Fuel for nought

The adoption of biofuels would be a humanitarian and environmental disaster

If human beings were without sin, we would still live in an imperfect world. Adam Smith's notion that by pursuing his own interest, a man "frequently promotes that of ... society more effectually than when he really intends to promote it", and Karl Marx's picture of a society in which "the free development of each is the condition for the free development of all" are both mocked by one obvious constraint. The world is finite. This means that when one group of people pursues its own interests, it damages the interests of others.

It is hard to think of a better example than the current enthusiasm for biofuels. These are made from plant oils or crop wastes or wood, and can be used to run cars and buses and lorries. Burning them simply returns to the atmosphere the carbon that the plants extracted while they were growing. So switching from fossil fuels to biodiesel and bioalcohol is now being promoted as the solution to climate change.

Next month, the British government will have to set a target for the amount of transport fuel that will come from crops. The European Union wants 2% of the oil we use to be biodiesel by the end of next year, rising to 6% by 2010 and 20% by 2020. To try to meet these targets, the government has reduced the tax on biofuels by 20p a litre, while the EU is paying farmers an extra €45 a hectare to grow them.

Everyone seems happy about this. The farmers and the chemicals industry can develop new markets, the government can meet its commitments to cut carbon emissions, and environmentalists can celebrate the fact that plant fuels reduce local pollution as well as global warming. Unlike hydrogen fuel cells, biofuels can be

deployed straightaway. This, in fact, was how Rudolf Diesel expected his invention to be used. When he demonstrated his engine at the World Exhibition in 1900, he ran it on peanut oil. "The use of vegetable oils for engine fuels may seem insignificant today," he predicted. "But such oils may become in course of time as important as petroleum." Some enthusiasts are predicting that if fossil fuel prices continue to rise, he will soon be proved right.

I hope not. Those who have been promoting these fuels are well-intentioned, but wrong. They are wrong because the world is finite. If biofuels take off, they will cause a global humanitarian disaster.

Used as they are today, on a very small scale, they do no harm. A few thousand greens in the United Kingdom are running their cars on used chip fat. But recycled cooking oils could supply only 100,000 tonnes of diesel a year in this country, equivalent to one 380th of our road transport fuel.

It might also be possible to turn crop wastes such as wheat stubble into alcohol for use in cars - the Observer ran an article about this on Sunday. I'd like to see the figures, but I find it hard to believe that we will be able to extract more energy than we use in transporting and processing straw. But the EU's plans, like those of all the enthusiasts for biolocomotion, depend on growing crops specifically for fuel. As soon as you examine the implications, you discover that the cure is as bad as the disease.

Road transport in the UK consumes 37.6m tonnes of petroleum products a year. The most productive oil crop that can be grown in this country is rape. The average yield is 3-3.5 tonnes per hectare. One tonne of rapeseed produces 415kg of biodiesel. So every hectare of arable land could provide 1.45 tonnes of transport fuel.

To run our cars and buses and lorries on biodiesel, in other words, would require 25.9m hectares. There are 5.7m in the UK. Even the EU's more modest target of 20% by 2020 would consume almost all our cropland.

If the same thing is to happen all over Europe, the impact on global food supply will be catastrophic: big enough to tip the global balance from net surplus to net deficit. If, as some environmentalists demand, it is to happen worldwide, then most of the arable surface of the planet will be deployed to produce food for cars, not people.

This prospect sounds, at first, ridiculous. Surely if there were unmet demand for food, the market would ensure that crops were used to feed people rather than vehicles? There is no basis for this assumption. The market responds to money, not need. People who own cars have more money than people at risk of starvation. In a contest between their demand for fuel and poor people's demand for food, the car-owners win every time. Something very much like this is happening already. Though 800 million people are permanently malnourished, the global increase in crop production is being used to

feed animals: the number of livestock on earth has quintupled since 1950. The reason is that those who buy meat and dairy products have more purchasing power than those who buy only subsistence crops.

Green fuel is not just a humanitarian disaster; it is also an environmental disaster. Those who worry about the scale and intensity of today's agriculture should consider what farming will look like when it is run by the oil industry. Moreover, if we try to develop a market for rapeseed biodiesel in Europe, it will immediately develop into a market for palm oil and soya oil. Oilpalm can produce four times as much biodiesel per hectare as rape, and it is grown in places where labour is cheap. Planting it is already one of the world's major causes of tropical forest destruction. Soya has a lower oil yield than rape, but the oil is a by-product of the manufacture of animal feed. A new market for it will stimulate an industry that has already destroyed most of Brazil's cerrado (one of the world's most biodiverse environments) and much of its rainforest.

It is shocking to see how narrow the focus of some environmentalists can be. At a meeting in Paris last month, a group of scientists and greens studying abrupt climate change decided that Tony Blair's two big ideas - tackling global warming and helping Africa - could both be met by turning Africa into a biofuel production zone. This strategy, according to its convenor, "provides a sustainable development path for the many African countries that can produce biofuels cheaply". I know the definition of sustainable development has been changing, but I wasn't aware that it now encompasses mass starvation and the eradication of tropical forests. Last year, the British parliamentary committee on environment, food and rural affairs, which is supposed to specialise in joined-up thinking, examined every possible consequence of biofuel production - from rural incomes to skylark numbers - except the impact on food supply.

We need a solution to the global warming caused by cars, but this isn't it. If the production of biofuels is big enough to affect climate change, it will be big enough to cause global starvation.