

Biofuels explained

There's a lot of talk about biofuels, but what are they and can they really help save the environment?

What are biofuels?

Put simply, biofuels are renewable fuels made from plant or animal products or by-products. Those most familiar to us at the moment are E10 and biodiesel. E10 is actually a biofuel blend, made from 90 per cent unleaded petrol and 10 per cent ethanol, which is produced in Australia from wheat starch and molasses. Thanks to the plant content of the fuel, E10 reduces a vehicle's green house gas emissions by four per cent and its tailpipe emissions contain far less carbon monoxide, benzene and butadiene than regular fuel.

Biodiesel is a biofuel made from renewable materials such as tallow, canola oil, used cooking oil or palm oil, which is blended with diesel in various proportions, from two per cent to 20 per cent, depending on the intended use. It can also cut green house gas emissions by up to 15 per cent.

The good news is that E10 is suitable for most new cars, vans and utes and many older models too, and two per cent biodiesel (such as Caltex New Generation Diesel) can be used to run all diesel vehicles.

Can biofuels help save the environment?

In their promotion, biofuels claim to be the cleaner alternative to fossil fuels, however the debate is open as to whether biofuels help or hinder the environment.

In 2005 and 2006, environmentalists were enthusiastic about the benefits biofuels would provide. However due to the growing popularity of biofuels, prices of first generation biofuel products such as corn and palm oil have increased. The domino effects of this surpass environmental impacts, to protests in poor nations and contributions to global inflation.

The biofuel lifecycle

Professor John Pickett who chaired Britain's Royal Society study into biofuel, said it is essential we look at the whole life cycle of biofuel to realistically determine its effects. "From field to forecourt, from products that are produced on marginal land, and how that marginal land is managed, all the way through to getting into the fuel tank of the transport system. By doing that, we can say whether the fuel is causing any major problems in the environment, or to people's livelihoods, further down in the system," he said.

Some argue that newer biofuels, yet to be developed, will pose fewer problems, both economically and environmentally. Others are sceptical. Some farmers in India and Africa are expanding production of Jatropha, a shrub requiring little water, which grows in marginal land and is inedible. Biofuel developers are also exploring a grass grown in Britain called Miscanthus. Both of these options can generate energy without eating into human food supplies.

The Verdict

Whether they are good or bad for the environment and economy, biofuels are becoming a crucial component of the global energy supply. Production is rising to the equivalent of about 300,000 barrels of oil per day, despite arguments of contributing, not reducing, greenhouse gases. As deforestation increases to make room for biofuel crops, a large and fast release of carbon is released into the atmosphere when the existing plants are destroyed.

There has yet to be an outcome to the debate on the benefits versus the implications of biofuels.

Biofuel information

For more information on biofuels, visit the websites below:

http://www.shell.com/home/content/aboutshell-en/what_we_do/refining_selling/fuels/biofuels.html

http://www2.dupont.com/Biofuels/en_US/

<http://envirofuel.com.au/2007/06/05/australian-renewable-fuels-to-supply-caltex-biodiesel/>

<http://www.biofuel.org.au/>

http://www.ecoworld.com/energy/ecoworld_energy_biofuel.cfm

<http://www.kokonutpacific.com.au/index.html?Biofuel.htm>

<http://www.biofuelreview.com/>