



Biofuels: Risks and Opportunities of an Emerging Industry



A New Era for Fuel?

Biofuels have been hailed as the answer to two major issues facing humanity: climate change and our addiction to crude oil. However, they may not be the panacea they have been made out to be.

Biofuels, unlike fossil fuels, are a renewable energy source, derived from recently living organisms. The raw materials are grown all over the world and include corn and soybeans, mainly in the United States, palm oil in South East Asia, rapeseed mainly in Europe, sugar cane in Brazil and jatropha in India. Leftover food waste such as cooking oil can also be used. Future raw materials may include biodegradable waste products such as straw, timber and sewage, although this is more complicated and requires further development.

Unfortunately, the production of these raw materials can cause serious problems – for example the destruction of rainforests. In some places people may be forced from their land. Greenhouse gas savings of some biofuels may even be just as bad as crude oil!

It doesn't have to be that way.

Biofuels could be a sustainable, low carbon fuel source. At a time when industry and government alike are working to find solutions to climate change, they could prove crucial. With effective management and global compliance, the biofuels industry could help to reduce the greenhouse gas emissions from transport, alongside increased fuel efficiency and public transport improvements.



Why CIS and Biofuels?

We act to maximise the value of our customers' investments. In doing so, we always work to ensure that our customers' money is helping to build a more sustainable future.

We asked our customers what environmental and social issues they are concerned about. We listen to this and act upon it by using our position as a shareholder to influence the companies we invest in. So, when a burgeoning industry such as biofuels arises we are seriously interested.

Biofuels can't completely replace all the crude oil we use. We just can't grow enough of them; and if we try, there could be serious consequences for the environment and people. It has to be recognised that it is only part of the answer and has its limits. This affects investment potential.

What do we do? We investigate the situation. For biofuels, this means weighing up all the possible issues and discussing them with the companies involved. Where necessary, we can exert our influence to bring about real changes in companies' practices and processes. We are working with the biofuels industry, charities, government and the investment community to promote a more sustainable approach to biofuel production.

A Positive Impact?

The Investor Perspective

Why is all this talk about biofuels important to us as investors? Whether you invest directly in biofuels or not, the growth of the industry will affect a wide variety of companies from major oil companies to supermarkets. We want to make sure that the net impact is positive.

There are obvious limits to the amount of biofuel feedstocks that can be grown due to conflict with current land uses – growing food, forests, people's homes. This could limit any expansion of the biofuels sector. Food prices could increase significantly as crops once destined for food are sold for fuel instead. This could make life difficult for food producers.

Oil companies are also keeping a close eye on the biofuels sector. As supplies of fossil fuels dwindle and the tide of public opinion turns towards cleaner, greener fuel, many are looking into the opportunities that biofuels present. Both BP and Shell have sustainable sourcing policies in place and are heavily involved in the research and development of biofuels.

Governments around the globe are insisting that oil companies start to use some biofuels in the fuel they sell. There is widespread support for an alternative to traditional fossil fuels. However, the possible negative impacts of a huge growth in biofuels are beginning to be realised.

Opportunities to invest in biofuels could be undermined by a failure to take account of future sustainability impacts in other sectors.







Biofuels and the Environment

We know our customers are concerned about sustainability and the state of the planet. They won't accept poor environmental performance. Companies that can stay ahead of government policy through sustainable practices will prosper.

In theory, biofuels are 'carbon neutral'. The carbon released when they are burnt was taken from the atmosphere by the plants as they grew.

However, the energy needed to transport and refine crops usually comes from fossil fuels. The chemical fertilisers and pesticides used in growing the crops require energy too and cause nitrous oxide to be released. Potential climate benefits can be lost or limited this way.

Reducing emissions during the development of biofuel crops has to be a priority to ensure savings of greenhouse gases are positive.

Agricultural chemicals can make their way into water supplies, contaminating drinking water and killing aquatic life. The availability of water can also be affected if supplies are diverted to irrigate crops leading to the risk of drought in some areas

Measures to prevent pollution and reduction of groundwater must be implemented to avoid damaging health, livelihoods and other industries.

One of the biofuels with the most contentious issues is palm oil. Demand for palm oil from both the food and biofuel industries has led to massive expansion of oil palm tree plantations. There's nothing wrong with that, except that the land cleared for these plantations is often rainforest. The destruction of huge swathes of rainforest across South East Asia has scarred the landscape. Natural habitats are lost and our Earth's biodiversity, including the highly endangered orang-utan, is threatened.

The conversion of land to grow biofuel crops must not lead to significant loss of biodiversity.

The growth of biofuels may actually be harming the environment rather than protecting it. We believe these impacts should be measured, assessed and minimised to make sure that biofuels make a positive contribution to climate change.



Empowering People

The expansion of large-scale commercial agriculture can have negative effects on people too. This is especially true where it results in the conversion of indigenous people's land without their consent, as is happening in some parts of South East Asia.

The destruction of ecosystems such as forests has indirect impacts on people as well. Forests are responsible for regulating water flow and protecting soils; many people also depend on them for food and medicines. Destroying ecosystems can even lead to outbreaks of disease. These effects are felt most by the poor who are more dependent on the natural environment.

For an industry marketed as being green, it is imperative that it is not associated with destroying people's livelihoods or worker exploitation as this could result in a consumer backlash.

The world's poorest are also those most likely to be affected by any increases in food prices that could result from the use of food crops to fuel cars. However, if managed properly, biofuels could provide a new income for farmers in developing countries if, for example, they are able to form co-operatives and earn a decent price for their crops.

Unfortunately, for many labourers in the agricultural industry, a decent, reliable wage and safe working conditions are hard to come by.

In some countries, many workers have no basic health and safety equipment. Some receive less than 50 pence a day and are only hired on a daily basis, giving them absolutely no financial security. Child labour is, unfortunately, also not unheard of and often workers don't get a voice to complain about any of this. Unions may be suppressed to prevent them from speaking up.

The quality of life of those impacted by the growth of the biofuels industry should be improved by providing new job opportunities and safer working conditions. It is important that it doesn't create exploitation. This principle is important to our customers and to protect the reputation of the industry.

A New Fuel in Town – The Business Perspective

A new fuel on the block will have implications across many business sectors from oil companies to supermarkets. In a time when being 'green' is high on companies' lists, the race to secure safe, sustainable stocks of biofuels is on.

For agriculture, the opportunities are obvious – it is farmers that will be growing and providing the raw material to produce biofuels. However, all is not as simple as it seems. Careful management is needed to ensure that food crops are not compromised with the desire to produce fuel crops and any land use change does not impact adversely on climate change.

At present, most biofuels companies use food crops as their main raw material. This is likely to lead to availability and sustainability problems, so for the long term the larger companies are developing biofuels from waste.

Food retailers are already battling for the title 'greenest retailer'. Customers care about green issues and the sight of biofuels on the forecourt and in their vehicles can enhance reputations. However, supermarkets should ensure the sustainability of their biofuels to make sure they don't get branded as hypocritical.

Cars, planes, bikes and trains. We will always need to get from a to b and for the auto industry biofuels provide an opportunity to develop a whole new market for flex-fuel vehicles that can run on conventional fuels as well as high concentrations of biofuels.

Case Study: Best Practice

D1 Oils are overcoming potential supply risks by setting up an integrated supply chain for jatropha – an inedible vegetable oil that can grow on marginal land with minimal chemical or irrigation inputs. This is by no means the norm though; many biofuel companies are planning to increase their use of soy and palm oil – both of which have huge risks attached and pose potential threats to our biodiversity if not sourced sustainably.

Case Study: Supermarket Sustainability

The petrol and diesel on sale at most Tesco forecourts contain 5% biofuels from Greenenergy. Their UK distribution vehicles also run on a 50% biodiesel blend. Greenenergy uses primarily UK grown rapeseed for its biodiesel but we have found no evidence of sustainability standards covering any of its other raw materials.



Case Study: Toyota's Technology

Toyota already has a foothold in the biofuels market. They have developed hybrid technology alongside flex-fuel engines and are looking into the opportunities presented by biodiesel engines.



Biofuels and Government Policy



With a focus on the environment and worries about crude oil becoming harder to get hold of, governments across the world are understandably getting involved to encourage the growth of the biofuels industry.

In 2007, EU leaders agreed on an integrated climate and energy policy which includes 'a 10% binding minimum target to be achieved by all Member States for the share of biofuels in overall EU transport petrol and diesel consumption by 2020'. At first glance, many would see this as a step forward. However, if not implemented sustainably, it could actually set us back.

Here in the UK, the government claims that the Renewable Transport Fuel Obligation (RTFO) will deliver carbon savings of approximately one million tonnes per annum from the transport sector by 2010/11. However, this assumes that biofuels will emit less than half the carbon of fossil fuels and this is often not the case at the moment. The Government needs to move towards a system where only biofuels from sustainable sources are eligible for RTFO certificates. It is currently working with other EU member states to develop environmental standards for biofuels and is creating a reporting framework on the wider environmental and social impacts.

Over the pond in the US, the government's strategy is to cut petrol consumption by 20% by 2017. This is to be achieved by replacing around 15% of the petrol used in vehicles with renewable fuels or biofuels. This will require the production of biofuels to increase five-fold to meet projected demand.

Biofuels present the opportunity of a more environmentally friendly alternative to crude oil, but there is a risk of doing more harm than good if sustainability is not made a priority. If managed properly, they could form part of the solution in the fight against climate change.

Responsible Shareholding

Our Investment Management team acts to maximise the value of our customers' investments. We always do this with an eye to sustainability. The Responsible Shareholding team within Investment Management ensures our customers' money is helping to build a more sustainable future for us all.

Responsible Shareholding implements our ground breaking Ethical Engagement Policy across all the companies in which we invest. We analyse company performance in terms of corporate governance, social, ethical and environmental management to identify where good or bad management of an issue could affect share price, and to identify where a company's practices conflict with our customers' ethics.





You tell us...

We don't decide what our customers' ethics are. We ask them. Finding out what our customers care about helps to drive our Ethical Engagement Policy, launched in 2005. Co-operative Insurance is the first UK insurance company to do this.


How does it work?

Research. Before any action is taken, every issue is thoroughly researched by our analysts.

AGMs. We use our voting power to signal support or concern about an issue and challenge companies whenever we feel necessary.

Challenge. We tell companies when specific issues cause us, and our customers' concern. We represent our customers' values.

Risk assessment. We assess the governance and social, ethical and environmental risks to which companies are exposed and this informs our investment decisions.



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