# UK Report to the European Commission under Article 4 of the Biofuels Directive (2003/30/EC)

**Contents**



## Introduction

This report fulfils the UK's obligation to report to the European Commission by 1 July 2009 on the UK Government's support for biofuels during the calendar year 2008, as required by Article 4 of Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport.

**The report covers:**

- in section 1, the UK's targets for future biofuel sales and the measures the UK has taken during 2008 and subsequently to promote the use of biofuels to replace diesel or petrol for transport purposes;
- in section 2, the measures the UK has put in place to ensure that the environmental benefits of biofuels are fully realised;
- in section 3, the national resources allocated to the production of biomass for energy uses other than transport;
- in section 4, the total UK sales of road transport fuels, including biofuels, for the calendar year 2008.

## Summary

The UK Government is committed to the promotion of sustainable biofuels in the transport sector. During 2008 the UK introduced the renewable transport fuel obligation ('RTFO') to meet this policy objective. In October 2007 the Renewable Transport Fuel Obligations Order (SI 2007/3072) ('the RTFO Order') was made, after it had been approved in draft by the UK Parliament.

Due to growing concerns about the sustainability of biofuels the Government commissioned Professor Ed Gallagher, the Chair of the Renewable Fuels

Agency ('RFA'), to carry out a review of evidence concerning indirect impacts of biofuels. *The Gallagher Review of the Indirect Effects of Biofuels Production* was published in July 2008. The report recommended that due to the risk of unintended indirect effects, the UK Government should reduce the rate of increase of volume targets for the supply of biofuel. The Review is available at:
(http://www.dft.gov.uk/rfa/reportsandpublications/reviewoftheindirecteffectsofbiofuels.cfm)

In response to the Gallagher Review, the UK Government consulted on proposals to slowdown the rate of increase of the annual RTFO Obligation levels and this resulted in the Renewable Transport Fuel Obligations (Amendment) Order 2009 (SI 2009/843) ('the RTFO (Amendment) Order') in April 2009[1]. The revised obligation levels are as follows: 3.25% by volume of total fuel supplied for 2009/2010, 3.5% for 2010/2011, 4% for 2011/2012, 4.5% for 2012/2013 and 5% for 2013/2014 onwards.

Fiscal incentives for biofuels continued in 2008. Biodiesel and bioethanol received the 20 pence per litre fuel duty incentive which has stimulated a growing market in the UK. Biofuel sales were approximately 2.26% overall at a level of around 1100 million litres for 2008.

Under the 2003 Biofuels Directive targets applied up to 2010. However in the longer term the EU Renewable Energy Directive contains a 10% renewable energy in transport target to be met by 2020. This target is primarily expected to be met through the use of sustainable biofuels.

[1] The consultation in response to the recommendations in the Gallagher Review also sought views on adding two new renewable fuels to those eligible for RTFO certificates and revising the definition of relevant hydrocarbon oil. The definition of hydrocarbon oil had excluded fossil fuel which is blended with renewable fuel before the duty point and therefore less renewable fuel was required to be supplied than was intended. The Renewable Transport Fuel Obligations (Amendment) Order 2009 rectifies this unintended effect as from the start of the second obligation period, in April 2009. The problem with the definition does not seem to have caused the volume of biofuels supplied in the first obligation period to reduce below the level we expected to achieve. Provisional data from the Renewable Fuels Agency indicates that biofuels accounted for 2.6% of total fuel supplied in the first obligation year, April 2008-April 2009, against an obligation of 2.5% for that period.

## *SECTION 1: UK Measures to Promote Renewable Transport Fuels*

### i) The Renewable Transport Fuel Obligation

*The RTFO Scheme*

To support and promote the use of renewable transport fuels in the UK, the UK Government introduced the Renewable Transport Fuel Obligation (RFTO) in April 2008. The RTFO is a scheme under which all fossil fuel suppliers who supply in excess of 450,000 litres of fossil fuel per year must provide evidence that a certain percentage of their fuels for road transport in the UK comes from renewable resources. Under the scheme fossil fuel suppliers can meet their obligation in a number of ways, either

- by supplying biofuels and claiming and redeeming certificates, or
- by redeeming certificates obtained from other biofuel suppliers, or
- by paying a buyout price.

Each supplier of road transport fossil fuel has to produce certificates showing the supply of an amount of renewable fuel equal to the percentage specified. Percentages are expressed by reference to volume rather than energy content. RTFO certificates can be traded between suppliers.

The buy-out price has been set at a level designed to ensure that it will generally be more economic to supply biofuel, in order to maximise the uptake. For the first two years of the obligation the buy out price is 15 pence per litre, and it will then rise to 30 pence per litre, at the same time as the fuel duty incentive (see below) is phased out. The scheme provides for the recycling of buy-out payments to biofuel suppliers who have redeemed or surrendered certificates.

The scheme specifies how certificates are applied for and issued. It also sets out the powers and duties of the Renewable Fuels Agency ('RFA') as the Administrator of the scheme, and the civil penalties that it may impose following non-compliance with scheme requirements. The RFA also operates an internationally acclaimed carbon and sustainability reporting system.

The RTFO scheme was amended in 2009 so that two new renewable fuels are eligible for certificates under the RTFO. These are biobutanol and renewable diesel (a fuel made entirely from biomass resulting in a product chemically similar to fossil diesel rather than biodiesel.) Biodiesel, bioethanol and natural road fuel gas produced from biomass (commonly known as "biogas") are already eligible fuels under the RTFO.

*RTFO obligation levels*

The Gallagher review referred to above concluded that there is a risk that current biofuel policies will lead to a net increase in GHG emissions caused by displacement of existing agricultural production. The Government accepted the main recommendations in the report. Consequently, the Government consulted in autumn 2008 on a draft Renewable Transport Fuel Obligations (Amendment) Order to amend the RTFO Order, including slowing down the rate of increase of the obligation level. The consultation document was published on 15 October 2008 and is available at: (http://www.dft.gov.uk/consultations/closed/rftoorder/)

Following the consultation the Renewable Transport Fuel Obligations (Amendment) Order 2009 (SI 2009/843) ('the RTFO (Amendment) Order') was approved by Parliament and made in April 2009.

The UK Government recognises that the level of the obligation for 2010/11 (3.5% by volume) falls below the 'reference value' (5.75% by energy content) set out in the 2003 Biofuel Directive. However, due to the reasons identified in the Gallagher review we feel this is an appropriate level and a slow down is justified. The levels could potentially be increased if greater sustainability can be assured. This may be possible in the event of the European Commission proposing an appropriate methodology for accounting for the indirect impacts of biofuels.

We expect a 5% volume biofuel obligation will still be achieved but in 2013/14 rather than in 2010/2011. The RTFO together with the targets published under the Renewable Energy Directive (see below) should still give incentive to the biofuels industry to invest in new technology and domestic capacity.

Under the Renewable Energy Directive the UK is required to source 10% of our transport energy from renewable sources by 2020 (as part of a wider EU commitment to sourcing 15% of UK energy from renewable sources). We aim to meet this target primarily through the use of biofuels, although other innovations are also expected to play a part. We will be setting out a clear strategy for meeting our targets in a National Action Plan to the European Commission by June next year. We hope this will provide potential investors with greater certainty about the market up to 2020.

*Cost Effectiveness*

The intention of the policy is to reduce life-cycle carbon emissions from road transport. It is estimated that if 5% of road transport fuel were from renewable sources making 50% GHG savings then around 3.5 million tonnes of carbon dioxide (equivalent to 1.0 million tonnes of carbon) would be saved per annum. This assumes that there are no additional emissions due to indirect land use changes.

Analysis for the RTFO (Amendment) Order's Impact Assessment estimated that on this basis the RTFO would cost around £112 per tonne of carbon dioxide saved (£409 per tonne of carbon)). Measures announced in other sectors tend to have a much lower cost, or in some cases a benefit, per tonne of carbon saved. However, over time the costs of saving carbon from biofuels are likely to fall as production processes become more efficient and new technologies come on stream.

At 5% biofuel blends, due to the higher cost of biofuel and lower energy content compared to conventional fossil fuels, driving costs are expected to increase by around 1.5% by 2020.

The Explanatory Memorandum to the RTFO (Amendment) Order, which includes an impact assessment is available at:

(http://www.opsi.gov.uk/si/si2009/em/uksiem_20090843_en.pdf)

**ii) Other support mechanisms for biofuels**

*Fuel Duty Incentives*

In the past the UK Government has supported bio-fuels with 20 pence per litre fuel duty incentive. Following concerns around sustainability issues of bio-fuels, it was decided that the existing 20 pence per litre fuel duty incentive will cease in 2010. To encourage and promote the use of the most sustainable bio-fuels, incentives will from then on only be provided through the RTFO by increasing its buy-out price from 15 pence to 30 pence per litre.

*Government grant programmes*

Until the end of March 2008, the UK Government, through the Refuelling Infrastructure Grant Programme now managed by Cenex, continued to provide grants toward the cost of installing alternative refuelling points including, for example, for hydrogen, electric, bio-ethanol and natural gas or biogas stations. Although not exclusively aimed at biofuels, the grant programme has attracted interest from a range of organisations considering the installation of E85 bioethanol refuelling points. To date the grant programme has assisted in funding of 18 bioethanol (E85) refuelling stations and one E95 bioethanol station. More information is available at:

(http://www.cenex.co.uk/igp_index.asp)

The Infrastructure Grant Programme was under review from 1 April 2008 pending resolution of state aid issues, but has continued to receive expressions of interest. A further announcement will be made shortly.

**iii) Government Leading by Example**

The Government Car and Despatch Agency has a small fleet of diesel vehicles. It uses a B5 biodiesel blend for these wherever practicable, and its total usage of B5 biodiesel increased from some 100,000 litres in 2006/7 to some 160,000 litres in 2007/8. For 2008/09 this has now increased to190,453 litres.

**iv) Support for other renewable fuels: bringing forward the hydrogen economy and Electric vehicles**

The energy used in ultra-low carbon vehicles has the potential to contribute to renewable energy targets if that energy is generated from renewable energy sources. This is true regardless of the energy carrier – examples can include electricity and hydrogen amongst others.

In April 2009, the UK Government released "Ultra-Low Carbon Vehicles in the UK", a vision document setting out the UK's ambition to become a world leader in the research development and demonstration of ultra-low carbon vehicles. The vision document includes a road map depicting various developments for the next 5 years, ranging from pioneering projects to illustrate the potential of these vehicles in real world settings to putting in place the necessary measures by which these vehicles will become part of motorists' lives.

The main barrier to mass commercialisation of low carbon vehicles is that they are substantially more expensive than their conventional counterparts; The UK Government is therefore providing substantial funding to support the research, development and demonstration of key technologies for lower carbon vehicles, including electric options: the vision document provides a commitment of £250 million. The majority of these funds will be used to create a scheme so that pioneering motorists, in both businesses and the general public, will receive help worth in the region of £2,000 to £5,000 to buy electric and plug-in hybrid cars which we expect from 2011 onwards. A further £20 million will be used to develop a charging infrastructure framework to help consortia of cities, regions, private businesses and utility companies create a UK network of electric car cities. We will provide further details on these schemes later this year.

Under the Technology Strategy Board led Low Carbon Vehicles Innovation Platform, over £140 million of funding is being provided to accelerate the market introduction of low carbon road transport vehicles over what would be achieved by global market forces alone, and to maximise the benefit to UK business of that accelerated market penetration. As part of this programme, a Low Carbon Vehicle Demonstrator Programme has been launched with a view to supporting the demonstration of pure electric and low-carbon plug-in hybrid passenger cars across the UK. The programme will result in more than 340 vehicles being trialled in several UK regions managed through 8 industry-led consortia. Research will be carried out to look at the way the vehicles are used and charged on a daily basis as well as investigating the perceptions relating to these vehicles of the users and the general public. This is a critical

first step in helping position the UK as a major force in the development and understanding of the potential market for electric and plug-in hybrid vehicles.

Sixteen Research and Development projects have also been supported to date under the Innovation Platform including a project to develop a fleet of hydrogen-powered London taxis by 2012. Led by Intelligent Energy, and involving Lotus Engineering Ltd, LTI, and TRW Connekt, the project will use the arduous duty cycle of the London taxi to provide a platform for accelerated fuel cell vehicle lifecycle testing.

Hydrogen stands alongside biofuels as the other major potential low-carbon transport fuel and could provide both ultra-low carbon and zero-pollution road transport. Although battery electric vehicles are a shorter term commercial prospect, many believe that the superior range of fuel cell vehicles (barring a breakthrough in battery technology) will lead to fuel cell vehicles being the end goal of ultra low carbon vehicle development, as depicted in the New Automotive Innovation and Growth Team (NAIGT) Roadmap.

The Government's response to the "UK Strategic Framework for Hydrogen Energy" was published in 2005 and included a funding package from the DTI of £15 million over four years for a UK-wide hydrogen and fuel cell demonstration programme. The first call of the Hydrogen, Fuel Cells and Carbon Abatement Technologies Demonstration Programme (HFCCAT) resulted in the allocation of a total of approximately £5 million to five projects. Three of these involved hydrogen, all of them in the transport sector. Unfortunately the lead partner of one of the transport projects decided not to proceed with it, following a budgetary review. The other two transport projects are underway, and will enable valuable operating experience to be gained, and problems requiring further research and development to be identified. An announcement regarding a second call is expected to be made in due course. HFCCAT is now part of the BERR/DEFRA Environmental Transformation Fund.

**v) Sponsoring Research and Development**

We are developing a biofuels research and development strategy to help encourage the production of more sustainable biofuels.

We have already commissioned a research scoping study so that we can understand the existing research gaps and areas where we could be supporting greater scientific progress. The range of topics covered in the scoping study include:

- advanced biofuels
- indirect effects including indirect land use change;
- other environment issues including land use, biodiversity, greenhouse gas, natural resources;
- social and economic impacts of biofuels including food;
- markets including trade, investment decisions, supply chains and skills;

- upstream and downstream infrastructure and vehicle capability including extension of biofuels to use in other modes of transport;
- vehicle and infrastructure capability.

The recently-formed Energy Technologies Institute (ETI) aims to accelerate the development, demonstration and eventual commercial deployment of a focused portfolio of energy technologies, which will increase energy efficiency, reduce greenhouse gas emissions and help achieve energy and climate change goals. Transport is among the focus areas of the ETI, whose analysis shows that liquid fuels, including bio-fuels, will remain the primary fuel source for the heavy-duty sector due to the high energy density required and will remain an element of the energy mix for the light-duty sector. For the light duty sector the ETI is evaluating the potential for plug-in vehicles, and the requirements for the supporting infrastructure, within a low carbon transport system.

Within the heavy-duty sector the ETI is exploring the combinations of technologies that are scalable and transferable across the heavy-duty vehicle sector to achieve a significant step change in efficiency. The ETI is also currently reviewing the evidence base for the UK sustainable bio-mass production capacity and the optimum uses of this bio-mass, including bio-fuels production.

The Research Council's expenditure on bioenergy research (including biofuels, biomass etc) grew to £7.8M in the financial year 2008/09. The Biotechnology and Biological Sciences Research Council (BBSRC) launched an Initiative in 'Capacity-Building Awards in Bioenergy' in 2007 with the aim of growing the UK capacity in bioenergy research. This followed on from BBSRC's Review of Bioenergy. Details are available at: (http://www.bbsrc.ac.uk/organisation/policies/reviews/scientific_areas/0603_bioenergy.pdf)

Applications were invited for a Bioenergy Centre, to act as a focus for UK bioenergy activities, and Programme Grants, to address specific areas of research. The recommendation of the peer review panel was to amalgamate the best aspects of the highest quality applications into a single distributed centre.

The BBSRC Sustainable Bioenergy Centre (BSBEC) was launched in January 2009, and is the largest UK public sector investment in bioenergy to date (£27M, including £7M from a number of industrial partners). The Centre will carry out research on a variety of aspects of bioenergy research, including sustainability, and it is expected that its results will lead to the development of fuels based on non-food crops, such as willow, industrial and agricultural waste products and inedible parts of crops, such as straw.

In addition to this, BBSRC participated in the ERA-Net Bioenergy call on short rotation coppice, and is involved in one of the successful applications. It also participated in the ERA-ARD call on social and economic aspects of bioenergy and is in the process of funding successful applications. BBSRC

currently funds research on willows for biomass, on Miscanthus and also research on biobutanol production from Clostridium.

Other key Research Council projects include - "SUPERGEN bioenergy consortium" (£6.4M four year research project bringing together growers, biologists, agronomists, economists, scientists and engineers to tackle the challenges associated with the further development of this renewable resource in a sustainable manner) and the "TSEC Biosys project" (which brings together natural and social scientists, engineers and economists from fifteen leading UK research organisations and from other organisations to focus on; the potential evolution of demand for bioenergy in the UK and current and future options for supplying the demand; studies of the biomass supply potential in the UK from a land use, forest and crop production perspective; the development of a sustainability framework for bioenergy chains and address the implications of alternative pathways for the development of bioenergy).

## *Section 2: Ensuring the Environmental Benefits of Biofuels*

*Carbon and sustainability reporting*

The RTFO is intended to help create the right market conditions for the best biofuels to flourish and will where appropriate encourage the development of more advanced biofuels in the future

Following a public consultation in June 2007 the Government published its recommendation to the RFA on the details of carbon and sustainability reporting under the RTFO scheme. Certificates are issued for biofuels only if a carbon and sustainability report has been submitted to the RFA by the biofuel supplier. These reports cover matters such as the country of origin and the wider sustainability of the biofuels, and also the lifecycle carbon savings of the biofuels compared with the fossil fuels they replace.

The RFA publishes monthly and quarterly reports based on this data and includes details on individual supplier performance, carbon intensity (GHG saving) and sustainability of biofuels used under the RTFO. This creates an incentive to source the best biofuels and encourages better performance, and we believe this is an important step towards mandatory sustainability standards.

*Indicative targets for suppliers*

The Government has set the following indicative targets for suppliers under the RTFO:

| **Annual target** | **2008/09** | **2009/10** | **2010/11** |
|---|---|---|---|
| Percentage of feedstock meeting a qualifying environmental standard | 30% | 50% | 80% |
| Annual average greenhouse gas saving of biofuel supplied | 40% | 45% | 50% |
| Data reporting on sustainability characteristics | 50% | 70% | 90% |

Published performance data for the first nine months of the obligation period 2008/09 indicates the following::

- 19% of biofuels are estimated to have met an environmental standard, compared to the 30% government target. The ability of suppliers to source certifiably sustainable fuels is currently limited as the British Assured Combinable Crops Scheme (ACCS) scheme is the only well established certification scheme. However, it is expected that certified sustainable feedstock should become increasingly available over time, as feedstock standards develop in response to the demand created by

the RTFO and the growing concern about the sustainability of agricultural commodities more widely;
- Greenhouse gas savings of 46% were achieved against the 40% Government target. This figure excludes the emissions from indirect land-use changes considered in the 'Gallagher Review';
- 66% of the data captured from suppliers provided information on sustainability characteristics, compared to the 50% Government target. The data reporting target of renewable fuel characteristics refers to the amount of data provided by transport fuel suppliers in relation to sustainability components such as the type of feedstock, feedstock country of origin, sustainability standard, and land use information.

These indicative targets will be kept under review in light of the UK's implementation of the Renewable Energy Directive and the Fuel Quality Directive.

*Climate Change Act 2008*

The Climate Change Act 2008 contains a new duty for the Administrator of the RTFO to "promote the supply of renewable fuel whose production, supply or use causes or contributes to the reduction of carbon emissions and contributes to sustainable development or the protection or enhancement of the environment generally". This came into force in January 2009 and recognises that the RFA has a role in encouraging transport fuel suppliers to supply "good" biofuels.

*Review into wider effects of biofuel production*

On 21 February 2008 the UK Government announced a review, led by Professor Gallagher, the Chair of the RFA, of the emerging evidence on the indirect impacts of biofuel production. The review was published in July 2008. It recommended that due to the risk of unintended indirect effects, the UK Government should reduce the rate of increase of volume targets for the supply of biofuel.

The main conclusions of the review included:

- Biofuels can contribute greenhouse gas savings from transport, but there is a need to ensure that significant emissions from land-use change are avoided and appropriate production technologies are employed.
- Demand for food, animal feed and bioenergy is rising and creating additional pressure on land and contributing to some extent to rising food prices. Current policies do not ensure that additional production moves to sustainable areas.
- There is a risk that current biofuel policies will lead to a net increase in greenhouse gas emissions and impact upon biodiversity as a result of the displacement of existing agricultural production.

- The introduction of biofuels in both the UK and EU should be slowed until adequate controls to address displacement effects are implemented and demonstrated to be effective.
- In the UK, the rate of increase in the UK's RTFO should be slowed to 0.5% per annum so that the RTFO reaches 5% in 2013/14 rather than 2010/2011 as currently planned.

In response to the Gallagher review, the UK government formally announced that it accepted that there was a need for the Government's support for biofuels to proceed with caution until the evidence is clearer about the wider environmental and social effects of biofuels. The Government also announced that it would consult on slowing down the rate of increase in the RTFO in line with Professor Gallagher's recommendations. The Ministerial statement on these recommendations is available at: (www.publications.parliament.uk/pa/cm200708/cmhansrd/cm080707/debtext/80707-0006.htm#08070711000004)

Changes to the obligation levels in the RTFO were subsequently made in response to the Gallagher Review, as explained in Section 1.

The UK Government will be taking forward further research into accounting for and reducing the indirect effects of biofuels as part of its aforementioned research and development strategy. It is hoped that this work will help inform the European Commissions report into indirect land use change and any future methodology to account for these effects.

*Independent review of the effects of the RTFO on industries using tallow as a feedstock*

During the passage of the draft RTFO order through the UK Parliament the Government gave a commitment to commission an independent review of the likely impacts of the RTFO on the other UK industries that use tallow as a feedstock. The purpose of the review was to consider the wider environmental impacts of supporting the use of tallow as a biodiesel feedstock. AEA Technology was commissioned to carry out the review and complete a report before the RTFO commenced on 15 April 2008. AEA's final report was published on 9 April and is available at: (http://www.dft.gov.uk/pgr/roads/environment/rtfo/tallow/tallowfinalresport.pdf)

The key findings of the report are:

- the UK Government should consider the effect of switching tallow to biofuel production, particularly on GHG emissions and if there is a negative impact this should not be supported. The indirect impacts should be considered:
- switching tallow to biodiesel will also have a net negative effect on employment, gross value added and the balance of trade:
- the oleochemicals industry in the UK is facing a number of problems, including increased competition from the Far East, but biofuels are not solely to blame as they are part of a much bigger picture:

- demand for tallow for biodiesel could contribute to the problems, although there is little direct evidence that this is happening at present.

The RFA has recently consulted on the issue of appropriate default values for tallow. However, they have decided that it would not be appropriate to revise these values in their carbon and sustainability reporting requirements for the next obligation year for a number of reasons, including because this would be at variance with the approach adopted for the greenhouse gas methodology and default values prescribed in the Renewable Energy Directive.

## SECTION 3: Biomass for uses other than transport

*Renewables Obligation*

- The Renewables Obligation (RO) is the UK Government's main mechanism for supporting renewable electricity generation. Since its introduction in 2002, it has succeeded in almost tripling the level of renewable electricity (from 1.8% of total UK supply to 4.8% in 2007).

- Important changes to the RO took effect on 1 April 2009, to provide different levels of support to different technologies, depending on their costs. This is known as 'banding'. These changes will enable the RO to deliver a higher level of generation from a wider range of renewable sources, while managing the cost to the consumer.

We announced in November 2008 that we would extend the RO from its current end date of 2027 to at least 2037, in order to give greater long-term certainty to investors.

In 2008 the percentage of UK electricity sales that were from sources eligible for the RO was 5.3 per cent, up from 4.8 per cent in 2007.Generation from biomass grew only marginally, but landfill gas, which was the main contributor, rose by 1.7 per cent. Total biomass generation accounted for 43 per cent of all renewable electricity generation in 2008.

A detailed overview of the development of renewable technologies in the UK, including its impact on the environment may be found in the Digest of UK Energy Statistics (DUKES) at:
(http://www.berr.gov.uk/energy/statistics/publications/dukes/page45537.html)

The Government invested around £500 million between 2002 and 2008 in capital grants and R&D for emerging renewable and low carbon technologies including biomass. We are already seeing a dramatic expansion of our renewable generation capacity. For example the Government recently gave consent to the world's biggest biomass plant in Port Talbot and there are plans for a further three 300MW plants within the UK.

In May 2007 the UK published its Biomass Strategy (http://www.defra.gov.uk/Environment/climatechange/uk/energy/renewablefuel/pdf/ukbiomassstrategy-0507.pdf). Key actions taken in England as a result of commitments within the UK Biomass Strategy and the Government's earlier Response to the Biomass Task Force Report include:

- expanding the use of biomass on the Government Estate;
- developing the Biomass Energy Centre to provide expert information and best practice advice (www.biomassenergycentre.org.uk/);

- supporting energy crops under the Rural Development Programme for England;
- supporting the development of biomass supply chains through the Bio-energy Capital Grants Scheme and the Bio-energy Infrastructure Scheme;
- a review of the Government's approach to anaerobic digestion within England; and
- the publication of the Woodfuel Strategy for England (2007) (http://www.forestry.gov.uk/england-woodfuel).

More specifically:

The Energy Crops Scheme, is delivered by Natural England as part of the Rural Development Programme for England, supports the establishment of perennial energy crops for heat, electricity or combined heat and power (CHP) use within a specified area. Under the scheme growers can claim 40% of the establishment costs for miscanthus (a woody grass) or Short Rotation Coppice (SRC) from a variety of trees (most commonly willow). Further information is available on the Natural England website at (http://www.naturalengland.org.uk/planning/grants-funding/energy-crops/default.htm)

The Bio-energy Capital Grants Scheme was launched in 2002 by the then DTI and the Big Lottery Fund. Round 1 of the scheme supported the installation of biomass-fuelled heating boilers, combined heat and power plants and large-scale dedicated biomass power stations. Round 2 was launched in April 2006 and funded by the Big Lottery Fund to support small-scale biomass heat and combined heat and power projects. Both these rounds offered funding across the UK.

In 2006, Defra funded a third round as part of a five-year capital grant scheme to support biomass heat installations - biomass-fuelled heat and combined heat and power projects, including anaerobic digestion in the industrial, commercial and community sectors in England only. Round 3 was launched in December 2006, Round 4 in April 2008 and the latest Round 5 in December 2008. Round 5 was open to applications until April 2009.

Rounds 1, 3, 4 and 5 of the scheme are now the responsibility of DECC. Round 2 remains with the Big Lottery Fund. Subject to funds being available, it is hoped to launch a round 6 in Autumn 2009, to allocate grants up to March 2011. (Small boiler installations commonly take at least 6 months to complete, CHP plants commonly take 18 months. Grant is paid on completion of the project.)

There are currently no plans to continue the Scheme beyond March 2011. since the Government will be reviewing its policy on capital grants to support biomass heat projects in light of its stated intention to introduce a Renewable Heat Incentive.

DECC, in association with industry, academia and other stakeholders, also provides R&D support in this area through the Technology Programme - including support work on next generation biofuels (such as ligno-cellulosic or ‘woody’ ethanol fuels) and biorefineries;

The Government has funded the Low Carbon Buildings Programme (phase one and two) which has, to-date, committed over £12 million of grant support to heat projects with just under £4 million for biomass heaters. In Budget 2009, we announced an additional £25 million for at least 10 community heating schemes through the Low Carbon Buildings Programme.

## SECTION 4: UK Production, Sales and Availability

Total sales of biofuels in the UK in 2008 were 1,092 million litres, whilst total road fuel sales were approximately 48,395 million litres. As a percentage of total road transport fuel sales, biofuels made up some 2.26 % by volume (or some 2.04% by energy content - see table 2 below).This represents an increase of more than double the previous year's total sales which amounted to 499 million litres.

Biofuels sold in 2008 and the first few months of 2009 are set out in table 1 below:

### Table 1 - UK biofuel sales

| Month | Biodiesel *(million litres)* | Bioethanol *(million litres)* | Total diesel Sales† *(million litre)* * | Total Petrol Sales *(million litres)* * |
|---|---|---|---|---|
| January *2008* | 29 | 13 | 1,884 | 1,917 |
| February | 32 | 19 | 2,202 | 1,920 |
| March | 29 | 17 | 2,163 | 1,824 |
| April | 36 | 14 | 2,174 | 1,973 |
| May | 77 | 12 | 2,178 | 1,888 |
| June | 96 | 26 | 2,228 | 1,952 |
| July | 99 | 13 | 2,134 | 1,860 |
| August | 97 | 18 | 2,104 | 1,875 |
| September | 99 | 18 | 2,062 | 1,861 |
| October | 100 | 18 | 2,165 | 1,844 |
| November | 99 | 19 | 2,242 | 1,945 |
| December | 94 | 19 | 2,149 | 1,849 |
| **Total for 2008** | **886** | **206** | **25,686** | **22,709** |
| | | | | |
| January *2009* | 80 | 16 | 1,871 | 1,841 |
| February | 82 | 15 | 2,096 | 1,800 |
| March (p) | 68 | 20 | 1,931 | 1,623 |
| April (p) | 74 | 33 | 2,243 | 1,924 |
| May (p) | 89 | 14 | 1,956 | 1,880 |

*Notes*
**Total diesel and petrol sales figures include all biodiesel and bioethanol sales.*
*† Total diesel sales include all diesel sold for road transport, but do not include diesel sold for other purposes, such as for use in non-road mobile machinery or for domestic heating.*
*Totals may not sum due to rounding.*
*p Provisional amount*

Further details on UK fuel sales are available at (http://www.uktradeinfo.com/index.cfm?task=bulloil)

Converting these biofuels sales figures into percentages gives the following results for the calendar year 2008 as a whole, as set out in table 2.

**Table 2 - UK biofuels sales as a percentage of total fuel sales**

| | Total Sales in 2008 *(million litres)* | As a percentage *by volume* of Total Fuel Sales | As a percentage *by energy content* of Total Fuel Sales * |
|---|---|---|---|
| Biodiesel | 886 | 1.83% | 1.78% |
| Bioethanol | 206 | 0.43% | 0.26% |
| **Total Biofuels** | **1,092** | **2.26%** | **2.04%** |

**assuming the following RED/FQD conversion factors:*
*Bioethanol 66% of petrol energy content by volume*
*Biodiesel 92% of diesel energy content by volume*

Feedstocks for UK biofuel production include recycled cooking oils, agricultural by-products (for example, tallow), and mainstream agricultural crops (such as cereals and root crops for bioethanol and oilseed crops for biodiesel). Among the imports are biodiesel feedstocks (including tropical products such as palm oil) and manufactured bioethanol and biodiesel.

Most biofuels were sold in blends, the vast majority at or below the level of 5% by volume, which is in line with European road fuel standards EN590 and EN228.

**UK Department for Transport 2009**