, without major capital expense, where vehicle use cannot be avoided. With proper safeguards in place, biofuels can make an immediate contribution to cutting carbon emissions and encouraging consumers to begin to change behaviour towards more carbon-efficient fuel usage, without major changes to existing engines and fuel infrastructure.
- Biofuels offer potential for rural development in many countries. In the UK biofuels can give an alternative market for agricultural products and the increasing

use of waste and residues offer additional income possibilities and environmental gains.

- The imperative of combating climate change means that action to develop alternative fuel markets and to change consumer behaviour is pressing. This will be an evolutionary process which should start now. There is nothing to be gained by awaiting the development of future technologies before establishing a working market. Once the market is there technological developments and consumer demand will follow.

4. The UK Government has set out a strategy for the development of a biofuel market based initially on the application of fuel duty rebates and from April 2008 on the introduction of the Renewable Transport Fuel Obligation (RTFO). Significantly, the operation of the RTFO is defined in large part by the accompanying requirement to report on GHG savings achieved by the use of biofuels and on the observance of key sustainability criteria. These criteria and the development of a carbon intensity calculation methodology have, over the past four years, been the subject of intense debate and collaboration among all stakeholders, including the emerging biofuels industry, the oil industry, vehicle manufacturers, the NGO and academic communities as well as many of the relevant Government Departments. The environmental, social, economic and climate impacts of biofuels have underpinned this debate and have informed the development of the RTFO at all stages. Furthermore, on 21 June 2007 the UK Government announced that they would move from the mandatory reporting stage of the RTFO to the second stage, which would directly link environmental outcomes with Government support. The Secretary of State for Transport said:

“From April 2010 the Government aims to reward biofuels under the RTFO according to the amount of carbon they save. This will be subject to compatibility with EU and WTO requirements and future consultation on the environmental and economic impacts” , and;

“From April 2011 the Government aims to reward biofuels under the RTFO only if they meet appropriate sustainability standards. This will be subject to the same proviso as above and subject to the development of such standards for the relevant feedstocks.”

5. It is the REA’s view that there is no need for a new UK biofuels strategy. The UK’s strategy has been developed through meticulous stakeholder engagement. The direction is sensible and takes into proper account the many difficult issues that must be faced if carbon savings in the transport sector are to be delivered in an environmentally and socially sustainable way.

6. In stating this view, the REA would like to point to two specific conditions that will be essential for financially sustainable biofuels businesses to emerge and stay in business in the UK:

- The need for a parallel development of carbon and sustainability policies for biofuels at EU level. The European Commission is due to publish its proposals for a Renewable Energy Directive in December 2007. Following their consultation earlier this year, we understand that the Commission will include a sustainability scheme within these proposals. It is important that this EU-wide scheme is as

closely aligned as possible with the RTFO carbon and sustainability criteria so that UK biofuels companies are not put at a competitive disadvantage. In this context we await the emergence of an EU biofuels sustainability strategy before commenting on whether a new one will be needed. We note that the EU Summit decision in March 2007 on a binding 10% biofuels inclusion target by 2020 said that this was “subject to production being sustainable.”

- The need for forward visibility of UK and EU policy. The UK biofuels industry has been under acute observation through the development of policy. It is to the Government’s credit that it has maintained its commitment to biofuels in the face of some ill-informed and misleading public commentary. This commitment must be re-enforced by an early signal as to targets after 2010. Investors require policy stability and longer-term commitment. Without investment there will be no industry and if there is no industry the UK will not be in a position to deliver GHG savings from biofuels in the transport sector. Already it is significant that investment in the UK is stalling as investors re-assess the policy environment in which they will be working.

### Question 2

*Should biofuels be regulated to minimise the negative environmental and social impacts, and in what way? How might regulation fit in with international trade agreements and rules? Should there be regulation of the entire carbon cycle of biofuels?*

7. As pointed out in the UN report “Sustainable Bioenergy: a Framework for Decision Makers”, “international standards and certification systems are critical to ensure that bioenergy is produced using the most sustainable methods possible.” The REA believes that the fairest and most effective certification systems will be those that have been agreed internationally and we would add our voice to calls for this process to be accelerated. In the meantime, we respect the recognition by such countries as the UK to introduce unilateral schemes but repeat our concern about the competitiveness of our industry if our competitors are not subject to the same regulation.

8. In addition to the need for internationally agreed regulation, there is also a pressing need for an internationally agreed methodology for calculating carbon intensity. Currently there is insufficient international agreement, which leaves the field open for special pleading. The consequences of this will be the frustration of attempts to ensure genuine GHG savings and the loss of credibility for the biofuels industry. Once again the transport sector would be left with little contribution to make to reducing global carbon emissions.

### Question 3

*How successful are existing international structures, such as the Roundtable on Sustainable Palm Oil, at ensuring that imports of biofuels can be obtained from sustainable sources? To what extent is it currently possible to identify the provenance and production standards of imported biofuels?*

9. It is the REA's view that international bodies such as the Roundtable on Sustainable Palm Oil provide a valuable function in making more public the need for sustainable commodity production, both environmentally and socially. However, such initiatives, including the Roundtable on Sustainable Soy and the Better Sugarcane Initiative, are still in their infancy and it will be some time before the standards they recommend are adopted as the norm for the industries concerned. This will be all the more so if there is insufficient international determination to make the respect for such standards a part of the requirement for international as well as domestic trade.

10. It should also be recognised that these initiatives also have their limitations. Thus far, no "roundtable" has specifically adopted the reduction of GHG as a criterion for their operation. Also they have been developed for commodities with other end-uses in mind - mainly food, pharmaceuticals, cosmetics etc – for example, biodiesel only accounts for about 3.5% of palm oil use. It will take time for the schemes to get to grips with the carbon agenda for all end-uses and they too will need the backing of Governments at the international level.

11. Finally, it would be invidious to rely on these schemes to deliver the carbon and sustainability outcomes that we all say we want. Many feedstocks are not covered by such schemes and it would be better to have internationally agreed criteria as suggested in Q 2 above.

12. The UK RTFO carbon and sustainability reporting scheme is intended to make the provision of Government support for the sale of biofuels in the UK dependent on the achievement of certain standards. It remains to be seen what proportion of biofuels sales will be of known provenance. What the REA and its members fear is that, without at least the same standards applying at EU level, UK industry will be put at a competitive disadvantage.

### Question 4

*At what stage is biofuels technology? Is there enough support for the development of biofuel technology? A UN report found that the climate change benefits of solid biomass outweigh those of liquid biofuels. Are current policies promoting the development and deployment of a range of biofuel technologies? How successful have EU strategies and Directives been in stimulating biofuel usage?*

13. Technology using conventional crops and process technologies has been available for some time. However, with oil prices relatively low and biofuel production costs relatively high, it has hitherto not been economic to exploit this technology at any scale. While the GHG savings benefits have been acknowledged, it is also only relatively recently that the dynamics of climate change have accelerated the need to find low carbon solutions. As with many environmentally beneficial technologies, the lack of up-take for biofuels has, until recently, represented a clear case of market

failure. It is for this reason that the UK and a number of other Governments around the world are now looking to implementing biofuel obligations as a way to stimulate market development. Once the market has been established on the basis of the new parameters of carbon saving and sustainability, and there is predictable consumer demand, it would be reasonable to suppose that the private sector will invest in technological innovation to move transport to low carbon usage at the lowest cost possible. Until then, there will be a need for Government and international support for biofuel technology that delivers outcomes that take into account the competing uses for different feedstocks and promotes the use of wastes and residues. These technologies are sometimes referred to as “second-generation”. What is clear, however, is that wherever the funding for such technological development comes from, there will need to be a functioning market for these products to find an outlet. Governments and companies cannot invest large sums of money into new technologies on the off-chance that the resulting products will be sold.

14. Thus far UK biofuels policy has done little to stimulate a market of such a size that would deliver significant amounts of GHG savings. (Only 0.3% was reached in the UK for 2005 against a target of 2%, the indicative target in the EU Biofuels Directive 2003.) The RTFO is intended to save a million tonnes of carbon by 2010 at an obligation level of 5% by volume. Compared to the indicative target in the Directive 2003 of 5.75% by energy (about 8.3% by volume), this is a modest outcome. As yet the UK Government has not indicated what targets they would set for the RTFO after 2010/11, only 3 years away. In these circumstances, the 5% target will be reached, but will act as a ceiling and not a stimulant to biofuel uptake. In the face of such a ceiling, investment in conventional biofuel plant, leave aside innovative technologies, will falter. As mentioned above, investors need forward visibility and stability.

15. In 2008/09 support under the RTFO will operate through a combination of “carrot” - a 20 pence per litre fuel duty rebate for biodiesel and bioethanol – and “stick” – a buy-out price penalty of 15 pence per litre to be paid by obligated companies who fail to meet their obligation. The combined duty rebate and buy-out price will continue to be 35 ppl in 2009/10 and drop to 30 ppl in 2010/11. The Government’s intention is to reduce the fuel duty rebate progressively and to alter the buy-out price in the light of market circumstances. With no certainty as to how the proposed support levels will operate in practice, and with feedstock prices currently higher than those prevailing when the business plans of many biofuel companies were devised, there is a clear case for maintaining support levels at at least the 35 ppl level. If support levels go down and the future obligation levels for the RTFO remain unclear, the REA believes that there is a grave danger that the UK biofuels industry will not develop.

16. It has been claimed that the climate change benefits of solid biomass outweigh those of liquid fuels. In responding to this the REA would point out that:

- Biomass grown for power generation (used in solid form) and for transport fuel (used in liquid form) must be subject to the same carbon and sustainability constraints. It would be illogical and unfair to apply different sets of rules for different end-uses.

- Currently vehicles require liquid fuel as their power source. Liquid fossil fuels will need to be replaced by liquid biofuels if transport is to make its contribution to reducing GHG emissions.
- Urgent action is needed to stimulate the move to lower carbon transport. It is not an option to wait for future technologies to deliver the “perfect” solution while no effort is made to change consumer behaviour and to create a market for alternative fuels.

#### Question 5

*The EU Strategy for Biofuels claims that biofuels ‘are a direct substitute for fossil fuels in transport and can readily be integrated into fuel supply systems’. What proportion of UK domestic transport and energy generation could be fuelled by UK produced biofuels? Is it possible for biofuels to entirely replace oil for transport purposes? Is there a role for public procurement or public transport? Will biofuels improve fuel security? How secure are biofuel crops from unexpected events such as drought or disease?*

17. Biofuels as such are not used in the UK for power (energy) generation. Certain co-products, for example Distillers Dried Grains (DDGS - from the production of bioethanol) and rape-meal (from the production of biodiesel) can be co-fired for power generation but this represents only a fraction of the biomass used for such purposes.

18. As far as UK domestic transport is concerned it would be possible to reach the full 5% target for 2010 and beyond using domestically-produced biofuels. This is not the same as using domestically-produced feedstocks to make those biofuels. According to the NFU there is sufficient UK-grown feedstock currently to supply 5% by 2010, using exportable surpluses of both cereals and sugar and land that is currently set aside under the EU Common Agricultural Policy. With technological developments, including technical improvements to achieve higher yields for UK crops, it may be possible to achieve higher levels, but the REA has always envisaged that the market would be supplied by a combination of UK and imported feedstock for conversion into biofuels. All agricultural commodities for whatever end-uses are subject to the vagaries of weather and disease. “Biofuel crops” are no different.

19. Biofuels can only play a part in replacing oil for transport purposes. In order to reach a level of fossil fuel substitution to ensure fuel security and GHG savings, a wide range of policies and technologies, well beyond the scope of biofuels, will be required. But it should be remembered that biofuel technology is available now and can be deployed immediately to create the market.

20. There is a role for biofuel use in both public procurement and public transport. A number of local authorities are looking at measures that can be taken to reduce GHG emissions and the use of biofuels is one of the options. For example, Somerset County Council co-ordinates the Somerset Biofuel Project Partnership in which a number of local vehicle fleets, including the Council itself, the Avon and Somerset Constabulary and Wessex Water use flex fuel vehicles (using E85 blend bioethanol). The use of biodiesel in higher blends is also a possibility for fleet use.

### Question 6

*What impact would an expansion of UK production of biofuels have on the ability of the UK to produce its own food? How might this impact on greenhouse gas emissions from international trade patterns? What impact might the expansion of biofuels have on international food security and prices?*

21. As noted in Q 5 above, the UK has sufficient crop availability to supply at least the RTFO target of 5% by 2010. Using surpluses and set-aside land, this would have no impact on the ability of the UK to produce its own food. Clearly there is a finite amount of land in the UK and imports of both feedstock and finished biofuel will be required to reach the 10% target agreed by the EU Summit in March 2007. Produced according to the criteria set out for reporting under the RTFO, UK crops will be produced sustainably and should deliver significant GHG savings. The announcement of the Secretary of State on 21 June 2007 (see Q 1 above) indicates that the linking of the reward for reaching appropriate sustainability standards under the RTFO will come a year after the link for carbon savings. There is a danger that this year's delay might encourage the continuation of unsustainable practices in the production of biofuel crops in third countries. UK crop production will be subject to sustainability criteria set out in the Assured Combinable Crops Scheme and other schemes under Assured Farm Standards, which have recently been amended to bring them into line with the requirements for reporting under the RTFO.

22. The impact of biofuels on international food security and prices has been subject to a considerable amount of inaccurate reporting in the media and other reports in recent months. International commodity prices have risen for a range of reasons, including poor harvests in Australia and Ukraine, the prospect of poor harvests in the EU, increasing demand in China and India as they move towards a protein diet and diminishing world stocks. Although maize demand in response to US policies to encourage the production of bioethanol has affected sentiment in the markets and helped to raise prices, with similar responses seen in the EU in relation to biodiesel demand, actual use of wheat for bioethanol in the EU was only 1.4% in 2006 and can have had no effect on prices. However, the best cure for high prices are high prices as producers initiate a supply response. For example the US maize harvest this year has increased by 23%. The European Commission has clearly indicated that there is no danger of food shortages in the EU.

### Question 7

*How might farm viability in both developed and developing countries change with an expansion of biofuels? What implications are there for poverty in developing countries? Should we be concerned about large monopolies forming on the biofuel sector?*

23. The REA will leave others better qualified to give views on farm viability in the UK. We would only note that biofuels have been hailed in the UK as a useful additional market outlet for UK farmers and a contribution that farming itself can make to combating the effects of climate change. In the developing countries, while

high prices affect the urban poor, by the same token higher prices give their farmers a better income and encourage increased production leading to overall economic development. The recent problems in Mexico were reportedly caused by the Mexican Government itself when it decided to keep prices high precisely to stimulate domestic maize production.