

# COMMENT

## LET 500 POWER STATIONS BLOOM

As the global warming debate hots up, there are a number of standard responses which are repeated so often that they ought to be catalogued and numbered. One of these is the “our impact is negligible compared to China’s” rationale, which we have heard recently from James Lovelock (twice), Ewan Cameron and Dominic Lawson.

“If the British Isles were vaporized” says Lawson “there would be no significant effect on the future of the world’s climate” so why worry about our behaviour? The real problem, he says, is in China where, to drive an economy growing at 9 per cent a year, some 500 new coal fired power stations are planned for the near future.

There are a number of fallacies in this argument, the main one being that the 500 power stations are not primarily for the benefit of the Chinese people. True, there is a growing middle class in China: about 20 per cent of the population live in households which have assets worth £10,000 or more. But the majority of the population subsist on less than a dollar a day, and these are not the people buying the majority of goods manufactured in China’s booming factories.

You have only to walk down any High Street and examine the labels on manufactured goods to see who is being provided for by the upsurge in China’s energy demand. It is the top 20 per cent of people in the global community, of whom 400 million live in Western Europe and 250 million in the US,

and whose asset base is a good deal higher than £10,000 per household. The computer this editorial is being written on was shipped from China, and so probably was Dominic Lawson’s. Ask not for whom the factory chimney smokes, it smokes for thee.

It is not only cheap Chinese coal and cheap Chinese labour which subsidises our lifestyle, but stolen Chinese land. Last year alone there were 80,000 protests by peasants against the compulsory purchase and confiscation of their land for development of factories and middle class housing. The scale of these protests is only just emerging: unsurprisingly the interest shown by the press in this peasant movement has been minimal compared to the attention given to the students of Tiananmen Square. Several workers have publicly burnt themselves to death in Tiananmen Square recently, but the world is not that bothered.

The land grabs are undoing any security given to the Chinese peasantry by the collectivization of land after the revolution and under Chairman Mao. This enforced privatization is not identical to the enclosure of the English commons two centuries ago, but it is not very different. Once again peasants are being evicted from their homes and forced off their land to work in factories. Once again village culture is destroyed in the name of the market economy. And once again it is a rapacious urbanized middle class which benefits, and in today’s globalized world, that means us.

## THE MEDIUM IS THE MESSAGE

In a recent issue of *Chapter 7 News* we commented on the controversy surrounding the installation of 240 or more wind turbines on the Isle of Lewis. Now it emerges that the wind-farm project brings with it a further requirement for 600 pylons, 220 foot tall, stretching from a place with the unfortunate name of Beauty, in Inverness, across the Cairngorms National Park, to Stirling, just north of Edinburgh.

Which is worse, 240 wind turbines in a cluster or 600 pylons straddled across 137 miles? Those who rail against the impact of windfarms don’t make much noise about the associated pylons because the nuclear power stations that they favour need pylons as well. For those of us who detest pylons, it matters little whether the electricity that they spatter over a supine countryside comes from windfarms or from nuclear generators. Nothing displays more brazenly than a line of pylons the humiliation of the local at the feet of the global.



In the run up to Blair’s energy review in June, Greenpeace published a full page advert in the national newspapers stating that “the current Energy Review isn’t just about nuclear power” but is “a choice between two energy systems: centralized or decentralized.” The advertisement went on to

champion the virtues of Combined Heat and Power stations where “electricity is generated close to where it is needed, so that the heat, which would otherwise be wasted, can be used in surrounding homes, offices and factories”. Greenpeace contrasted CHP generation with a centralized energy system, where “coal gas and nuclear power stations generate electricity, which is transmitted

on a grid to where it is needed, often many miles away. In this system, two thirds of the energy generated is wasted as heat.”

Greenpeace are to be congratulated for taking the debate a step beyond the conventional heavyweight line-up between, on my right, nuclear energy and on my left renewables. Decentralized v centralized is an altogether more interesting contest, which shifts the focus of attention from production to distribution.

Seen in this light, there is one big difference between nuclear energy and renewables. Nuclear power has to be centralized: even if neighbourhood nuclear power stations were viable they would not be permitted for security reasons. Renewables on the other hand can be as big or as small as you like.

A hydroelectric installation, for example can be anything in size from a mini-Pelton wheel in a brook trickle-charging 3 watts an hour, to a multi-megawatt dam. Streams and brooks are everywhere, but unfortunately for hydroelectric corporations, many of the best sites for generating millions of watts from waterpower are in remote mountains or desolate tundra miles away from the millions of people who might consume the electricity. The only viable way that has been found to transport this power to the people has been to turn it into aluminium, which requires huge amounts of energy for its manufacture: “ingots of energy” is the term the industry uses in its publicity. The proliferation of disposable aluminium cans in the 1980s and 1990s appears in large part to have been driven by cross subsidies between the hydroelectric and the aluminium industries, and the need to find a market for all this cheap embodied energy at a time when the use of aluminium in armaments was declining.

The absurdity of generating vast quantities of hydroelectricity in Patagonia or of wind energy in the Outer Hebrides is even more transparent when we consider that every acre in the world receives a substantial dose of sun, wind and rain, in varying proportions, and most places where humans live support biomass. Renewable energy arrives on the world in a decentralized form, so what is the point of gathering it in a few centralized points and then distributing it far and wide?

The answer, as always, is the drive for profit: economies of scale enable a single supplier to dominate the market by producing very large amounts of energy cheaper than anyone else. These economies of scale are paid for by diseconomies of distribution, which means that energy is pumped around the country, inefficiently, and partly at public expense. We are often told that the capital costs of solar panels or a small wind generator are prohibitive — and so they are if you live in a house which somebody long ago paid to be connected to the national grid. But try connecting a new building to the grid, over a distance of say 200 yards, to supply your half kilowatt, and you will find out what the true cost of all that infrastructure is: considerably



more than a bank of solar panels and their attendant batteries, or for that matter a Honda generator.

It is the cost of connecting to the grid, as much as green idealism, that has led many who live on the margins to go off grid and invest in 12 volt solar panels, small wind turbines, mini-Pelton wheels and the like. And what does 12 volt man find? Above all, that he (or she) consumes far less electricity than the bulk of urban humanity, without any discernible prejudice to his happiness. Admittedly, he has to adapt his lifestyle to a low wattage: he may have to put up with the odd power cut; if he doesn't have a hoover then he needs woven rugs, not wall to wall carpeting; if he hasn't

got a fridge, then he buys dry-cured bacon, rather than the shrink-wrapped stuff injected with water. But rarely is this sort of thing a deprivation, and even when it is, it is more than compensated for by a sense of well being, not that different from the satisfaction derived from consuming your own vegetables, or building your own house.

240 volt man on the other hand, only has to flick a switch and he is connected to a boundless ocean of energy supplied at the absurdly cheap tariff of around 10 pence a kilowatt — the equivalent of a pint of ale per kilowatt/day. At that price he can leave lights burning when nobody is in, he can run a fridge when it is freezing outside, he can indulge in every manner of fatuous substitution for human muscle power, and he can swan around in winter in a tee-shirt. He knows not where the electricity comes from or how it was generated, though he may assuage his conscience by paying an extra 'green tariff'. He may even generate his own renewable electricity and pump it into the grid when he has a surplus. None of that alters the fact that he can switch the power on whenever he wants and consume as much as he likes, without ever having to consider whether his demand is exceeding global sustainable supply. It is this detachment from the source of our energy, and consequent lack of understanding of how nature works and how much it can provide, which is at the root of the energy crisis.

The saviour of the world will not be the person who discovers a cheap, clean and abundant source of energy that can be spun across a network of wires or beamed through the ether to every last corner of civilization. That would unleash a torrent of development which would project us into nightmares already mapped out for us by science fiction writers.

The saviour of the world will be the person who invents a cheap, renewable, non-polluting battery which enables local communities to store energy from the sun, wind, rain and vegetation with which their land is blessed, and so to remain independent and accountable to their own environment without exploiting other people's.