

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

## Introduction

This report fulfils the UK's obligation to report to the European Commission by 1 July 2007 on the effectiveness of UK Government support for biofuels during the calendar year 2006, 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 2006 and early 2007 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 2006.

## Summary

The UK Government is fully committed to the promotion of biofuels in the transport sector, and during 2006 has further developed and set out a comprehensive policy framework to ensure that its ambitious policy objectives can be met.

Article 4 of the Biofuels Directive states that:

*"in the report covering the year 2006, Member States shall indicate their national indicative targets [for the proportion of biofuels and other renewable fuels placed on their markets] for the second phase [ie for 2010]"*.

**The UK Government confirms that its biofuel sales target for 2010 is 5% by volume of total road transport fuel sales.**

The Renewable Transport Fuel Obligation (RTFO) is due to come into effect in April 2008 and to become the UK's primary mechanism to develop a market for transport biofuels. The RTFO is set to ensure a stable and long-term renewable fuel market in the UK by placing upon suppliers of fossil fuel for road transport an obligation which should ensure that, by 2010, 5% of their total fuel sales are from biofuels.

Fiscal incentives for biofuels in the UK continued in 2006. Biodiesel and bioethanol received a 20 pence per litre fuel duty incentive which has stimulated a growing market in the UK. Budget 2007 announced that this duty incentive will continue until spring 2010, providing greater certainty for investment. Over time, the level of fuel

duty incentive is likely to reduce as the RTFO becomes established as the principal support mechanism for biofuels.

During 2006 and early 2007, the UK Government has continued to develop innovative ways of ensuring that the carbon and wider environmental aspects of biofuel production are properly addressed. We have commissioned the UK's Low Carbon Vehicle Partnership to develop a robust and user-friendly carbon saving calculation methodology for different biofuel production chains, and a reporting framework to encourage the sustainable sourcing of biofuels. We are currently consulting on the detail of this.

The combination of these measures should ensure that the UK should have a significant and stable market for biofuels by 2010/11, providing a strong contribution to the Biofuels Directive's objectives of reducing greenhouse gas emissions, promoting security and diversity of supply and supporting rural economies.

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

### **i. The Renewable Transport Fuel Obligation**

The Renewable Transport Fuel Obligation (RTFO) is due to become the UK's primary mechanism to develop a market for transport biofuels as well as delivering the objectives of the Biofuel Directive.

The RTFO will require road transport fuel suppliers to ensure that a proportion of the road fuel they supply in the UK comes from renewable sources. Under the scheme certificates can be claimed when renewable fuels are supplied and fuel duty is paid on them. At the end of an obligation period, these certificates may be redeemed to the RTFO Administrator to demonstrate compliance and certificates can be traded. If any obligated supplier does not have enough certificates at the end of an obligation period, it has to 'buy-out' of the balance of its obligation by paying a buy-out-price. The buy-out-price will be 15 pence per litre in the first and second years of the obligation.

The UK Government is due to introduce the RTFO in April 2008. The Chancellor of the Exchequer in his 2006 Budget announced that the level of obligation for the years leading up to 2010 would be 2.5% of total fuel sales in 2008/9 and 3.75% in 2009/10, leading to 5% in 2010/11. These targets have been set on a volume basis. They are expected to deliver a net saving of around 1 MtC per year by 2010.

The UK Government recognises that the level of the obligation for 2010/11 (5% by volume) falls below the 'reference value' (5.75% by energy content) set out in the Directive. The Directive allows Member States to set targets which differ from the reference values provided that any differentiation is "motivated".

The UK Government's motivation, or justification, for the difference between our national indicative target for 2010 and the 5.75% by energy content reference value in Article 3 of the Directive is primarily that:

- the UK Government is not yet confident that higher levels of biofuels can be delivered in a sustainable way.
- the 5% by volume level is consistent with current EU fuel quality standards which impose a 5% volume-based limit for biofuel blends.

These issues are currently being addressed by the European Commission as part of the reviews of the Biofuels and Fuel Quality Directives, and the UK Government will continue to work closely with the European Commission and other Member States towards a satisfactory solution.

The UK Government will look to increase the level of the RTFO beyond 5% after 2010/11 provided that a number of very important conditions are met, including:

- certainty that this can be done sustainably;
- the revision of EU fuel quality standards for petrol and diesel to allow the mainstream use of higher percentage biofuel blends; and

- the costs to consumers being acceptable.

In February 2007 the UK Government published a consultation document setting out the proposed detailed design of the RTFO, seeking views on matters such as precisely which suppliers will be affected, the thresholds (i.e. the amount of litres of fossil fuel) at which suppliers become obligated, how the buy out mechanism will work, which fuels are included, how suppliers will report on the carbon savings associated with their fuels, and so on. This is available at <http://www.dft.gov.uk/pgr/roads/environment/rtfo/>

The consultation ended in May 2007. A summary of the responses and how the UK Government will take this forward will be published shortly.

### ***Cost effectiveness***

An analysis of various policy options was undertaken in 2006 in the Energy White Paper and Climate Change Programme. These showed that using biofuels for road transport was a more expensive way of saving carbon than many other policy options. The analysis carried out for the Climate Change Programme 2006 suggested that the RTFO would cost around £135 per tonne of carbon saved. Measures announced in other sectors tended 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. This is because tomorrow's biofuels have the potential to offer higher carbon savings at lower cost, as the production processes become more efficient and as new technologies come on stream.

### ***EU Fuel Quality Standards and 2020 target***

The UK Government supports the increased use of sustainable biofuels and welcomes the bold and ambitious programme on climate change endorsed at the Spring Council in March 2007.

The 10% target by energy content for biofuels by 2020 agreed at the Spring Council is ambitious as it would mean some 13% or so by volume. The UK Government strongly supports the proviso that the binding nature of the target is only appropriate subject to production being sustainable, second-generation biofuels becoming commercially available and the Fuel Quality Directive being amended accordingly to allow for adequate levels of blending.

These conditions very much complement the conditions we have set down for any future evolution of the RTFO post-2010.

### ***Sustainability work under RTFO scheme***

As the demand for biofuels increases there is a risk that the production of those biofuels may result in adverse environmental impacts, such as deforestation in developing countries. The RTFO will have an environmental reporting scheme which will form an integral part of the Obligation from day one, with suppliers having to submit reports on the carbon savings delivered by their biofuels, and the wider

environmental impact of those fuels in order to obtain RTF certificates. We believe that this will offer a strong incentive on suppliers to source only sustainable biofuels which deliver a high level of carbon savings.

### ***Level of Buy-out price***

Budget 2007 announced the extension of the 20 pence per litre duty incentive for biofuels until spring 2010, offering further certainty to the industry. In addition, the Budget also confirmed that RTFO buy-out price - the price paid by fuel suppliers who fail to meet their obligation for the year by producing certificates showing biofuel supply - will remain at 15 pence per litre for the second year of the Obligation (i.e. 2009-10). The combination of duty incentive and buy-out price is then due to fall to 30 pence per litre in 2010-11. The Government expects that the emphasis will move from duty incentive towards buy-out price as the principal support mechanism in the future. The Government's intention is that the level of the RTFO buy-out should be sufficiently high to ensure that obligated suppliers do not routinely resort to using it, and so will keep the level of the buy-out price under review.

## **ii. Other support mechanisms for biofuels**

### ***Fuel Duty Incentives***

Under the Alternative Fuels Framework published by the UK Government in December 2003, the UK Government sets out in each year's Budget the levels of fuel duty incentives for biofuels and other alternative fuels that will apply in each of the following three years. This provides certainty to support investment in the production and development of alternative fuels.

The RTFO is likely, over time, to replace fuel duty incentives as the UK Government's principal support mechanism for biofuels. However, the UK Government believes that, in the early years of the RTFO, there should be a gradual, rather than an abrupt, transition from one mechanism to the other.

Budget 2006 therefore announced that the 20 pence per litre duty differential would be guaranteed until 2008-09, and Budget 2007 has since extended it further to 2009-10. The combination of fuel duty incentive and buy-out price in those two years (ie the first two years of the RTFO) will therefore amount to 35 pence per litre. Thereafter, the Government has said that the combination of duty incentive and buy-out price will reduce to 30 pence per litre in 2010-11. An announcement on the level of fuel duty incentive for biofuels for 2010/11 will be made in Budget 2008.

The Government takes into account all relevant economic, environmental and social factors in coming to a decision on the appropriate level of the duty incentive.

Budget 2007 also set out a wider package of measures to support biofuels, including extending the biogas duty incentive at its current level until 2011-12, thus giving five years' worth of certainty to investors.

### ***Enhanced Capital Allowances***

In the report covering the year 2005, we said that the UK Government had applied for State Aid approval for an enhanced capital allowance (ECA) scheme to support the most carbon-efficient biofuels plant. Following discussion with the European Commission the Government launched a further consultation with stakeholders. In light of this consultation process, the Government will re-apply for State aid clearance and, subject to that, will introduce a 100 per cent first-year allowance for biofuels plant that meet certain qualifying criteria, and which make good carbon balance inherent in their design, as proposed. In addition the Government will also introduce a payable enhanced capital allowance for companies not in taxable profit to ensure both profit and loss making firms have an incentive to invest in the cleanest biofuels plant. The Government will continue to monitor the development of innovative and lower carbon biofuels production methods, and consider the most effective form of on-going support.

### ***Government grant programmes***

During 2006, the UK Government, through the Refuelling Infrastructure Grant Programme managed by the Energy Saving Trust, continued to provide grants toward the cost of installing alternative refuelling points including, for example, for hydrogen, electric, bio-ethanol and natural gas / 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 14 bioethanol (E85) refuelling stations. The information on these stations can be found at <http://www.energysavingtrust.org.uk/fleet/Vehicles/Alternativefuels/Alternativefuelsrefuellingmap/>

### ***Regional Selective Assistance Grants***

As outlined in last year's report, regional selective assistance grants are one of the few methods of direct support for industry allowable under the EU's single market rules. During 2006 the Scottish Executive and the Regional Development Agencies continued to offer support to a number of businesses in the sector. The Scottish Executive confirmed that it would provide a £9 million grant towards the construction of a 500,000 tonne biodiesel plant at Grangemouth, due to come on stream in 2008

### **iii. Sponsoring Research & Development**

The Government has continued to support the National Non Food Crop Centre (NNFCC), which has carried out work on establishing the feasibility of advanced Biomass to Liquids (BTL) processes for biofuel production in the UK. This concluded that at current oil prices, the economics are starting to look attractive. Other NNFCC studies include:

- a techno-economic evaluation of emerging biodiesel technologies including vegetable oil hydrogenation, pyrolysis and biomass to liquids technologies.

- mapping the development of advanced biorefinery concepts which could become reality beyond 2020.

These studies will be made publicly available on Government websites in due course.

In the 2006 Energy Review the Government announced that it would develop a Low Carbon Transport Innovation Strategy (LCTIS). This was published at the same time as the Government's Energy White Paper and sets out an overall framework through which the Government will encourage innovation and technology development in lower carbon transport technologies. It also considers the road, aviation, rail and maritime sectors - setting out in detail the technologies that can contribute to lower carbon transport and the steps the Government is taking to encourage them. It assesses where Government intervention is most usefully focussed and sets out a wide range of actions Government is taking to encourage innovation and technology. The document can be found at <http://www.dft.gov.uk/pgr/scienceresearch/technology/>.

#### **iv. 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 vehicles wherever practicable, and its total usage of B5 biodiesel increased from some 53,000 litres in 2005/6 to some 100,000 litres in 2006/7.

Forestry Commission Scotland have 120 vehicles which run on bio-diesel blends of 5% and upwards, including 25 vehicles which run on a 25% blend, and two which run on a 100% blend.

#### **v. Support for other renewable fuels: bringing forward the Hydrogen economy**

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.

The Government's "Strategic Framework for Hydrogen Energy Activity" was published in 2005 and it included a funding package from the DTI of £15 million over four years for a UK wide hydrogen and fuel cell demonstration programme. Having obtained the appropriate state aid approvals, the first call for projects opened in 2006 and we expect to announce later this year the successful projects under this call.

#### **vi. Other UK initiatives:**

In 2006 the Government published an Energy Review summarising a range of policies which are aimed at delivering carbon reductions in the near and long term. In the same year we also published a Climate Change Programme Review which sets out our policies and priorities for action in the UK and internationally. This document

can be found at:

<http://www.defra.gov.uk/environment/climatechange/uk/ukccp/pdf/ukccp06-all.pdf>

In May 2007 the Energy White Paper was published looking at the two major long-term challenges in UK energy policy:

- to tackle climate change by reducing carbon dioxide emissions; and
- to deliver secure, clean energy at affordable prices, as we move to increasing dependence on imported energy.

The document can be found at

<http://www.dti.gov.uk/energy/whitepaper/page39534.html>

The Government has also recently published a Biomass Strategy which is discussed in section 3.

## **SECTION 2: Ensuring that the Environmental Benefits of Biofuels are realised**

The potential environmental benefits of biofuels are well recognised, but the extent of the benefits in terms of carbon saving is variable. During 2006 and more recently there has been substantial and growing concern about potential negative environmental impacts, such as deforestation of sensitive habitats. These issues have the potential to undermine the benefits of biofuels and policies in support of them. The UK Government has therefore taken action to address these risks to try and ensure that the environmental benefits of biofuels can be fully realised.

The UK is working closely with colleagues in the Netherlands and other Member States to ensure that the methodologies we use to calculate the environmental impacts of biofuels, and the reporting requirements we each plan to impose on biofuel suppliers, are consistent. The UK Government is encouraging the European Commission to take the lead in developing a framework within which Member States can prevent the use of unsustainable biofuels, and welcomes the Commission's recent consultation in this area. The UK's response to the Commission makes the following key points:

- biofuels should be rewarded according to their greenhouse gas savings
- fuel suppliers should report on wider sustainability criteria of the biofuels they have supplied (e.g. water pollution, air pollution, workers rights etc) as an interim measure until a more robust standard can be developed.
- there should be interim targets for biofuel supply in 2012, 2015 and 2017 which the Commission should not move beyond unless it is satisfied that the fuel can be supplied sustainably.

The UK Government working with the Low Carbon Vehicle Partnership has continued to develop useable tools for companies to measure and manage the environmental performance of their biofuels, including:

- a methodology and tool for calculating the carbon intensity of biofuels; and
- the development of environmental and social standards for biofuels.

The UK Government is currently consulting on a proposed set of draft requirements and guidance for carbon and sustainability reporting under the RTFO, describing the precise information companies should supply on a monthly and annual basis and the procedures that should be followed. The consultation document is available via <http://www.dft.gov.uk/roads/rtfo>. The consultation closes on 13 September 2007. The requirements and guidance are also being piloted by some 10 companies. It is expected that the final reporting requirements will be published in the autumn of 2007.

The UK Government's proposals for the details of the scheme are as follows. To receive Renewable Transport Fuel Certificates, reports must be supplied to the RTFO Administrator on all batches of fuel produced or imported into the UK. Obligated suppliers will be required to report on a monthly basis; non-obligated

suppliers whenever they apply for certificates. In addition it is proposed that obligated suppliers who apply for more than 450,000 certificates in an obligation period companies will be required to supply an independently verified and publicly available annual report aggregating their performance throughout the year. These reports will include details of:

- the feedstock type and origin from which the fuel was produced
- the environmental and social standards to which the feedstock has been grown
- the land-use in 2005
- the carbon intensity of the fuel including direct land-use changes
- information on how the carbon intensity calculation has been performed.
- the actions being taken to increase the sourcing of sustainable biofuels
- a verifier's statement.

The Government intends to set targets to illustrate the level of performance that is expected from transport fuel suppliers. These targets are likely to be as set out in the table below:

Annual supplier target	2008-09	2009-10	2010-11
Percentage of feedstock meeting a qualifying standard	-	50%	80%
Annual GHG saving of fuel supplied	40%	50%	60%
Data reporting of sustainability characteristics	35%	65%	80%

It is proposed that the RTFO Administrator will publish reports comparing the performance of different suppliers and the biofuels they have supplied, and it is expected that this "league table" effect will encourage better performance.

The UK Government also announced on 21 June 2007 that it:

- aims to reward biofuels under the RTFO **in accordance with the carbon savings that they offer from April 2010**, provided that this is compatible with World Trade Organisation rules and EU Technical Standards requirements, and is consistent with the policy framework being developed by the European Commission as part of the review of the Biofuels Directive, and subject to consultation on its environmental and economic impacts
- aims to reward biofuels under the RTFO **only if the feedstocks from which they are produced meet appropriate sustainability standards from April 2011**, subject to the same provisos and consultation as above and subject to the development of such standards for the relevant feedstocks.

- will continue to work closely with our partners at a national, European and international level to develop robust standards for ensuring the sustainability of biofuels and to ensure that early consideration is given to the WTO implications of the UK's policy intentions.
- will ask the RTFO Administrator **to report to the Secretary of State every three months** on the effectiveness of the RTFO's environmental reporting mechanisms, and on the carbon and sustainability effects of the RTFO. The Government will keep the RTFO under review in the light of these reports.
- intends to set stretching indicative targets for the level of carbon and sustainability performance expected from all transport fuel suppliers claiming certificates for biofuels in the early years of the RTFO. These targets, which are included in the consultation paper we are publishing today, cover:
  - *the level of greenhouse gas savings that we expect to see from the biofuels used to meet the RTFO;*
  - *the proportion of those biofuels that we expect to come from feedstocks grown to recognised sustainability standards; and*
  - *the amount of specific information that we expect to be included in sustainability reports.*
- has asked the Low Carbon Vehicle Partnership (LowCVP) to explore the feasibility of a voluntary labelling scheme to allow responsible retailers to show that their biofuels are genuinely sustainable. Any scheme would need to be compatible with WTO rules.

### **SECTION 3: Biomass for uses other than transport**

The UK Government announced in January 2000 a target that 10% of the electricity supplied in the UK would be generated from renewable energy sources by 2010. This target has been embodied in the Government's Energy White Paper published in February 2003, which also introduced an aspiration to achieve a renewable electricity penetration of 20% of all electricity power generation by 2020. These goals were further underlined in the Energy White Paper 'Meeting the Energy Challenge' published in May 2007.

The Government's main support mechanism for renewables is the Renewables Obligation (RO), which was introduced in April 2002 and is the successor to the Non Fossil Fuels Obligation. It is a market-based mechanism, designed primarily to support technologies that are close to the market and it will remain in place until 2027.

Electricity supply companies are required to source a percentage of their electricity sales (increasing each year) from eligible renewable sources. The obligation for 2007/8 is 7.9% rising to a minimum of 15.4% by 2015/6. From 2016, the obligation level will increase up to 20% on a guaranteed headroom basis. It will remain in place until 2027. Companies can meet their obligation by:

- presenting Renewable Obligation Certificates (ROCs);
- by paying a buy-out fund contribution equivalent to £33.24 MWh in 2007/08 and rising each year with RPI; or
- a combination of the two.

ROCs are currently issued to accredited renewable generators for each 1MWh of eligible electricity generated irrespective of the technology used. As such the RO has been successful in bringing forward the more economic technologies. In order to make the RO more efficient and increase deployment, the Government is consulting on providing more targeted levels of support to different technologies in the form of multiple or fractional ROCs. New projects in more expensive technologies like dedicated biomass and anaerobic digestion would receive more support and those that are more economic like landfill gas would receive less. This should lead to a greater contribution to renewable electricity from dedicated biomass stations. Subject to consultation and State Aid clearance, this change will take effect from 2009 at the earliest.

Alongside this, support for the co-firing of non-energy crop biomass will be reduced to reflect costs and the current restrictions on the amount of co-firing suppliers can use to meet their obligation will be lifted. (There is currently a 10% limit). This will allow for more co-firing to occur without negatively impacting on the value in the RO for other renewables.

All users of biomass will be required to supply information relating to the sustainability of the biomass they are using.

The deployment of biomass fuelled heat and electricity projects in the UK is also supported by the £66m Bioenergy Capital Grants scheme, jointly-funded by the Department of Trade and Industry and the National Lottery's New Opportunities Fund. Support is targeted in four areas, smaller heat and CHP, medium scale CHP and electricity generation, large-scale electricity generation and CHP, and advanced electricity generation. This scheme has supported the construction of power stations at Lockerbie (43MW) and Wilton (30MW) which should commission in 2007. Another power station, Balcas in Northern Ireland (2.7MWe) has already been commissioned. Other supported power generation/CHP projects are still developing, with five of them now in the construction phase.

In 2005, the United Kingdom produced about 4.22% of its electricity from renewable sources compared to 3.58% in 2004. Renewable Obligation eligible biomass produced about 1.85% of current electricity supply in 2004 compared to 1.54 in 2003. Figures for 2006 are not yet released, but will be available shortly through the DTI website. A detailed overview of the development of renewable technologies in the UK, including its impact on the environment may be found in the DTI's Digest of UK Energy Statistics (DUKES) at

<http://www.dti.gov.uk/energy/statistics/publications/dukes/page29812.html>

The Government commissioned an independent year-long Biomass Task Force to identify the barriers to developing bio-energy and to recommend ways to overcome the problems. They published their report in October 2005. It can be accessed via the following weblink: <http://www.defra.gov.uk/farm/crops/industrial/energy/biomass-taskforce/pdf/btf-finalreport.pdf>

The Government published its response ('action plan') to the Task Force's report in April 2006. This response accepts that energy from crops, trees and waste can make a strong contribution to reducing greenhouse gas emissions and sets out 12 key initiatives and over 60 associated actions to make this happen. Good progress has been made, over the past year, in taking forward what has been an ambitious programme of work. Key highlights include:

- The launch of a new five-year capital grant scheme for biomass heat and biomass Combined Heat and Power (CHP) systems at the end of December 2006.
- Confirmation that proposals for a new Energy Crops Scheme are to be included within the Rural Development Programme for England 2007.
- A set of regional maps identifying opportunities and optimum sitings for energy crops (short rotation coppice (SRC) and miscanthus) were published on Defra's website in May 2007  
[www.defra.gov.uk/farm/crops/industrial/energy/opportunities/index.htm](http://www.defra.gov.uk/farm/crops/industrial/energy/opportunities/index.htm))
- A mapping exercise assessing the suitability of the Defra estate for conversion to biomass heating was undertaken. The mapping exercise is currently being rolled out to other Government Departments.
- The Biomass Energy Centre (BEC) was established on 27<sup>th</sup> April 2006, this was followed by the launch of their website on 6<sup>th</sup> September 2006 ([www.biomassenergycentre.org.uk](http://www.biomassenergycentre.org.uk)).

- Government commissioned a study to examine the issue of longer term heat support for renewable heat.
- Energy Review was published 11 July 2006.
- The Waste Strategy for England 2007 (including a section on energy from waste) was published on 24 May 2007.
- Government consulted on a draft Planning Policy Statement (PPS) on Climate Change (closed 8<sup>th</sup> March 2007) and are currently considering the responses received. Government to ensure that the accompanying planning guidance for the PPS properly considers renewable energy issues, including the promotion of biomass.
- Workings at a regional and local level to encourage effective and coordinated mechanisms for delivery of policy and advice on biomass.
- A second round of the Bioenergy Infrastructure Scheme is to be run later in 2007.

A full copy of the Government Response to the BTF report can be accessed via the following weblink: <http://www.defra.gov.uk/farm/crops/industrial/energy/biomass-taskforce/pdf/btfreport-govresponse.pdf>

Recognising the great potential for biomass growth in the UK, and the current utilisation of this important energy source, the UK published a Biomass Strategy in May 2007 alongside the Energy White Paper. The Biomass Strategy is intended to:

- realise a major expansion in the supply and use of biomass
- facilitate the development of a competitive and sustainable market and supply chain
- promote innovation and low-carbon technology development
- secure environmental benefits through multiple land use
- facilitate a shift towards a bio-economy
- contribute to the delivery of our climate change and energy policy goals

Biomass has a central role to play in meeting the new EU 20% renewables target, although the precise details will not be known until the EU target applicable to the UK is agreed.

Biomass heat (along with other forms of renewable heat) is expected to play a major part in meeting our EU target (when agreed), as well as providing an important means of helping to tackle climate change.

A significant increase in sustainable biomass production and use will be needed. The European Environment Agency (EEA) estimates the environmentally compatible energy potential of the UK to be 19 Mtoe in 2020 – a major increase on current production levels (of around 6 Mtoe).

Any expansion in production and use must be sustainable. We will be looking to work with the industry to establish appropriate environmental safeguards as we seek to increase the use of biomass for energy.

To take the strategy forward we are planning to merge policy development flowing from the biomass strategy and the Non Food Crops Strategy into a single integrated renewables programme

The full strategy is available at:

[http://www.defra.gov.uk/environment/climatechange/uk/energy/renewablefuel/pdf/uk\\_biomassstrategy-0507.pdf](http://www.defra.gov.uk/environment/climatechange/uk/energy/renewablefuel/pdf/uk_biomassstrategy-0507.pdf)

## UK Production, Sales and Availability

### UK Sales for 2006

Total sales of biofuels in the UK in 2006 were some 264 million litres, whilst total road fuel sales were approximately 49,000 million litres. As a percentage of total road transport fuel sales, biofuels made up some 0.54% by volume, or some 0.45% by energy content (see table 2 below). This represents an increase of approximately 125% over the previous year, when total sales amounted to 118 million litres.

Biofuels sold in 2006 and the first few months of 2007 are set out in table 1 below.

**Table 1 - UK biofuel sales**

Month	Biodiesel (million litres)	Bioethanol (million litres)	Total Diesel † (million litres)*	Total Petrol (million litres)*
<b>January 2006</b>	5	2	1,781	2,077
February	7	9	2,002	2,061
March	8	8	1,864	1,822
April	8	6	2,117	2,164
May	13	7	1,931	2,028
June	13	5	2,060	2,135
July	17	4	2,021	2007
August	17	10	2,059	2,120
September	19	7	2,036	2,129
October	16	11	2,051	1,992
November	20	9	2,172	2,078
December	24	16	2,191	2,016
<b>Total for 2006</b>	<b>169</b>	<b>95</b>	<b>24,283</b>	<b>24,629</b>

<b>January 2007</b>	21	9	1,851	1,980
February	25	14	2,103	1,959
March	25	9	1,952	1,814
April	31	17	2,182	2099
May	27	10	2,116	2,025

*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.*

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 2006 as a whole, as set out in table 2.

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

	<b>Total Sales in 2006 (million litres)</b>	<b>As a percentage by volume of Total Fuel Sales</b>	<b>As a percentage by energy content of Total Fuel Sales *</b>
Biodiesel	169	0.35%	0.32%
Bioethanol	95	0.19%	0.13%
<b>Total Biofuels</b>	<b>264</b>	<b>0.54%</b>	<b>0.45%</b>

*\*assuming the following conversion factors:  
Bioethanol 68% of petrol energy content by volume  
Biodiesel 92% of diesel energy content by volume*

Feedstocks for UK biofuel production include re-cycled cooking oils, agricultural by-products (e.g. tallow and possibly straw) and mainstream agricultural crops (e.g. cereals and root crops for bioethanol and oilseed crops for biodiesel). Imports

include straight bioethanol and biodiesel feedstocks including tropical products such as palm oil.

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

### **UK Production Capacity**

The Government is committed to developing a long term market for biofuels in the UK through the RTFO. Industry has responded with a number of production facilities either built or in the planning and construction stages. This includes:

- the Argent Energy plant in Motherwell, producing 50,000 tonnes per annum of biodiesel from tallow and used cooking oil
- the Biofuels Corporation plant in Teeside, with the capacity to produce up to 250,000 tonnes per annum of biodiesel from various vegetable oils including palm, soya and rapeseed.
- the new Greenergy facility in Immingham which is using UK rape as well as imported feedstock to produce 120,000 tonnes per annum of biodiesel
- British Sugar's plant in Wissington, Norfolk which is due to come on stream in summer 2007 and which will have the capacity to produce 50,000 tonnes per annum of bioethanol from sugar beet

A number of large plants are at the planning and construction stage including:

- in March 2007 Ensus announced that it had secured funding to build a 400 million litre/year bioethanol facility on Teeside using 1.2 million tonnes of wheat a year.
- Ineos are building a 500,000 tonne biodiesel plant in Grangemouth, Scotland.
- a number of other companies (including Green Spirit fuels, Vireol and Abengoa) have plans for major bioethanol plants, and a number of existing companies have expansion plans.

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