

Peak biofuels?

by Graham Bell

We live in a world where our standards of living over the last one hundred years have benefited immensely from fossil fuel usage. The current phrase 'peak oil' suggests that future extraction will only decline. Whilst that is debatable (there are vast reserves waiting to be uncovered, but at ever growing cost), there is no doubt that biofuels were welcomed by many as an environmentally friendly solution to bridging the declining resource of mineral oil into a new era of sustainable energy provision.

The progress of the industry has, however, taken on a juggernaut impetus (particularly in the US, fuelled by President Bush's enthusiasm and tax breaks). Continental Europe, especially Germany, is probably ten years ahead of the UK in exploiting the market. Whilst we are right to be ambitious to catch up on what could be a world saving technology, there are also growing concerns that we need to slow down this runaway train whilst we check whether we're headed for the right destination.

Biofuels have three main useful forms in current technology: biodiesel, ethanol and biogas. The latter is derived from waste products and in this argument is regarded as benign, genuinely trapping climate-harmful emissions. Ethanol is a conversion process that takes plant materials through a cycle of starch to sugar to alcohol to then be distilled and dehydrated. It is popular in the US where E85 (85% ethanol, 15% petrol) is available for adapted engines. It's not a new technology – the Ford Model T (a hundred years old next year) was originally designed to run on ethanol or petrol. Petrol won out at the time on price. Biodiesel is generally used as a 5% mix in mineral oil derived diesel at which concentration no engine adaptation is needed.

What could be wrong with biofuels? They offer less pollution, renewable production, rural regeneration through fresh profits for farmers and forestry interests, and systems that can be small scale and rest within community control, rather than being (literally) over

a barrel to international mega-corporations. Well, some feel the environmental gains are questionable. Those we label 'Green' are usually annoyed to be called 'environmentalists', because social justice is an equal concern on their agenda. What if the rush for biofuels is driving up world food prices, and affecting availability? What if people are suffering as a consequence?

In the case of a recent submission to the European Union 'some' includes an impressive two hundred and fifty international bodies calling for a review of biofuel targets. The website [biofuelwatch](#) gives details of the submission and the concerns which include exploitation of Southern hemisphere farm workers, pressure on water supplies and threats to biodiversity, and undesirable incentives for GM production. They call for reductions in fuel usage and genuinely sustainable renewable energy policies. This April's EU biofuels directive sets targets for 10% biofuels provision by 2020. Spokesman Deepak Rughani believes "Governments have ignored evidence clearly documenting human rights abuses. Our other main concern is that false carbon accounting implies biofuels production is carbon positive. In reality wholesale forest destruction for palm oil plantations and for soy production for animal feed to replace developed world loss of feed production to damaging crops like oil seed rape is a massive increase in carbon cost."

Their thinking reflects the concluding remarks of a May 2007 report from the multi-disciplinary UN Energy group: "Only through a convergence of biodiversity, greenhouse gas emissions and water-use policies can bioenergy find its proper environmental context and agricultural scale."

If developing world agriculture and food politics is a remote topic take a look at my native Tweed Valley this season, which has rapidly gone yellow. Thousands of acres of oil seed rape – a useful crop, much of it for export to Germany as biofuels. Oil seed rape as a soil hungry brassica susceptible to all the worst ills of monoculture arable crops takes over a dozen passes of machinery in a season accelerating soil compaction. Not an environmentally kind crop. Meanwhile, the UK's largest refinery Biofuels plc at Middlesbrough meanwhile totters on the edge of bankruptcy, a £40m debt to

Barclay's putting its assets pretty much in the bank's hands only a year after a triumphal opening by Tony Blair.

There are clearly choices which affect the future for these fuels. Legendary Venture Capitalist Vinod Khosla, founder of Sun Microsystems, is a huge ethanol advocate. Presumably he has a few dollars invested. He speaks of the value to rural communities of new crops with rising prices: "A farmer who cannot earn an income in Africa is another starving man." Before we get sanctimonious about world-wide farmers seeking to make a living we should consider the extent to which our farmers are dependant on barley for alcohol production? Khosla says: "The idea that the world's poor starve because we don't produce enough food is ridiculous – distribution, not production has always been the problem." He has a point.

But when the price of margarine doubles in a year there are also affects worldwide. Such as in the cost of pastry. Don't be surprised if pies at the football are a few pence more this winter.

More seriously when the Mexican government announced it would cap fajita prices it was looking not at a trendy snack in your supermarket but at the staple food of its poorest people under pressure from a voracious US maize market driven by biofuels. Meanwhile the US subsidy of 51c per gallon on locally produced ethanol saw a baffling 54c tariff on that from Brazil (desperate for the export dollars), produced from much more energy efficient sugar cane.

If there are such big questions to be asked and the biofuels express is hurtling we know not where, might it not be time to slow down, have the debate and find production means which really are sustainable so we can set targets which are truly beneficial to our environment, our economy and therefore also, our people?

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