

# Environmentalists voice doubts about biofuel

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Biofuels made from renewable resources are widely held to be environmentally friendly and receive massive support from the European Union. Now, however, environmentalists warn against ethanol and diesel made from rapeseed oil and sugar cane.

Johann Widmann's ethanol distillery in Oberhaching, Bavaria, produces 250,000 litres of ethanol a year, raw material for pharmaceuticals and alcoholic drinks. Nowadays, the potatoe farmer could provide not just food for Germans, but also fuel their cars: By the end of 2005, petrol should be mixed with 2% bioethanol, according to the European Biofuel Directive. By 2010, the biofuel proportion should climb to 5.75%. The same proportions will apply to conventional diesel, which will be mixed with methyl ester, for example from rapeseed oil. At present, biofuels are exempt from fuel tax, and this has sparked a virtual boom.

Many distillery owners want to become involved, and Widman was one of those who eye the biofuel market. His business venture, however, failed because of the mighty competition from large companies. With hindsight, however, Widman can see nothing good about the supposedly environmentally friendly project: Biofuels are not really 'ecological' projects. The prefix 'bio-', which makes them sound environmentally friendly, is solely due to the fact that they are made from plants. Otherwise, they thrive on conventional agriculture. With pesticides and lots of fertilizers.

The EU Commission's Green Book "Towards a European Strategy for Energy Security" states the aim of replacing 20% of conventional petrol and diesel with alternative fuel by 2020. A still unpublished scenario for 2030, by a 'group of experts' even promotes a 25% proportion of biofuels. The United States also hope to free themselves from their dependence on Middle Eastern oil by using biofuels. The US Government's Energy Policy Act of 2005 envisions 28 billion litres of biofuels by 2012.

Environmental NGOs are right to ask critically just how much biofuel the earth can sustain. Bird Life International are one of the environmental organizations concerned about the effects on biodiversity, water and soil. The ecological benefits of biofuels are rather modest, in contrast to the biofuel-euphoria.

Bioethanol from wheat, sugar beet or potatoes produces more sulphur dioxide than petrol. The intensive cultivation of energy crops speeds up eutrophication: Lakes and ponds die because they are overloaded with additional nitrogen. "There are good reasons not to favour a further increase in biofuels" state the 'Institut für Energie und Umweltforschung' (Institute for Energy and Environmental Research) in Heidelberg.

Merciless criticism of the alternative motor fuels also comes from US researchers David Pimentel of Cornell University and Tad Patzek of the University of California in Berkley. They judge that biofuel production consumes more energy than is ultimately released.

Renowned scientist like Alexander Farrell of the University of California in Berkley tone down the harsh criticism of bioethanol. Yet even Farrell describes the more adequate technologies for producing bioethanol as being too expensive at present to become an option in the near future.

"A lot of the discussions are too euphoric. There are risks, which are only gradually becoming obvious", stresses Kurt-Jürgen Hülsbergen, lecturer in Organic Agriculture at the Technical University Munich. Fertilising fields with nitrogen leads, amongst other things, to the emission of nitrous oxide, which was not considered in earlier studies. That is a much stronger greenhouse gas than carbon dioxide.

The biofuel researchers have not ignored the criticism from environmentalists. They like to praise so called biomass-to-liquid fuels as the answer to all problems. Those biofuels could be produced from all kinds of raw materials, from wood and organic waste to straw. So far, however, there are no scientific studies that look at the environmental effects of those biomass-to-liquid fuels. The Wuppertal Institut für Klima, Umwelt, Energie [Institute for Climate, Environment and Energy in Wuppertal] presented the first results of a

study, which doubts that those second-generation biofuels can be used on a large scale before 2020.

Despite financial incentive, German agriculture cannot keep up with the production of energy crops. Energy crops, mostly oilseed rape and grains [sic] are now grown on roughly 12% of German fields. That, however, will not nearly be enough to fulfill the EU Directive. In order to supply the 22 billion litres of biofuels required by 2010 in Europe, around half the land-mass of Germany would need to be cultivated simply for this.

This is why imports are unavoidable. Enormous ships transport cheap palm and soya oil from South America, Malaysia and Indonesia to Europe every day. The biofuel trade cuts deep wounds into the ecosystems of those countries.

In Brazil, the rainforest is now cut down mainly to cultivate soya. The country produces 15 million litres of ethanol from sugar cane every year. Production there is only about half as expensive as in Europe. Sugar cane is harvested up to five times a year on massive plantations.

If millions of hectares of rainforest are felled, then there is no advantage in using biofuels from a climate change perspective. For many months the Brazilian environmental NGO Fuconams have been trying to alert the world to the destruction. In desperation, the president of Fuconams, Anselmo de Barras, burnt himself to death during a demonstration in November 2005.

So far the EU still charge tariffs for importing bioethanol, but they will soon be lifted. If the German tax exemption for biodiesel is axed, as planned by the Ministry of Finance, from 1<sup>st</sup> August 2006, then “no German company will invest into a biofuel refinery. It is an illusion that we will meet the 5.75% on our own” confirms Ernst Schwanhold of BASF (multinational chemical company). “This is an ecological catastrophe. Those countries have nothing like the environmental regulation that we have” protests potato farmer Widman. He has, meantime, buried his plans to ever be part of the bioethanol book.

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