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Bottom of the barrel

The world is running out of oil - so why do politicians refuse to talk about it?

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The oil industry is buzzing. On Thursday, the government approved the development of the biggest deposit discovered in British territory for at least 10 years. Everywhere we are told that this is a "huge" find, which dispels the idea that North Sea oil is in terminal decline. You begin to recognise how serious the human predicament has become when you discover that this "huge" new field will supply the world with oil for five and a quarter days.

Every generation has its taboo, and ours is this: that the resource upon which our lives have been built is running out. We don't talk about it because we cannot imagine it. This is a civilisation in denial.

Oil itself won't disappear, but extracting what remains is becoming ever more difficult and expensive. The discovery of new reserves peaked in the 1960s. Every year we use four times as much oil as we find. All the big strikes appear to have been made long ago: the 400m barrels in the new North Sea field would have been considered piffling in the 1970s. Our future supplies depend on the discovery of small new deposits and the better exploitation of big old ones. No one with expertise in the field is in any doubt that the global production of oil will peak before long.

The only question is how long. The most optimistic projections are the ones produced by the US department of energy, which claims that this will not take place until 2037. But the US energy information agency has admitted that the government's figures have been fudged: it has based its projections for oil supply on the projections for oil demand, perhaps in order not to sow panic in the financial markets.

Other analysts are less sanguine. The petroleum geologist Colin Campbell calculates that global extraction will peak before 2010. In August, the geophysicist Kenneth Deffeyes told New Scientist that he was "99% confident" that the date of maximum global production will be 2004. Even if the optimists are correct, we will be scraping the oil barrel within the lifetimes of most of those who are middle-aged today.

The supply of oil will decline, but global demand will not. Today we will burn 76m barrels; by 2020 we will be using 112m barrels a day, after which projected demand accelerates. If supply declines and demand grows, we soon encounter something with which the people of the advanced industrial economies are unfamiliar: shortage. The price of oil will go through the roof.

As the price rises, the sectors which are now almost wholly dependent on crude oil - principally transport and farming - will be forced to contract. Given that climate

change caused by burning oil is cooking the planet, this might appear to be a good thing. The problem is that our lives have become hard-wired to the oil economy. Our sprawling suburbs are impossible to service without cars. High oil prices mean high food prices: much of the world's growing population will go hungry. These problems will be exacerbated by the direct connection between the price of oil and the rate of unemployment. The last five recessions in the US were all preceded by a rise in the oil price.

Oil, of course, is not the only fuel on which vehicles can run. There are plenty of possible substitutes, but none of them is likely to be anywhere near as cheap as crude is today. Petroleum can be extracted from tar sands and oil shale, but in most cases the process uses almost as much energy as it liberates, while creating great mountains and lakes of toxic waste. Natural gas is a better option, but switching from oil to gas propulsion would require a vast and staggeringly expensive new fuel infrastructure. Gas, of course, is subject to the same constraints as oil: at current rates of use, the world has about 50 years' supply, but if gas were to take the place of oil its life would be much shorter.

Vehicles could be run from fuel cells powered by hydrogen, which is produced by the electrolysis of water. But the electricity which produces the hydrogen has to come from somewhere. To fill all the cars in the US would require four times the current capacity of the national grid. Coal burning is filthy, nuclear energy is expensive and lethal. Running the world's cars from wind or solar power would require a greater investment than any civilisation has ever made before. New studies suggest that leaking hydrogen could damage the ozone layer and exacerbate global warming.

Turning crops into diesel or methanol is just about viable in terms of recoverable energy, but it means using the land on which food is now grown for fuel. My rough calculations suggest that running the United Kingdom's cars on rapeseed oil would require an area of arable fields the size of England.

There is one possible solution which no one writing about the impending oil crisis seems to have noticed: a technique with which the British and Australian governments are currently experimenting, called underground coal gasification. This is a fancy term for setting light to coal seams which are too deep or too expensive to mine, and catching the gas which emerges. It's a hideous prospect, as it means that several trillion tonnes of carbon which was otherwise impossible to exploit becomes available, with the likely result that global warming will eliminate life on Earth.

We seem, in other words, to be in trouble. Either we lay hands on every available source of fossil fuel, in which case we fry the planet and civilisation collapses, or we run out, and civilisation collapses.

The only rational response to both the impending end of the oil age and the menace of global warming is to redesign our cities, our farming and our lives. But this cannot happen without massive political pressure, and our problem is that no one ever rioted for austerity. People tend to take to the streets because they want to consume more, not less. Given a choice between a new set of matching tableware and the survival of humanity, I suspect that most people would choose the tableware.

In view of all this, the notion that the war with Iraq had nothing to do with oil is simply preposterous. The US attacked Iraq (which appears to have had no weapons of mass destruction and was not threatening other nations), rather than North Korea (which is actively developing a nuclear weapons programme and boasting of its intentions to blow everyone else to kingdom come) because Iraq had something it wanted. In one respect alone, Bush and Blair have been making plans for the day when oil production peaks, by seeking to secure the reserves of other nations.

I refuse to believe that there is not a better means of averting disaster than this. I refuse to believe that human beings are collectively incapable of making rational decisions. But I am beginning to wonder what the basis of my belief might be.

· The sources for this and all George Monbiot's recent articles can be found at www.monbiot.com.

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