Research to gain a better understanding of these issues is underway. It is, however, a very complex area and needs to address the whole agricultural production system, not just the potential impact of biofuels. Agriculture is not static, and the way in which decisions on how to use land are made is very complicated, and in all cases there are many more factors affecting this than just biofuels production.

However, the UK biofuels industry is confident that the crops it uses are sustainably produced. Crops grown in the UK come under strict farm assurance schemes such as the Assured Combinable Crops Scheme (ACCS). Some experts are concerned that if we do not establish a viable biofuels industry soon it will be too late to have a real effect on climate change.

Don't biofuels affect the price of food in the shops?

There is little evidence that biofuels are a significant contributor to the rising price of food in the shops. Following concerns about recent rises in food prices, there has been a lot of research into what caused these food and commodity price rises, and whether biofuels were an important factor.

There are a large number of factors involved, such as weather affecting harvests around the world, the low level of current grain stocks, lack of investment in agriculture, energy prices and changing patterns of demand. For instance, people are eating more meat in Asia, and, therefore, more grain is needed to feed animals.

In fact, while biofuels demand has remained relatively static, both the price of commodities such as wheat, and the amount that farmers are paid for their crops have dropped back. However, the price of food in the shops has remained the same.

Where Do UK-Produced Biofuels Come From?

According to the Renewable Fuels Agency around eight per cent of biofuels used in this country in the first 6 months of the RTFO were actually produced in the UK.[2]

UK-produced biofuels come mainly from British Sugar's plant at Wissington, Norfolk, which makes bioethanol from sugar beet, and Argent's plant near Motherwell, which produces biodiesel from waste cooking oil and tallow. Other plants use waste cooking oil and some UK grown crops to produce their biodiesel.

The amount of UK-produced biofuels will increase significantly during 2009 and 2010 as new plants producing bioethanol from wheat start production. These facilities will be run by Ensus on Teesside and Vireol and Vivergo (BP,Associated British Foods and DuPont) in Hull. They should deliver around 750,000 tonnes of bioethanol between them and an equal amount of protein–rich co-product that can be used to feed farm animals.

How Are UK Biofuels Delivering Sustainable Greenhouse Gas Savings

When the UK introduced a law to ensure that all UK fuel contained a small percentage of biofuel, it also set up an organisation to oversee this process. The Renewable Fuels Agency (RFA) is not just responsible for ensuring that fuel companies include biofuels in the fuel at the pump, but also monitoring whether the biofuels used deliver greenhouse gas savings and are sustainable.

Of the biofuels produced in the UK, the RFA reports that around 99% met environmental sustainability standards, compared to 18% overall. UK biofuels delivered average greenhouse gas savings of 71% compared to an overall average of 46%.[2]

Biofuels produced from UK-grown crops, grown under standards such as the Assured Combinable Crops Scheme, will ensure production in a sustainable manner. There are, therefore, opportunities for UK farmers to contribute to making road transport 'greener' by producing such low carbon, sustainable feedstocks for biofuel production.

Find out more

You can find a lot more information on UK biofuels at www.biofuelsnow.co.uk or contact the Renewable Energy Association on 0207 925 3580.

"We have an urgent problem. On the whole, climate change is destructive, and it is time that we put our minds to tackling it. Our energy demands are increasing significantly, but supply is decreasing. We must therefore press ahead with biofuels and hope that they achieve all that they are capable of achieving."

Dari Taylor
Member of Parliament

1 - 2.5% of fuel in 2008/9, will now rise to 3.25% by 2009/10 and reach 5% by 2013.
2 - RFA Monthly Report April 08 – Jan 09
3 - Source: HGCA
4 - Source: Defra

Biofuels Now

UK Biofuels - Delivering Greener Fuels

It is foolhardy to demonise all biofuels as unsustainable and environmentally damaging when some, which are already on the market, can play an important role, right now, in helping us to tackle climate change.

Dr. Jeremy Woods
Royal Society Biofuels Working Group

UK Biofuels - Delivering Greener Fuels

Do We Really Need Biofuels?

Today's scientific consensus is that climate change is real. The Earth's atmosphere is heating up and this is due to a variety of human activities that cause 'greenhouse gases' to be released into the atmosphere. One of these gases, carbon dioxide, is produced when sources of energy like coal and oil are burned.

As a result virtually everything we do contributes to producing greenhouse gases: heating and lighting our homes, driving our cars, travelling by bus or train, flying abroad, or using computers or other electronic devices. All of these things contribute to our individual 'carbon footprint'. Politicians and scientists agree that we need to do something urgently to reduce greenhouse gas emissions to help mitigate climate change.

While energy production, industry and our homes all produce significant amounts of greenhouse gases, road transport is among the major causes producing around a quarter of the UK's emissions. It is, therefore, critical that we do something about the greenhouse gas emissions from our cars, lorries, and buses.

One way of helping to solve this problem is to use liquid transport biofuels. These are fuels that are made from crops such as wheat, maize or oilseed rape, or from waste materials such as used cooking oil, or tallow. These materials can be converted into bioethanol, which can be used in blends with petrol, and biodiesel for diesel. Scientists are also exploring ways in which materials like wood, straw or paper could be converted into the biofuels, using so-called 'second generation' technology.

The benefit of using biofuels is that their production and use can result in a much smaller amount of greenhouse gases being produced compared to fossil fuels. Fuels such as diesel or petrol, which are based on oil, release greenhouse gases into the atmosphere from plant materials that were stored millions of years ago. Biofuels also release these gases, but the crops that are used to produce them absorb carbon dioxide as they grow – it is a 'virtuous circle'.

Not All Biofuels Are Equal

Unfortunately, not all biofuels are guaranteed to deliver significant greenhouse gas savings, nor are they necessarily produced in a sustainable way: their production may have an adverse effect on the local environment or on the people in the country where they are produced. The important thing is to concentrate on producing good biofuels that are sustainable.

Renewable Transport Fuel Obligation (RTFO)

Since April 2008 all fuel sold in the UK must include a small percentage of biofuels.[1] When the UK Government introduced this legislation it also set up an organisation (the Renewable Fuels Agency) to monitor the biofuels which are being used by the fuel suppliers to fulfill this obligation. Suppliers have to report the greenhouse gas savings delivered by the fuel being supplied and also on the sustainability of these fuels.

While much of the biofuel used in the UK is currently imported, the biofuel that is produced in the UK has an excellent record of delivering greenhouse gas savings and meeting sustainability criteria. According to the Renewable Fuels Agency, between April and December 2008, UK biofuels delivered 71% greenhouse gas savings and 99% were categorised as sustainable.[2]

What is sustainability?

The UK Renewable Fuels Agency (RFA) employs seven criteria to determine whether the production of a biofuel is sustainable:

Environmental

The five RFA environmental principles for biofuel production are that:

- Biodiversity is preserved – the variety of animals, plants and trees in the areas is not affected
- Carbon stocks above and below ground are not depleted. Land and forests store carbon, and using the land or destroying the forests can cause carbon to be released into the atmosphere
- Soil quality is not degraded
- Air quality is not harmed
- Water quality is not harmed

Social

The two social principles are that:

- People's land rights are not affected
- Workers' rights are respected

The RFA provides detailed information on how these criteria are applied on its website at www.dft.gov.uk/rfa

Biofuels, Land and Food

Biofuels can play an important role in helping to fight climate change, but we have to answer some important questions first.

Do we have enough land for biofuels and other uses such as food?

The amount of land required for biofuels is very small (according to the Food and Agriculture Organisation of the UN less than 2 per cent of the total land available worldwide will be required for biofuels by 2030). One of the benefits of using land to grow crops for biofuels is that both biofuels and feed for animals can be produced from the same crop. We will need more land to grow crops of all kinds in the future to meet growing demands. There is land available, but we must ensure that it is farmed in a sustainable way, whatever the crops are used for.

If we have to use land that has not been used before won't it release greenhouse gases?

While biofuels are a tiny part of the 'new' land needed for growing crops, this can be a real concern. It is important, therefore, that no matter what we are growing crops for - energy, biofuels, food, cosmetics, or medicines – we have to ensure that it is done in a sustainable way.

In this country, land is farmed on a 'rotation' basis. Land is left unused for short periods of time, or used for other crops. This means that finding additional land for biofuels or other uses does not mean ploughing up land that has not been used for a long time, and thereby releasing greenhouse gases. Furthermore, most farmers in the UK participate in environmental and assurance schemes, and this is one of the things that makes UK agriculture a model of sustainability.

The amount of land in use is not 'fixed', it comes in and out of production according to demand. Using additional land in the UK does not present a problem, and we are actually using less land for farming now than we used to. In the early eighties the amount of land used to grow cereals rose to nearly 4 million hectares, compared to just over 3 million today.[3] Furthermore, the productivity of land is not static, for example the average UK wheat yield has doubled from 4 tonnes per hectare in the 1970s to a current 8 tonnes per hectare[4] and there is significant potential to increase this still further.

Doesn't using land that was previously used for food crops create a knock on effect?

Much of the recent debate about the use of land for biofuels has been around indirect land use change. Some scientists are concerned that if land is used to grow food crops, and it is then changed to grow biofuels crops, this creates a knock-on effect: new land has to be found to grow the food crops and this may have a detrimental 'indirect' effect.