The Biofuel Debate Heats Up
by Jonathan P. McCaffrey

The UK Energy Act 2004 provided for the enactment of a Renewable Transport Fuel Obligation ("RTFO") to encourage and facilitate reaching the country’s 10% renewable energy target, set by the EU, by 2010. The UK Government has now implemented the controversial RTFO by transposing the European Biofuel Directive 2003/30/EC into UK law. From 15 April 2008, 2.5% of all road vehicle fuel is to be supplied from sustainable renewable sources, a figure which will rise to 5% by 2010. The target set by the EU is 10% by 2020. In practice, this figure will be mostly be achieved by the use of biofuels.

Biofuel (if cultivated, then also called agrofuel) can broadly be defined as solid, liquid or gas fuel consisting of, or derived from, recently dead biological material, most commonly plants. This distinguishes it from fossil fuel, which is derived from long dead biological material. Its most common usage is for automotive transport.

Throughout history, the fluctuations of supply and demand, energy policy, military conflict, and environmental impacts have all contributed to a highly complex and volatile market for energy and fuel. Since 2000, there has been renewed interest in biofuels owing to rising oil prices, concerns over potential oil peak, fears over fuel security, greenhouse gas emissions, rural development interests, and instability in the Middle East. As a result, over the past 3 years venture capital investment in biofuels has increased by 800%.

However, the implementation of the RTFO has received mixed reactions from various groups and two camps have emerged. It remains to be seen which camp will shape future policy in the EU, although some indications suggest that both may have an effect.

Arguments for Increased Use of Biofuel

Industrialists, politicians, the World Bank, the United Nations and even the International Panel on Climate Change suggest that biofuel is a renewable abundant source, providing clean, green, sustainable assurances about technology and progress. Other benefits are considered by some groups to include the reduction of fossil fuel usage and increased national energy security.
Some UK Ministers have argued that the RTFO would help to cut emissions because some biofuels can result in 2/3 less greenhouse gas output than fossil fuels.

The president of the National Farmers Union has recently said that “In the UK we can produce all of the biodiesel and bioethanol needed to meet the targets of the Renewable Transport Fuel Obligation from feed wheat that would otherwise be exported, or oilseed rape grown on former set-aside land”.

Industrialists argue that because biofuel fuel crops are renewable, they are environmentally friendly, can reduce global warming and will foster rural development.

Biofuel technology companies argue that the use of biodiesel would reduce the impact of transport on the environment. They argue that the use of biodiesel would be an easy transition, as its usage would not require any major change to either existing diesel engines or to the distribution infrastructure of storage tanks and petrol stations. Biofuel technologists prefer biodiesel as a much more environmentally friendly alternative to diesel (e.g., less harmful emissions). Biodiesel is also biodegradable.

**Arguments Against Increased Use of Biofuel**

Critics have warned that expanding the growth of agricultural products such as corn, soybeans and rape-seed to make biofuels can lead to environmental damage, drive up food prices and lead companies to drive poor people, particularly in developing countries, off their land to convert it to fuel crops. The key critics are some members of the scientific community and charities.

Scientists in the UK and the U.S. have found that the cultivation of biofuels may increase the output of CO₂ and other gases blamed for global warming because of changes in land use. Therefore, when the full life-cycle of biofuels is considered it can be argued that, from land clearing to consumption, the moderate emission savings are outweighed by far greater emissions from deforestation, burning, peat drainage, cultivation and soil-carbon losses.

The British charity Oxfam has strongly opposed the RTFO, which it claims will cost taxpayers £500 million per year. Oxfam would like the UK Government to suspend its policy until a thorough investigation into the impacts of biofuels has been completed and credible and enforceable standards are in place, which can guarantee that biofuels make neither climate change nor poverty worse.

Oxfam is investigating reports of human rights abuses and land-grabbing in Asia, Africa and South America, and claims that 60 million people worldwide face clearance from their land to make way for biofuel plantations. Citing the International Food Policy Research Institute (“IFPRI”), Oxfam attributes about 30% of the recent food price inflation to biofuel production. The IFPRI has estimated that the price of basic staples will increase 20 – 33% by 2010 and 26 – 135% by 2020. The IFPRI also says the world’s poorest already spend 50 – 80% of household income on food, and that they suffer when high fuel prices push up food prices.

Oxfam, along with the environmental campaign group Greenpeace, called the RTFO policy “reckless” because fuel providers are not yet obliged to source biofuels from sustainable plantations. Belinda Fletcher, international forest campaigner from Greenpeace, stated that rainforests are being destroyed to make way for biofuel crops and that “this destruction leads to massive greenhouse emissions and completely undermines the point of these so-called green fuels.” Greenpeace attributes about 1/5 of the world’s greenhouse gas emissions to destruction of peatland forests in Indonesia, driven by expansion of plantations for palm oil biofuel.
Peru’s President Alan Garcia recently said that demand for biofuels was putting world food production under threat. The global prices of wheat, rice and maize have nearly doubled in some countries in the past year. Some commentators have attributed these sharp rises, together with high oil prices, as a reason for the political instability in less developed countries across the world. Earlier this month there were food riots in Haiti, which is highly reliant on imports of fuel and food, resulting in the deaths of at least six people, including a UN peacekeeper. There has also been unrest in other countries, such as Burkino Faso, Cameroon, Egypt, Indonesia, Ivory Coast, Mauritania, Mozambique and Senegal.

U.S. scientists have said that converting new land to cultivate fuel crops can cause emissions of carbon dioxide 420 times greater than the annual savings. A UK parliamentary committee said that the EU and UK should scrap targets to expand the use of biofuels because of potential harm to the environment. Indeed, scientists cautioned that the increasing targets could result in a harmful level of competition for fertile land.

The World Wildlife Federation has raised concerns that the UK has been importing biofuels from areas where they are supplanting rainforest or other important habitats.

Environmental charity Friends of the Earth, according a poll it conducted, claims that almost 90% of consumers were not aware that biofuels will be added to their petrol or diesel. It suggests that the European governments should instead be focusing on improving public transport and vehicle fuel efficiency. According to Friends of the Earth, considering projected population growth, the humanitarian policy would be to maintain cropland for growing food, not fuel.

**Conclusions**

In light of the various concerns, the EU has admitted that it failed to foresee some of the environmental and social problems raised by its policy and has promised new guidelines to ensure its targets are not damaging. The EU’s environmental chief Stavros Dimas recently stated, "We have to have criteria for sustainability, including social and environmental issues, because there are some benefits from biofuels."

The UK Government is setting up the Renewable Fuels Agency to ensure that biofuels used in the UK come from sustainable sources. However, there will be no mandatory requirements to meet sustainability standards until 2011, which some believe is too slow. UK Prime Minister Gordon Brown stated on 22 April 2008, ahead of his meeting on food prices with industry leaders and development experts, that if any government review “shows that we need to change our approach, we will also push for change of EU biofuels targets.”

While many uncertainties remain over the future of biofuels and their role in global fuel supplies, present indications suggest that forces promoting “sustainable” biofuel policies may shape future EU and UK policy and the implementation of sustainable certification systems.

From a practical perspective, project investors and financiers may need to factor the potential changes in governmental policy into their project risk matrix when considering future regulatory risk. This may potentially add to the project risks and costs and have an impact on project development timeframes and completion risk.