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The One World Column started in May 2004 as a regular weekly feature in the Eastern Daily Press (EDP), a daily mainstream newspaper with readership throughout Norfolk, UK. The columns aim to bring radical voices to this mainstream platform on a range of topics such as international development, poverty, globalisation, peacemaking, human rights, international relations, and the environment. We hope to provide a positive voice for the future, whilst being lively and critical scrutinisers of the current global system. We represent a wide group of concerned Norfolk people, and we welcome feedback and healthy debate.

The columns reproduced here are the original unedited columns, as submitted to the newspaper by the columnists.



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Boswell



Liam
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Marguerite
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Please read our columns, constructively criticise them and, if you live in Norfolk, add to the debate on the EDP letters page (email : EDPletters@archant.co.uk).

All proceeds from the column will be donated to charities which work in the areas highlighted. In 2005 money went to Buddhists working with those affected by the Tsunami, Medical Aid for Iraqi Children, and in sponsoring a "Conflict Resolution" conference in Norwich, October 2005.

Our website www.oneworldcolumn.org gives resources and links for more in-depth study of subjects covered in our columns.

We are always looking for material to cover in this wide area. If you would like to participate by providing research or material for columns, then please contact Andrew Boswell (email: info@oneworldcolumn.org, 01603 613798).



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There is a new trend in travel, a new 'ethical' fashion afoot. It is called 'carbon offsetting'. Many of the big rock bands are doing it, for example Pearl Jam, Coldplay, and the Rolling Stones.

Carbon offsetting' means taking actions such as planting trees in order to compensate for the damage that one does by burning fossil fuels; for instance, by flying. The coming of carbon offsetting is surely a welcome development, inasmuch as it shows that an increasing number of people are trying to 'offset' the damage that they do to our planetary life-support system when they fly. But how effective is 'carbon offsetting' actually likely to be?

The first point to make is that even in the best case scenario, carbon offsetting only neutralises damage that I am actually doing. It is not a positively good thing; it is not like giving to a worthwhile charitable or political cause, for instance, that will actually change the world for the better. It is only making up for real harm that one has done, by (say) dumping several tons of carbon in the atmosphere, through taking a flight.

Furthermore, if the money that one spends on carbon offsetting is money that one would otherwise have spent on other worthwhile activities that would reduce one's 'carbon footprint', for instance, then it may be no good *at all*. If I can only afford to offset my carbon emissions by reducing the amount that I spend on local organic produce, for instance, then there is *no* genuine carbon offset effect.

Carbon offsetting can only work at all to neutralise harm if it results in real reductions in carbon emissions, to compensate for the emissions one wants to 'offset'. And those reductions need to be of the same amount as the amounts of carbon one wants to offset, for the thing to be scientifically valid.

The only way that this can be done in a way which will actually make the needed difference in stabilising the climate is if one has a total 'budget' of carbon that one can choose to use in one way or another – and if one chooses to use more in one part of one's life, one *must* use less elsewhere.

This means that, to be effective, offsetting must be compulsory; and it must be scientifically measured; each measured increase must be compensated for by a measured decrease.

Real carbon offsetting is therefore equivalent to *carbon rationing*. Each person should have a carbon ration that is worked out in such a way that the total of all the rations adds up to an amount that the climate can cope with. And if more carbon is 'spent' in one place, less must be 'spent' in another.

If we are to avert climate catastrophe, then we will need to recapture something of the spirit of the Blitz. All of us pulling together, even when it involves sacrifices such as those that were involved in food rationing. People grumbled about food rationing during the Second World War sometimes; but by and large it worked, and was adhered to. The long emergency that we are now entering requires similar sacrifices: it requires *carbon rationing*. But with the difference that this time we will not create a 'black market', but rather will enable those who live a lower-carbon life-style to sell part of their carbon ration to those still making the transition to that lifestyle. This will preserve personal freedom, while allowing us all to pull together in a way that can stop our children from having to wrestle with a disastrously chaotic climate.

Surely it's worth it. And voluntary carbon offsetting just won't get us there. Only 'compulsory carbon offsetting' will do the trick. That is, carbon rationing, which forces one to reduce one's carbon consumption elsewhere in one's life, if one takes a flight, or else to pay a fair price on the 'white market' for the right to use some of someone else's ration.

I believe that the human race is up to the task of preventing climate catastrophe, preventing the climate 'Blitz' that will otherwise overwhelm most of the world outside Antarctica before the 21st century is out. I believe that carbon rationing will be the essential tool in this essential task. Let's revisit the spirit of the Blitz: let's pull together, to save the future.



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Is David Cameron an old hippy in disguise? Is blue really green? Politics creates some strange bedfellows, but none so strange as the Tory party and Greenpeace. For a few years now Greenpeace have been pushing the green energy revolution. Just recently the Conservative Party decided to adopt an energy policy strikingly similar to the Greenpeace model and have called it 'the green energy revolution'.

So what is the green energy revolution? Well, the green energy revolution is about doing something quite sensible and relatively simple. Yes folks, the next generation of power plants won't be huge monolithic structures in the countryside, they'll be small and they'll be in our towns and cities. Yes, the next generation power plants will be; cogeneration power plants! These amazing installations create heat for heating local buildings and water, and at the same time produce electricity, hence it is called combined or 'co' generation.

Whereas currently we produce electricity in giant power plants and allow all the heat to disappear up the chimney, cogeneration plants generate heat for the purposes of heating nearby buildings and water. The cool bit is that they produce electricity at the same time. Whereas our centralised national grid system wastes up to 2/3rds of the energy input (coal and gas) in lost heat and transmission, cogeneration plants only waste about 1/20th. Quite a saving.

Now, the other smart thing about cogeneration is that it fits in rather well with renewables. While wind and solar power fluctuate in the amount of electricity they produce, the cogeneration plant can generate the shortfall in electricity, diverting the heat to a number of different uses from heating buildings in the winter to swimming pools and space cooling in the summer. That's right. Cogeneration plants can use heat to cool buildings in much the same way that fridges use heat to cool the inside of the fridge. Combined with wind turbines and solar panels, cogeneration plants can make massive savings on gas consumption, CO2 emissions and heating bills. Sounds good, but is it realistic?

Well, in Woking, Surrey, the borough council undertook to implement a cogeneration energy scheme. The council set up 60 installations of wind turbines, solar panel arrays and cogeneration plants to power, heat and cool municipal buildings and social housing. Woking is now almost completely self sufficient in electricity and even produces it at a

lower rate for customers in social housing. Their heating bills are also significantly below the national average. Most significantly the council has reduced it's CO2 emissions by a staggering 77%. Wow.

This energy system that embraces a combination of cogeneration and renewables has a name; it's called decentralisation. Decentralisation means lots of local power sources rather than a few centralised power sources. This is what is being called the 'green energy revolution'. It isn't really a revolution as the Netherlands and Denmark have been doing this for years and now generate 40% and 50% of their respective electricity supplies from decentralised sources.

It does give us a clue though as to why David Cameron and the Conservative Party have called nuclear power a 'last resort' and embraced what they call, 'the green energy revolution'. Decentralisation, or 'the green energy revolution' is also recognised by the government in the energy review published this week. They concede in the executive summary that 'local generation allows us to capture the heat and use it nearby' and 'to reduce the energy we loose in networks' and in combination with new technologies, 'could radically change the way we meet our energy needs'.

Decentralisation is universally seen as having huge potential. The green groups have, however, warned that nuclear power would divert much of the money needed away from investment in cogeneration plants and into giant centralised power plants, slowing the development of the energy revolution. David Cameron is, rhetorically at least, appearing to agree with them. The Liberal Democrats have also embraced the new thinking on energy, as have large sections of the Labour Party. Does this mean that Tony Blair stands alone in his quest to sustain the nuclear industry?

Don't be fooled. Conservative backbenchers will not so easily discard their love affair with nuclear power, and there is one crucial area of agreement between the government and David Cameron. Local planning laws stand in the way of a quick revival of nuclear power generation. The government intends to find ways to overcome this age old bastion of democracy, and on this crucial issue the Tories are with them. David Cameron might well clothe himself in the colours of Greenpeace to obtain green credibility, but the first victim in this great energy debate will be local democratic accountability. A strange form of decentralisation indeed.



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With the Prime Minister expected within days to say he has decided on new nuclear power stations, one wonders what it was that persuaded the Spanish government last month to phase out nuclear power altogether; and Portugal, next door, to resolve never to have it? Why, too, should Germany be so firmly against nuclear energy, while next door France plans more and more reactors?

All these countries with similar economies, are limited by the same broad resource parameters, have similarly burgeoning standards of living and power consumption, and inhabit the same part of the same climate-threatened planet. We are all threatened by the same awesome consequences of nuclear terrorism and we know that clouds of radioisotopes respect no national boundaries and the disposal of nuclear waste is a globally insoluble problem, not just a national one.

Over such a fundamental issue as power generation, how can there be such radically different governmental attitudes?

The prestigious German Öko-Institut shows, with its Global Emission Model of Integrated Systems (GEMIS), that for every kilowatt/hour of electricity it produces, nuclear uses over a kilowatt/hour of primary energy – that is, in trying to take a step forwards it goes more than a step backwards. So what is it about nuclear that compensates for that? Even dirty old coal produces nearly twice as many Kwh as it costs, and wind power produces more than 200 times as many Kwh as it costs.

Nuclear power can provide only electricity, not other forms of power, and in doing so it wastes two thirds of the energy generated as heat in the necessary cooling water and in transmission, so there must be some other strong reason for a passionately rationalistic Prime Minister to go for such a patently inefficient system of powering our affluent society.

It is electricity at the push of a switch that drives our culture in its headlong pursuit of more and more convenience, and Tony Blair knows that perfectly well – just as he knows that artificial light accounts for almost one-fifth of the world's electricity consumption, and that the global demand for electric light within 25 years is projected to be almost twice today's level, as the developing world scrambles to catch up with western levels. He also knows that the climate could never cope if that electricity were to come from the same sources as

now, but also that the planet's environment is every bit as seriously threatened by nuclear power, if he chooses that route. There are dangers in every direction.

It must in the end come down to a decision on the basis of the precautionary principle. For such decisions the quality of the information used is of paramount importance.

It is therefore ominous that Mr. Blair is going for French nuclear know-how, in view of a report produced by the independent consultant nuclear engineer John Large, concerning the safety case for the European Pressurised Reactor (EPR) the French are particularly interested in building. That safety case decided the containment of the reactor would withstand the impact of a military aircraft, so the reactor was therefore safe against terrorist attack. However the safety case was a carefully guarded secret, as is the French government's wont in *les affaires nucléaires*, and only when it was leaked to Dr. Large did he discover that the aircraft described would weigh only about 5 tonnes, whereas a large civil airliner full of aviation fuel would weigh about twenty times that much, yet such a possibility was not even mooted in the safety case. The Prime Minister would do well to heed his own Parliamentary Office of Science and Technology, which admits publicly that no nuclear power station is safe from some forms of wilful aircraft impact.

The PM must also bear in mind the advice of Sir Jonathan Porritt in the Sustainable Development Commission's report earlier this year that "it is essential for the government to allow the fullest public consultation in developing a policy on nuclear power. Not doing so would compromise the principle of good governance and risks a huge public backlash against top-down decision-making".

This is a message for us all: it must be *our* decision, not the government's, whether we go on increasingly illuminating our failing world towards its damnation, or whether we step back and think "quality" instead of quantity in our life-styles. People die of hypothermia in this country because 40% of our social housing lacks cavity wall insulation, yet we prefer to equip everyone with television so they may bathe in affluent advertising, rather than keeping them warm.

I am grateful to Peter Lanyon for help with this column.



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The word 'eco-tourism' probably brings to mind holidays in exotic locations, but holidays with a difference – holidays with a conscience. Tourism which tries not to despoil the local environment, and which focuses on bringing the tourist closer to nature, rather than sticking them in some air-conditioned hotel room in front of a sterile beach. So far, so good. But why need 'eco-tourism', so-defined, take place far from our own shores? Can't there be home-grown eco-tourism, too?

Earlier this June, I enjoyed a weekend away, camping with some friends, in north Norfolk. Our journey to the sea was fairly low-impact, several of us piled into one vehicle, travelling just 25 miles. We ate good – mostly local – food. We swam, talked, and laughed, and had a fine time of it.

On the Sunday morning, a walk on the beach, in the sun. There, we lucked upon a true ecological treat. We happened upon a posse of seals, swimming, splashing, and coming astoundingly close in to the sand. They gazed at us for minutes on end, as we did at them. It was absolutely magical. I waded into the sea, not caring that my rolled-up trousers were getting soaked, and had a kind of meeting with one of the seals, a younger one, particularly curious and playful. This seal would bark, and snort, and dive – and it let me get to within one metre of touching its nose... An experience I shall never forget.

It brought to mind an event further back in the past, when I visited the turtle coast of Oman. There too, my girlfriend and I had the very good fortune to wade and swim with the huge sea turtles that spend much of the year in those waters. Another great, great experience.

While on that Omani coast, we visited an official eco-tourist resort to see the famous spectacle of these long-lived giants 'nesting' and laying eggs, at night. This experience was *not* so great. There were far too many of us tourists, and the guides didn't act firmly enough to prevent us from swarming around the laying turtles, disturbing them in a way that actually at times endangered them, and their very fragile young. My girlfriend and I became enraged by how selfish many of the visitors were being, in for instance taking flash photos of the mother turtles, which we had been expressly forbidden to do (because light at night disorientates the hatching baby turtles, and as a result can prevent them from

finding their way to the sea). The most appalling moment came when one tourist actually placed their foot on one of the just-hatched baby turtles, to facilitate a photo (again, using a prohibited flash camera) being taken of it!

We left in disgust, and several others left with us. Nature, we felt, was not a spectacle to be gawped at, for money, in ways that actually put in question the survival of the very creatures that we were there to see...

At that 'eco-tourist' resort in Oman, something wrong was allowed to happen, for money. By contrast, our experience when we simply sought out turtles swimming for ourselves, was wonderful.

But in retrospect, even that doesn't seem to me really a satisfactory kind of 'eco-tourism'. Real eco-tourism should involve being kind to the ecosystem – to our planetary life-support-system – as a whole. And we had travelled to Oman by air – the most environmentally destructive form of transportation that there is.

Since then, I have signed up at the 'Flight Pledge' website (www.flightpledge.org.uk), joining the new conscientious objectors: those who refuse to fly for pleasure, and keep their flying to an absolute minimum. For true eco-tourism surely involves travelling as short a distance as possible, and by as ecological a means as is feasible. If I were going to the Middle East again for pleasure, I would go by train; for instance, you can travel by train almost all the way to Petra, the astonishing ancient 'rose-red city' that I visited in Jordan, a few years back.

Just as the fad for fast food is being replaced by the desire for good 'slow food', so slow travel should replace the mania for speed that is so devastating our planetary ecosystem, at present. Here, in East Anglia, there are incalculable natural riches... And so I return to the wonderful wildlife that I had the privilege of being with recently, off our north Norfolk coast. Real eco-tourism is doing things like hanging out with those gorgeous intelligent seals...

This column is dedicated to the memory of Freda Lupton, 1909-2006: East Anglian born and bred; a true lover of the countryside and all its wild creatures; and my beloved grandmother.



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Crops Are Good For Power, Not Fuel

Andrew Boswell

Jun 3 2006

The world's farmers are rapidly moving from their traditional products - food, feedstock and fibre - to producing vehicle fuel. Simple logic says that making fuels from crops can save lethal greenhouse gas (ghgs) emissions - the CO₂ released in burning the fuels is absorbed from the atmosphere by next year's growing crops (the carbon cycle). But is this really right?

Well, increasingly environmentalists are concerned by the huge changes being made to agriculture and the biosphere across the globe, and no one really knows if biofuels make net savings or losses of energy and carbon emissions when their whole production lifecycle is evaluated.

This is hotly debated, and even "pro camp" research doesn't look good - a 2002 US Department of Agriculture report found that for every gallon of ethanol, the equivalent 0.92 gallons of fossil fuels was needed for its production. This year a much hyped paper in Science magazine found production was only "net energy positive" when co-products such as cattle feed were included. Some scientists contest even these modest fossil fuel savings asserting that, in a more complete analysis, no biofuel has a positive energy balance.

The CO₂ emissions balance is no better - a recent paper (tinyurl.com/hapv3) finds them 50% greater from corn-ethanol than gasoline - this becomes 100% higher when the methane emissions from beef cattle fed with the co-product are accounted for.

Why? Energy inputs for mega-scale production include petroleum-based herbicides, pesticides, and fertilisers, and fossil-fuelled tractors and trucks plough the fields, harvest the crop, and ship the crop to the fuel refineries. In the case of the US ethanol industry, the fossil-fuelled trucks ship the fuel halfway across the country from the population sparse corn belt to population and car dense states like California and Texas. Biorefineries are themselves fired by fossil-fuels - largely natural gas, but sometimes Coal! - in enormous quantities to ferment, and then purify ethanol from the watery fermentation product.

Can we trust this industry, based on disputed science, as it rapidly grows, driven by very powerful vested interests? In the US, it is the legislators and farmers from the US Corn Belt states, the large corn brokers and traders, the car manufacturers (who see a huge market in "green" cars), and the oil companies (owning and running the refineries) who will benefit. Do they care about the eco-system, when they throw caution to the wind at the whiff of profit?

Rapid growth must concern us - current global production is over 12 billion gallons, nearly tripled since 2000. It is set to triple again by 2012 with Brazil and the US leading. There is now a global agro-chemical-biotech-oil industry based around refineries producing millions of gallons of fuel product per annum, and commodity markets trading billions of tonnes of corn, soya, sugar, wheat and oil palm per annum. Worldwide vast new areas of GM soya, sugar, maize, sorghum, sunflower and rape seeds are planted as bio-refineries spring up.

This is already forcing food and fuel producers to compete for the same crops. After a 20% rise on Corn prices (April / May 2006), the Financial Times reported US farmers are diverting more of their harvests towards producing fuel rather than food or feedstock for animals. Lester Brown, the director of the Earth Policy Institute is quoted "Service stations are now competing directly with supermarkets for food commodities".

Such food-fuel competition could be devastating in an unregulated market - countries in the global South may devote ever-expanding areas of cash crops for vehicle fuels displacing local food production and decimating the livelihoods of small farmers and local people. Soon food prices and supply could become subsidiary to the global energy market - wealthy western car drivers literally pitted against hungry consumers in developing countries.

Environmental damage is rife as enormous areas of forests are displaced for crops, releasing huge amounts of greenhouse gasses with untold loss to wildlife and entire species. We can also expect vast monoculture and constant cropping to deplete soil and destroy biodiversity, whilst production and manufacture requiring huge amounts of water will deplete water supplies. All this leads to the sad conclusion that large scale biofuels production is an extremely energy intensive, CO₂-emitting and polluting process causing rapid damage through its growth.

Can we make better use of the carbon cycle? Yes, if we develop biomass for heating and power instead of vehicle fuels. This is efficient in energy and CO₂ savings in local small and medium scale energy plants (tinyurl.com/j4a8d). It has been shown that such biomass power on a decentralised grid could ensure our energy security within 20 years without any new nuclear build (see tinyurl.com/zohwr).



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The BBC is screening a major season of programmes on what it calls the 'hottest topic of the day' - climate change. The season includes the replacement this past Wednesday of the flagship children's programme 'Blue Peter' by 'Green Peter', and a much-trailed two-part documentary on 'Climate Chaos' with David Attenborough narrating. Attenborough, the voice of BBC wildlife programmes, was once something of a climate-change-sceptic, but he has now seen the error of his ways: he sat down and looked at the scientific evidence, including that assembled by UEA's finest, and realised that catastrophic human-induced climate-change is set to devastate the world's living systems - unless humans put a stop to it. He then signed up to narrate the 'Climate Chaos' programmes.

At last, the media seems to be taking the issue of climate change seriously - although still not seriously enough. As well as melting polar ice-caps, rising sea-levels, droughts and famines, experts are predicting that global warming will lead to an increase in 'extreme climate events' such as Hurricane Katrina, which devastated New Orleans in 2005. Apart from George Bush's tame scientists, the world's scientific community now accepts that these changes are mainly due to greenhouse gas emissions, caused by the industrialized countries burning fossil fuels as if there were no tomorrow.

As our climate becomes more unstable, who will suffer the most from the resulting 'natural' disasters? In general, it will be the world's poorest people, especially in regions like South Asia and sub-Saharan Africa. In a mass emergency, they have few resources to call on. Christian Aid has just released the results of a study indicating that up to 180 million people in Africa alone are likely to die unnecessary deaths as a result of the impacts of unmitigated climate change, before the 21st century comes to an end. If we do not stop that horrific prediction from coming true, that will be the equivalent of one man-made climate-change 'Hiroshima' every fortnight. No wonder it is said that climate change is the real weapon of mass destruction.

The majority of the world's poor people are women, so they will take the brunt of such impacts. Also, when it comes to extreme climate events, poor women tend to be more vulnerable than poor men, for various reasons, including having less geographical mobility, and greater caring

responsibilities. Although the evidence is mounting up that poor women will suffer disproportionately from 'climate chaos', the issue has had little or no attention.

Yet, some of the worst catastrophes in recent years, such as Hurricane Katrina, the 2004 tsunami or the devastating 1991 cyclone in Bangladesh, have already demonstrated how extreme climate events can impact differently on women and men. The TV pictures of displaced people crowded into the New Orleans Superdome last year showed mainly African-American mothers and their children, and we also saw frail elderly white women stranded in their care homes. When the 1991 cyclone hit the Bangladesh coast, thousands of women stayed put in their flimsy houses, waiting for their men folk to escort them to the cyclone shelters rather than making a run for it themselves. Their fear of the punishment they might face if they broke 'purdah' was greater than their fear of the cyclone, with the result that the death toll was five times higher for women than for men.

The 2004 tsunami, of course, was caused by an undersea earthquake and so was nothing to do with climate change, but we can still learn from it. According to Oxfam, in tsunami-affected Aceh, India and Sri Lanka, many more women and children died than men. Among the explanations Oxfam gives are that few women in these parts of the world can swim, and that many died trying to protect or rescue their children.

The world environment is our life-support system. Without it, we, and our non-human-animal cousins, are *nothing*. We in the North have a special responsibility in putting a stop to climate change - because we started it. For several years now, the United Nations has overseen international negotiations on cutting emissions and reducing the warming effect of humans burning fossil fuels. Of course, the world's poorest women have no voice at these meetings. When it comes to softening the impact of climate chaos, the principle of 'the polluter pays' should apply. After all, it was not poor women in Africa and Asia who brought about what is now almost upon us all: climate chaos.

Many thanks to Geraldine Terry for research without which this article would not have been possible.



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Last week, Jacqui McCarney discussed how endless economic growth does not make us happy. Would a steady state economy be better for our well-being?

This is not a new idea – in 1848, John Stuart Mill wrote of a “Stationery State” economy. Mill had great concerns with the damaging effects on human character of the unremitting pursuit of possessions, foreseeing the happiness / growth conundrum. Mill was, even then, well aware of the world resource’s being finite and the dangers of over-population, and foresaw the need for sustainability too.

Now sustainability is a much abused word - its virtuous qualities are all too often hijacked by those green-washing their far from virtuous and damaging agendas. Likewise the word “renewable” when applied to energy-from-waste incinerators, and Blair’s disastrous nuclear plans!

Renowned economist, Herman Daly, has studied steady state economics and sustainability for many years. He cuts through the dishonest use of words like “sustainable” by defining three precepts of a sustainable economy:

1. Renewable resources such as fish, soil, and groundwater must be used no faster than the rate at which they regenerate.
2. Non-renewable resources such as minerals and fossil fuels must be used no faster than renewable substitutes for them can be put into place.
3. Pollution and wastes must be emitted no faster than natural systems can absorb them, recycle them, or render them harmless.

True sustainability is not just aesthetic thinking – ultimately physics will force it on us. Writing last September, in Scientific American, Daly correctly asserts “the facts are plain and uncontestable: the biosphere is finite, non-growing, closed ... any sub-system, such as the economy must at some point cease growing and adapt itself into a dynamic equilibrium, something like a steady state.” Endless, senseless growth is questioned more each day – by MPs such as Colin Challen, and even the Government’s chief scientist, Sir David King (tinyurl.com/87lfc).

Daly points out that beyond a point of optimal consumption, growth becomes “uneconomic”, or “bad”, anyway, as loss of leisure, depletion of our natural capital, pollution and congestion outweigh any benefits. Eventually a population consumed in uneconomic growth reaches a “futility limit” where increased consumption brings no measurable benefits. The futility limit may have already been reached in rich countries, or we are very close, as increases in production and

consumption come at ever greater expense in resources and well-being.

The sustainable, steady state economy will bring many benefits. Like a fit, adult human, it is dynamic, constantly changing and developing, but not needing to physically grow anymore. By comparison GDP, that measure of bland economic activity and God to economists and politicians, is a measure of obesity.

Dangerous, too, as global GDP is fossil-fuelled - measurements since 1960 show that each year’s growth in global GDP has a corresponding increase in CO2 emissions – and Governments have not found a way of breaking this link. A large part of these emissions come from the energy expended growing the economy. Malcolm Slesser, an energy expert, has estimated that 50% of emissions are used in growth - that is 50% of fossil fuel is burnt just to produce 3% growth.

E F Schumacher intuited this when writing four decades ago: “It is easy to see that the effort needed to sustain a way of life which seeks to attain the optimal pattern of consumption is likely to be much smaller than the effort needed to sustain a drive for maximum consumption.”

Researchers are starting to create measures of sustainable well-being. The index of sustainable economic welfare (ISEW) includes factors such as income inequality, unpaid domestic labour, health, education, and depletion of environmental assets. Try to create your own ISEW, based on how you value each of the full 19 measures making up the index, at this Friend of the Earth webpage - tinyurl.com/obugf. Research shows in the US that the negative factors in ISEW have been increasing faster than the positive - is this a society past its futility limit?

Whilst there have been two international conferences on Bhutan’s Gross National Happiness (tinyurl.com/ozazx), the New Economic Foundation’s (NEF) composite Measure of Domestic Progress (MDP) provides a UK approach. Whilst UK GDP has soared in the last 50 years, NEF finds that our MDP is not improving, and the divergence is especially transparent over the last 30 years: GDP increased by 80 per cent, but MDP fell sharply during the 1980s and has not yet regained its 1976 peak.

As Jacqui McCarney concluded last week “Real strides in happiness in the West will only come about when people learn that we cannot consume our way to happiness, and Governments start putting true wellbeing before endless economic growth.”



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Happiness is not an Individual Matter

Jacqui McCarney

May 13 2006

Happiness courses are now on offer at Harvard, the top university in the States and Wellington College, the expensive public school in Berkshire. Much media interest in these courses has opened up debate about whether we can cultivate happiness, and whether this has any place in education, or should be better left to the individual and their family. Judging from the interest shown at Harvard, where Happiness classes are heavily oversubscribed, students are willing to take time from more expedient career subjects to wrestle with the slippery problem of how to be happy.

In Buddhist culture, happiness is a central purpose in life and this is illustrated most readily by the tiny Buddhist country Bhutan where the success of the country is measured, not on Gross Domestic Product (GDP), as is the case in western countries, but in Gross National Happiness. The aim of this tiny state is to prioritise happiness as a valuable asset for the individual and for society.

It is ironic that the scientific West has no real handle on happiness and is inclined to regard any attempt to teach it as an airy fairy, woolly headed waste of time. But this is only because the West is indeed woolly headed about happiness, and, while psychotherapists like Carl Rogers have produced insightful work on personal happiness, there is no essential philosophy of happiness. On the other hand, the supposedly less rational East came up with teachings and practices for happiness - known as Buddhism - two and a half thousand years ago. It is a philosophy, matured throughout Asia for the intervening millennia, that has found great favour among westerners who are increasingly turning to Buddhism - there are now a large number of Buddhist groups in Norwich.

Buddhism accepts that for all humans there is suffering and this profound simple acceptance allows us to move on. We all suffer to some extent whether it is physical or psychological and we all need to touch this pain rather than try to escape it. In the west we are encouraged to cloak our suffering in consuming - shopping sprees, drugs, entertainment. The overwhelming evidence that shows affluent western countries are growing unhappy is proof that all these tactics fail in the end.

Buddhist teachings, through the four noble truths, tell us firstly that "suffering is". Secondly we are asked to look at how our suffering came about and to look at the ways in which we continue to feed this suffering. To do this we may need the help of friends, a group of like minded people (Sangha, or spiritual community) or the help of a teacher or therapist. This is no quick fix, and the path calls for courage and commitment.

The third Noble truth is that we can stop suffering, and the fourth Noble truth is to follow the Noble Eightfold path which is a path that leads us to refrain from doing the things that cause suffering.

This eightfold path takes us from the personal to how this philosophy operates in society. The renowned Buddhist teacher, Thich Nhat Hahn, wrote "Happiness is not an Individual Matter". It is difficult for us to be happy if our children are in difficulty or our partner is unhappy. Fear is prevalent and growing today. How can we be happy if we fear for our safety and the safety of our loved ones - whether the danger is from attack, nuclear accidents, and terrorism. It is difficult to be truly happy if our life style causes terrible suffering for others in Iraq, or by exploitation of third world countries. To deal with the overwhelming suffering of the world, we numb ourselves, deadening our feeling to these things. We live a deadened existence that denies us authentic feelings. Buddhism by its very nature is to be alive, and to be alive we have to be engaged with the world around us - according to Thich Nhat Hahn, an engaged Buddhist himself, "it is not Buddhism if it is not engaged"

The privileged students taught happiness classes must try to practice the lessons they have learned in a world that is increasingly violent competitive and unequal. Without the support of a deep philosophy of life, suffering and happiness, this will be very difficult. Those who are happy, despite the suffering in their families and worlds, are deeply narcissistic and this is both superficial and dangerous.

Real strides in happiness in the West will only come about when people learn that we cannot consume our way to happiness, and Governments start putting true wellbeing before endless economic growth.



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In 1945, American science writer David Dietz painted a rosy picture of the new Atomic Age: "Instead of filling the gasoline tank of your automobile two or three times a week, you will travel for a year on a pellet of atomic energy the size of a vitamin pill."

In 1953, US President Eisenhower delivered his now famous "Atoms for Peace" speech at the United Nations, pledging that the United States would ensure: "the miraculous inventiveness of man shall not be dedicated to his death, but consecrated to his life."

In 1957 the International Atomic Energy Agency (IAEA) was set up by the UN to promote the commercial and peaceful use of nuclear technology and to prevent the proliferation and dissemination of atomic weapons – an inherent and dangerous conflict of interests, which would become glaringly obvious in 1986.

In 1959 enthusiasm for nuclear matters was undimmed. The Chairman of the US Atomic Energy Committee, Lewis Strauss, declared the development of nuclear energy would mean "our children will enjoy electrical energy too cheap to meter – and will know of great periodic regional famines only as a matter of history".

What happened to destroy these hopes and aspirations? Chernobyl happened.

On 26 April 1986, human error caused an explosion in a nuclear reactor in Chernobyl, USSR. Within minutes, plumes of deadly radioactive debris were hurled into the atmosphere. Radioactive clouds drifted across Europe, shedding their radioactivity wherever the wind blew them. Virtually every country in eastern and western Europe was contaminated to some degree. A nuclear nightmare had come true. There had been nuclear accidents before but nothing on this scale. Chernobyl revealed a country's – *any* country's – limited capacity to deal with a catastrophic civilian nuclear disaster and in doing so, marked the beginning of a life and death struggle with a technological monster out of control.

Thousands of people have died, are dying and will die as a result of Chernobyl – yet the IAEA and WHO consistently downplay both the number of immediate fatalities and the estimated number of future deaths in the irradiated populations.

As one would expect in a tragedy of these dimensions, several UN Agencies were involved in the relief effort – including the IAEA and World Health Organisation (WHO). Established in 1948, WHO is the UN specialized agency for global health. Its objective, as set out in its Constitution, is the attainment by all peoples of the highest possible level of health. Health is defined as a

state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Already in 1957, WHO was indicating its desire to extend its research into the damage caused by radiation to the human genome with a "view to safeguarding the well-being of future generations".

Chernobyl provided a unique opportunity to do this – but the WHO failed to grasp it. Why?

Instead of being first on the scene in the immediate aftermath of the explosion in 1986, WHO only started its scientific work on post-Chernobyl radiological damages in 1991 – five years after the event!

Many independent, scientifically-based reports are now coming out – from the Ukraine, Armenia, Austria, Belarus, Finland, Germany, the UK – all charting increases in genetic defects, infant mortality, leukaemia, premature ageing, mental and socio-psychological disorders – forming a medically indisputable bank of information in the wake of the Chernobyl explosion.

Yet the IAEA and WHO confined their research to thyroid cancers in children in Belarus, Russia and the Ukraine, ignoring the mounting evidence of diverse radiation-induced illnesses occurring elsewhere in exposed populations.

To understand why, we must return to May 1959 when an agreement was signed between the IAEA and WHO, preventing WHO from undertaking independent medical research into the health effects of radiation or from informing the public of the consequences of nuclear accidents like Chernobyl – when the IAEA does not agree. This Faustian bargain makes the IAEA the primary decision-maker about radiation research, with the right to suppress information that might negatively affect the promotional work of the IAEA – and by extension, the nuclear industry.

WHO's Constitution obliges it "to assist in developing an informed public opinion among all people on the matter of health" – exactly what is required now when the UK is considering a programme of new nuclear build. These considerations should be based on medical and scientific information, with due regard for the ethical and moral consequences of the inevitable effect of the nuclear industry on our descendants. The decision should not be taken for murky political reasons.

There will be an opportunity to reflect at the Commemoration Service for the Victims of Chernobyl, in Norwich Cathedral at 6.30pm tomorrow (Sunday 7 May).



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David Cameron's well publicised and well spun 'commitment' to the environment is all very well, but at local government level there is the more mundane task of making the sums add up. Take waste - forget about the environment; forget about intense public feeling; forget about sustainability. Think instead about cost, business opportunities, market economics, and local jobs.

Norfolk paid £4.24 million on landfill taxes in 2004/05. From 2010, hefty (EU) landfill fines could cost the county £17.3 million a year. Landfill presents a health hazard with the leaking of highly toxic chemicals, and we are simply running out of space.

Not just a problem for Norfolk, it is a problem faced by the rest of the UK, and the rest of the developed and developing world. We are not alone, and there is a great deal to be learned from the experience of others.

The buzz word circling the globe is Zero Waste - welcomed by local communities, this waste method also makes handsome profits. It has been adopted in North America, New Zealand, Australia, Canada, South India, and much closer to home in Bath and North East Somerset, Colchester and Braintree in Essex. Recently trials have begun for a pioneering Resource and Recovery Centre next door in Lowestoft.

Exponents of Zero Waste no longer see waste as a problem, but as valuable resources - often expensive and time consuming to extract from the earth, and in short supply.

Business and community leaders around the world are pointing to our waste and recycling as areas of new business and employment potential that can add great value to local economies. Indeed, profitability is a key factor in New Zealand where Zero Waste is seen as a driver of local economic development rather than a matter of environmental conscience. Kaikoura Innovative Waste Ltd facilitate sustainable employment with markets for cardboard, newsprint, plastic, metal, glass copper, and businesses developing around furniture and clothing renovation, crafts reusing metal and glass. This story is familiar and a survey in the US shows high recycling programmes show savings in 13 out of 14 cases.

Zero Waste projects need not be daunting. Bath and North East Somerset (BANES) say it is relatively easy to reach 50% recovery and recycling rates. The bulk of all waste is organic matter that can be composted domestically or centrally. The resulting compost will find a local market in nurseries, farms, amenity centres.

High achieving areas have "source separation" - three streams of collection, separating organic, dry recyclables and tricky residuals such as batteries. Robin Murray, a leading zero waste economist, says as soon as this is done "they find suddenly that they are recycling more than 50%". Why do some areas of Norwich not even have recycling collections yet?

Add to this Resource and Recovery Centres that are open to the public and encourage small scale businesses repairing goods to be sold back to the public, and there is very little left to be burned in an incinerator.

Not needing to build an incinerator amounts to a huge savings capital investment and running costs.

"Can do" authorities are reducing waste beyond the 50 % mark by innovation. BANES plan annual increases in recycling rate between 2 to 5% for the next 5 years, making their intention clear cut with a detailed Action Plan (tinyurl.com/juwp8).

Zero Waste builds this innovation on the 5 R's.; Reduce, Repair, Reuse, Recycle and, if products can not be dealt with by these means, they should be Redesigned.

Before developing Zero Waste many countries had, or been threatened with incinerators or Mechanical Biological Treatment (MBT), as the people of Norfolk are now.

Incineration has led to widespread protests - forcing the closure of plants and the abandonment of plans for new ones. People are deeply concerned about the possible carcinogenic toxins produced by burning, to which children and older people are especially vulnerable. The record of safety of incinerators such as the one in Nottingham does little to engender confidence. MBT produces a highly toxic sludge which has to be transported and disposed of.

Norwich City Council and South Norfolk have signed up to Zero Waste. So far they have achieved a recycling rate of 15% and 30% respectively, and are now sitting on the fence when it comes to the Conservative County Council plan to build an incinerator. If we manage to escape that, we will have the second choice MBT. It is not surprising that the public are disillusioned with politicians. David Cameron is impotent if his colleagues in local government defy his intentions, when there is neither economic, environmental nor popular reason to do so.



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Happy Earth Day To You!

Rupert Read
Apr 22 2006

Today, April 22, is Earth Day, across the planet. A day for us all to remember that we are nothing - nothing - without our environment. A day to celebrate this beautiful rock hanging and spinning in space, our one and only home.

There has also been a call issued on the internet, a call which makes sense to me, to have an Earth-wide 'Car Free Day', in association with Earth Day. 'Car Free Day' would be a day when we can put our love for Earth into practice; perhaps by leaving the car at home and taking the bike out instead. Or by walking it, or bussing it. Or, at least, by car-sharing, to reduce the impact of any essential journeys.

Each Earth Day or 'Car Free Day' is an opportunity for thinking carefully about the serious impact that private transport has on our lives, and on our world. Cars are wonderful devices that have given many of us fine freedom of movement. Cars are absolute magic for getting quickly from a to b; but not necessarily for getting from a to be. Our society's reliance on the private motor vehicle tends to speed up everything, so that one no longer finds it easy to appreciate simply being. Here, a great example is being set by the 'Slow Food' (www.slowfood.com) and 'Slow Cities' (www.cittaslow.net) movements, in countries like Italy. The ideal of 'Slow Cities' is a great one to think about, on Earth Day; imagine simply how pleasant it would be to be in a place where slowness, and pleasantness, and not sheer speed, was the dominant ethos!

Fast cars make our streets unsafe for unsupervised children. Kids used to be able to play in the street; that freedom has mostly gone. It used to be a joy to walk in cities, even in London. Now even in smaller cities, like Norwich, there is no space undisturbed by traffic noise and pollution.

Cars, meanwhile, are sold to us on the premise that they will deliver freedom to us. Freedom can allegedly be bought for the price of a 4x4, or of a sporty coupe. Take a look at any car ad: How often does it show the advertised vehicle stuck in traffic? How often does it show the car in a repair shop? Or in an accident, with blood on the bonnet... No; the image is always of speeding along an empty highway, or miraculously deserted city street, or through a desert...

In fact, the images of freedom conjured up in adverts to persuade people to buy flashy new cars are almost entirely misleading. In a country with too many cars, one inevitably spends half one's time fuming - literally - in congestion!

A first step forward, in reducing vehicular pollution, is to move to low-emissions vehicles (the best of which, by the way, do NOT run on industrial-scale biofuels - see www.oneworldcolumn.org/99.html). The EU has target emissions levels, agreed by heads of states and governments, to reach an average CO2 emission figure of 120gms/km for all new passenger cars by 2010. Yet it was reported just this week that 2005 saw ONLY a 1% decrease to an average of 160 gms CO2 per km. This is a failure in responsibility by car manufacturers, and a break of the promise that their industry group, the European Automobile Manufacturers Association (ACEA), made back in 1998 when they promised the European Commission to reach average emissions of 140 gms CO2 per km for new cars by 2008.

You can help change this, by demanding companies to make true low-emissions-vehicles. If you are buying a new car, choose one which emits less than 120 gms CO2 per km, i.e. Band A and B for vehicle licencing.

Meanwhile, with the onset of catastrophic climate change, and with oil starting to run out, there is inevitably going to be less driving, in the future. 'Car Free Day', in a generation's time, may well see entire cities looking like Norwich's wonderful pedestrianised zones, such as London Street and Gentleman's Walk.

And that's the way we may yet save our beautiful blue-green planet. By switching gradually to 'feet first' transport methods - walking and cycling - and to other low impact means of getting about. By working from home and communicating with people the smart way, by phone and computer, and soon by video phoning and ultra-cheap internet-videoconferencing.

That will be a really happy day for the Earth, for our children and for billions of non-human creatures... When we humans turn decisively toward ways of moving, and ways of being, that can last.



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The economist EF Schumacher inspired a generation with his book "Small is Beautiful", now a well known catch-phrase. Even then, in 1973, the world seemed to have gone crazy with growth for growth's sake, and he posited that we could be more prosperous, and more importantly, truly happy, if we forsake the big and started to develop the small.

After 30 years of missed opportunities, his vision seems all the more real and pertinent as we face multiple problems today, many of them environmental, which threaten our very future and quality of life. Intrinsic scale and structure are key issues in the debates, taking place nationally about our energy future, and locally about how we deal with Norfolk's waste.

In both cases, government has got locked into "big solutions" forcing polarised debates: "nuclear – yes or no", "big incinerator - yes or no". Those in power are locked into the "big" mindset, and their reviews and consultations inevitably ask the wrong questions.

The government's Energy consultation closed on Thursday. It missed the key question – how do we scale our energy supply and structure our economy for maximum decarbonisation and future energy security.

A recent report from Greenpeace did ask the right questions, and gave the answers using an evidence based approach. It used a sophisticated computer model (WADE) to evaluate two scenarios for 2023 – continuing with a centralised power generation system based around new nuclear build and increasing gas imports, and restructuring our energy system on a decentralised model.

In decentralising energy production, new electricity generation comes from a variety of smaller scale sources. Housing estates, hospital, schools and public buildings, and our own homes are heated and powered by small scale gas and biomass generators. While gas is necessary for the mid-term future, home wind mills, and solar electricity and water panels - and large scale wind, tidal, wave and biomass – would drastically reduce our need for it.

Large scale generation is wasteful as big power stations lose huge amounts of energy – up to 70% in cooling towers or cooling water. Further electricity is lost in the transmission and distribution system.

Greenpeace showed that the decentralised approach was cleaner - 17% less CO2 emissions; more secure - 14% less gas needed importing even after cutting any new nuclear build. This is because small to medium scale decentralised power generates much more energy

from less raw fuel. It is also cheaper, a benefit which can be passed on to the consumer.

Back in Norfolk, we need an urgent solution to our waste. Amazingly, Cllr Woodbridge, leader of Broadland council, recently called for the incinerator(s) to be placed in Norfolk's worst performing recycling districts – a sort of punishment. Surely there is a better way, and could it be found too in a small to medium scale, decentralised solution?

Certainly building a big incinerator in Costessey would not only punish the people of Norwich, many of whom do their best to recycle, but it would also punish nearby Broadland and South Norfolk residents because of concerns about the effect of emissions on human health and the environment.

On 17th March, the UK's first full-scale municipal biowaste digester was opened at Ludlow, Shropshire using Anaerobic Digestion (AD) to process food waste, garden waste and cardboard collected each week from 19,000 households. Interestingly, the capital costs of this small-scale facility are significantly lower, per tonne of waste processed, than for the proposed Costessey incinerator.

A real Norfolk revolution would be heralded by ditching the big incinerator(s), and establishing instead a county-wide network of small to medium AD facilities. These would be closer to the source of the waste, and most could be built by extending sites on the already well established network of waste collection stations. They would also create jobs throughout the County.

The capital and running savings made, in this decentralised model, should then be invested in Zero Waste reclamation parks for non-digestible waste (about 30%) such as the one being developed in Lowestoft. Such approaches have significantly increased recycling levels to 70% in a decade in cities like Bath and Canberra. Councils in Norfolk could achieve this with a "joined up" approach and commitment.

Cllr Woodbridge is right that we must invest in better recycling facilities and Norwich does serially fail each budget round to allocate enough funds for recycling. Many residents want to recycle better, but are hampered in doing so by lack of proper support by the City Council.

We can start building a positive future for Norfolk and the UK now by lobbying government for decentralised, small-medium scale strategies for our energy production, and waste management.



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Shocking... to read government policy papers on energy and housing issues and find them full of good ideas and sound policies. Yes, the 2003 Energy Review, the Energy Act 2004, the Sustainable Construction Strategy, the UK Fuel Poverty Strategy, the Decent Homes initiative, and others, are all full of sound thinking and good intentions.

What is less shocking is to find out that government isn't actually implementing the policies: investment has been low, regulations have been weak and institutional barriers have been left in place. The plans for renovating homes to increase energy efficiency, affordability and halt the decline of the housing stock, remains an immense task and enough isn't being done.

Our housing is in an appalling state. So is our energy system. We waste vast amounts of energy in our homes and from our power stations. We have one of the oldest and least energy efficient housing stocks in Europe and our Power stations waste two thirds of their energy through heat loss and transportation. A major study by Oxford's Environmental Change Institute concluded that, despite fine policy intentions, implementation has been 'inadequate to the scale and urgency of the task'. The costs may be high, but the benefits in terms of cutting waste and fuel bills would be immense. A large investment in building and renewable technologies will also generate many jobs, skills and training opportunities.

The government strategy of improving homes and increasing the uptake of renewable energy and micro-generation was the right one. Policy paper after policy paper points toward renovation of buildings to improve insulation and energy conservation to solve many problems: fuel poverty, energy insecurity, low-grade housing, CO2 emissions and others. Decentralising energy systems with local combined heat and power systems (CHP) and microgeneration (photo-voltaics and wind power) are an integral part of the strategy, and proved where its done.

Woking Borough Council in Surrey reduced CO2 emissions from their own buildings by an astonishing 77%, reduced energy consumption by 40% and has it's own decentralised grid running from a combined heat and power generation system backed up by renewables.

Decentralised systems of power supply are cleaner, cut wastage and reduce dependency on imported

fuel, solving many of the energy problems identified by government. Yet studies show that the government has failed to support its own strategy to make the technology affordable and increase its uptake. Even basic changes to regulation that could make a significant difference have not been made.

We are now being told that we face an energy crisis and that we need another energy review to find our way out. This is strange for anyone who has been aware of the energy crisis for many years. We have seen all the studies and reviews consistently come up with the same policy solutions of increasing energy efficiency and supporting renewables. So why isn't the strategy being implemented and why are we looking for new policy solutions?

A recently leaked document from this summer's St Petersburg G8 summit preparations reveals that the energy crisis is going to be high on the agenda. At the top of the list of ideas for dealing with the energy crisis is 'promoting adequate and reliable long-term oil and gas supply to global markets'. This is because gas and oil supplies come from volatile and unpredictable regions of the world. Increasing supply of oil and gas, by building more pipelines apparently, will therefore help our security, in the short run at least.

Conversely, increasing the availability of oil and gas could be seen as about the most stupid course of action possible. The choices are becoming quite stark. Cut our energy use substantially, as soon as possible, and move away from dependency on uncertain foreign supplies, or, carry on, increase the supply, put off the necessary changes that we need to make, and wait for the giant energy crisis of the future.

The policy war between the G8 solution and the sustainable solution is underway right now in the form of the DTI public consultation on the 'energy challenge' - this will outline future government policy. There are just a few days to make a submission at tinyurl.com/k6h4t - add your voice to those of the many campaign groups putting the case for sustainable energy solutions. Also, press MPs to fight for properly funded energy conservation measures and decentralised supply systems. If we don't we may find that our energy policy is determined, not by us or even by our government, but by the US, Russia, Japan, France, Italy, Canada, Germany and Tony Blair.

Written with Jacqui McCarney and originally published under Jacqui's name



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A few weeks ago President Bush declared that America was "Addicted to Oil". Was this a new found honesty marking the death of "Climate Scepticism" in post-Katrina America?

Well, "Climate Scepticism" was never viable – it was a mirage cynically created by powerful Oil interests, an attempt to fool the public that there was an alternative scientific view on climate change.

But Bush's speech does mark a new era : "climate scepticism is dead, long live climate cynicism". Its message was we are oil addicted BUT we can develop brave, new techno-fixes - promoted by and protecting the same corporate interests. The opportunity to tackle the greater, deeper addiction at the root of Western life was not explored - the addict in denial never wants to explore the underlying causes, and face real change.

It is investigated in the recent documentary film "the End of Suburbia" which shows how car dependency is deeply woven into the fabric of American life. For seventy years, planners have developed vast networks of roads and associated services like shopping malls. America is unable to heal its addiction, because it has been structurally "built in" over many decades.

Instead, Opium dream like, a new mirage is needed to keep "business as usual".

Enter Bush's speech, part of a highly orchestrated campaign to promote a global, mega-scale biofuel commodity trade. The dream sweeping the world is that the global growth economy can continue "business as usual" by replacing endemic Oil consumption with massive bioethanol production and consumption.

Just weeks later, a media fanfare accompanied the opening of the first E85 pump in the UK at Morrisons in Norwich last week - E85 being mix of 85% bioethanol and 15% petrol. A Google search shows that Norfolk had 5 seconds of fame as far away as Auckland and Beijing as glowing press reports described how "Harvest BioEthanol E85" is delivered through "environmentally-friendly pumps" featuring a new butterfly logo and a blue filling hose.

However, we won't be seeing queues at Morrisons for a while, as only specially adapted cars or one new model can actually run on E85 – and this is an image conscious, "turbo" model. Such tokenism allows the better-off to salve their environmental conscience. Drivers really wanting to make a difference are better to dispense with image, and choose a conventional but economic model (ie Vehicle Excise Duty band A or B cars that generate less than 120 gms of CO2 per km), and to keep to speed limits.

The hype breaks down further as:

- 1) the Norwich E85 is imported from Brazil requiring fossil fuels for its transport
- 2) recent research shows that there is only a 13% reduction in CO2 emissions for sugar-based bioethanol compared to petrol (just 11% for E85), and
- 3) more fossil fuel energy is required to produce it than it generates.

Could the UK develop an E85 economy? No, as we could never produce enough home grown bioethanol. Instead, the mass biofuels route would take us to dependency on imports with significant ethical issues. Yet, across the world, ever-expanding areas of cash crops for vehicle fuels are displacing local food production and decimating the livelihoods of small farmers and local people. Enormous areas of forests (our life-support systems) are being destroyed, with untold loss of wildlife and entire species, and releasing huge amounts of greenhouse gasses.

What about the new technology that Bush spoke of being able to "deliver" within six years - "cellulosic ethanol"? Heralded because its raw physics is more efficient – greater CO2 savings than current sugar based technology and it can deliver more energy output than is put in. Could this deliver a US ethanol economy?

Massive bioethanol burning could have unknown atmospheric effects - studies already show that it would increase atmospheric levels of the carcinogen acetaldehyde, and peroxyacetyl nitrate (PAN - which damages genetic material, and an irritant to eyes and lungs). Increased use of ethanol in California has already caused significant increases in atmospheric ozone.

Studies suggest, even given the vast mid-West croplands, that US food production would be impacted, and it is doubtful that the copious supplies of water required for the thirsty fermentation process are available. The biotech processes are in their infancy - the economic viability of mega-scale production and its early delivery are not givens.

In attempting to solve one problem with mass scale biofuels, we may create a host of other problems. The energy climate crisis needs to be tackled at the roots. We must find ways to decouple prosperity from massive scale transport by localising and decentralising economies, and find happiness outside the unprecedented consumption cult and year-on-year economic growth.

I am indebted to independent researcher Sue Pollard for many discussions on Biofuels.



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Fellow columnist Rupert Read recently raised concerns about a 9/11 type attack on a nuclear power station. However, what about the scenario of a terrorist with a nuclear device in a suitcase entering a Western city to detonate it or hold a government to ransom?

Surprisingly the necessary nuclear material is travelling easily around the world. The International Atomic Energy Agency confirmed 650 cases of illegal trafficking of nuclear materials worldwide between 1993 and 2004. There is simply already a lot of such material out there.

In his book "Nuclear Terrorism", Harvard international relations specialist Graham Allison reports a consensus in the US security community that a "dirty bomb" attack is "inevitable," and an attack with a nuclear weapon highly likely, if loose nuclear material is not retrieved and secured soon.

As little as four kilograms of plutonium - about the size of an orange - can potentially be enough for a nuclear bomb. Although the Kananaskis G8 summit (2002) pledged up to \$20bn to tackle threats posed by nuclear, chemical and biological weapons from the former Soviet Union, such programmes are only addressing the tip of the iceberg.

Beyond weapons, legacy nuclear energy programmes have endowed a huge risk. "The greatest opportunity for would-be nuclear terrorists or countries seeking a quick bomb or two are poorly secured sites that contain significant quantities of highly enriched uranium (HEU)," states a paper in this January's issue of Arms Control Today (tinyurl.com/dr27m). Unlike plutonium, HEU can be worked without special protections and can be made into a relatively simple bomb.

Authors, Glaser and Hippel, report 258 nuclear reactors worldwide, many in Russia and not under proper guard, that have not been properly decommissioned and contain enough HEU for 1,000 bombs. "Many ... are in urban locations with only modest security, presenting potential targets to would-be nuclear terrorists. ... At several sites, there is enough HEU to make more than 10 gun-type weapons."

A recent study into nuclear smuggling by Louise Shelley, director of the Transnational Crime and Corruption Center at American University, made some alarming discoveries. "Complex networks of diverse, cooperating groups appear to be smuggling HEU and other materials regularly out of Russia and into Western Europe". These pass along via a cooperative network that makes it difficult to discern an overall organisation, typically transported "thousands of miles" before detection. "There is little understanding of the actors involved or the target destinations" Shelley has

said. "There is a market for small amounts of these materials, and different groups are seeking them." The destinations and quantities involved suggest the recipients are Western-based terrorists rather than "rogue states".

If developed, new nuclear energy programmes pose even greater risks. In giving evidence to the House of Commons Environmental Audit Select Committee on 9th November last year, Dr Frank Barnaby, indicated that future nuclear programmes, such as that currently being considered by the Blair government, would use mixed-oxide (MOX) nuclear fuel, a mixture of uranium and plutonium dioxides from which plutonium may be more easily separated. Speaking of terrorist groups getting hold of plutonium and fabricating a nuclear weapon, Barnaby said "if we move into the plutonium economy, over time the probability of that happening does become a near certainty".

Although the outlook might appear grim, some commentators, like John Steinbruner, director of the Center for International and Security Studies at Maryland, sees potential for a radical improvement in international affairs if "the threat of catastrophic terrorism is taken seriously". He suggests that if "meaningful protection" is "accepted as a priority" then "security relationships would necessarily elevate interest in protective collaboration over the legacy of confrontation."

That is, a move from the current Bush policy of expanding the US military's offensive missile capability, developing a next generation of "usable" mini-nukes and the weaponisation of space, to disarmament and cooperation with the other major independent global powers, Russia and China. Former Kennedy defence secretary Robert McNamara echoes these sentiments and calls the risk of doing otherwise "Apocalypse Soon" (tinyurl.com/72qqa).

Giving up the gargantuan struggle for military supremacy would be immensely beneficial and allow for a huge diversion of resources to humanitarian causes. Steinbruner concedes, this would be "revolutionary in character" but questions whether major governments, the US in particular, are "capable of making such adjustments". He concludes however "that they are being subjected to potentially compelling incentives to do so" as the widely held view is that the alternative could well be "ultimate doom".

In the UK, these issues are hugely pertinent to the Blair government's desire for both new nuclear energy plants and new post-Trident nuclear weapons. Why does no one in parliament seriously raise the spectre of nuclear terrorism?

Written with Andrew Boswell and originally published under Andrew's name



**One World Column ... mainstreaming ... Peace, Environment,
Human Rights, Sustainability, Anti-war voices in the UK Eastern Region**

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Some thirty years ago independent scientist James Lovelock scrambled over the mountain of western knowledge to proclaim that the earth was a self-regulating, interdependent system which continually adjusted to maintain conditions fit for life. He named his theory of a living planet after the Greek Goddess of the earth; Gaia.

What Mr Lovelock, the scientific community and the media failed to notice was that sitting on the other side of the mountain having waited for the last two and a half thousand years was the Buddha along with most indigenous peoples.

Despite the revolutionary feel to Lovelock's theory, it was not new, for at the heart of the wisdom traditions is a profound belief in the interconnectedness and interdependence of all life, expressed in Buddhism (Dharma) as the "dependent co-arising of all phenomenon" (tinyurl.com/4ffp3). The Buddhist precept to "do no harm" is a call for compassion but also a call for enlightened self-interest because in an interconnected world harming others is harming ourselves, poisoning the environment is poisoning ourselves and our children.

Acknowledging this interconnection with the earth is primary to the cultures of indigenous people of the past and those few surviving today. Through art, ritual, festival and ceremony kinship and reverence is expressed for mother earth. Remembering their interconnection with life around them their choices tend to be in harmony with their environment and the good of the whole.

Modern industrial society has made a virtue out of forgetting this relationship. Lovelock's work, now largely accepted by the scientific community, remains in practice a mere theory. Yet environmentalists who took Lovelock's work seriously and have spent the last thirty years campaigning for the planet have largely been ignored.

A large part of the scientific world with the help of large corporations have spent the last thirty years on what can only be described as throw away trivia - DVD's, iPods, personal computers, ever newer mobile phones - or technological indulgences - GM's, cloning, plastic surgery. Why are scientists not focusing on saving the planet?

In James Lovelock's new book "Revenge of Gaia", he paints a damning picture of runaway global warming and argues that climate change may have gone beyond the point of no return. His solution is little more than extraordinary - as an exponent of a living systems

theory, he is advocating that we build more nuclear power stations.

If ever there was a technology that ignored the interconnectedness of life on this planet, it must be the nuclear industry. Chernobyl exploded a cloud of radiation over most of Europe and killed many Ukrainians. Britain already has 2.3 million cubic metres of stored nuclear waste which can kill an adult within two minutes in its most potent form. It remains lethal for one million years and will cost £85 billion to deal with. Rising sea levels makes all our nuclear sites, largely built on the coast, vulnerable with the catastrophic risk of polluting all the worlds' seas.

Unfortunately, our government wants to expand nuclear power and to triple mass burn incineration, despite strong environmental arguments against both.

Locally, we have seen an excellent example of "enlightened self interest" working and people empowerment in the debate over the incinerator at Costessey. Residents have turned up in their hundreds to debate this issue, well informed and determined to prevent harm to their children, and grandchildren. They are now painfully aware of the need for less packaging, more recycling and the treatment of waste in the most environmentally sensitive way.

Any new nuclear programme, like incineration, will bring people out to protect their environment and community. In doing so, their action benefits all of us and Gaia, aiming to protect us from nuclear and incineration toxins entering our atmosphere, waterways and food supply.

These technologies flourish in a growth based industrial society which assumes the earth is not alive, nature is reducible to its individual parts, we are all separate and independent of each other, and that we can pollute "here" and not affect "there".

There is another approach and that is to work with Gaia using models for society that are sympathetic to a living Systems. A vital part of this approach is decentralising power so that decisions are not based on riches for the few but for the good of all.

Ancient wisdom tells us it is time to listen and act now with principle and truth. Lovelock may be right and it may be too late, but either way we must leave a planet as clean as possible for the handful of descendants who do manage to survive. To bestow on them even more waste, nuclear or toxic incineration residue, as well as global warming would be sheer irresponsibility.



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So, the government has this week launched its long-awaited 'energy review' (tinyurl.com/a7ama). I have not had the chance yet to read all 77 pages of the 'consultation' document, but I have already noticed one interesting thing: nowhere in the document is there any mention whatsoever of terrorism.

Why might that be? Here are the only three theories I can think of, to explain the omission:

- There is no threat to nuclear installations in Britain from terrorism.
- There is a serious threat, but it would compromise our security to discuss it.
- There is a serious threat, and, if it were discussed, people might well get so scared that even pro-nuclear people would turn against nuclear power.

Theory (1) is obviously false: only last month, a group of would-be terrorists were intercepted at an Australian nuclear reactor, while plotting an attack on it. Former leaders from the most populous states in Australia and the US -- former New South Wales premier Bob Carr and two-term governor of California Pete Wilson -- have both publicly warned, during this past week, of mounting evidence of a potential nuclear 'strike' on a Western country. "The nightmare scenario is a real one -- the threat is very real," said Mr Wilson. "There is no question al-Qa'ida has been trying to obtain fissile material for a number of years." (Note that, if a plane were flown into a nuclear reactor, the terrorists wouldn't have even needed to have got hold of any nuclear material, in order to unleash a truly unprecedented catastrophe.)

Theory (2) might have a few grains of truth in it: it would be inappropriate to discuss in public detailed plans for protection of nuclear plants against potential attack. But it is quite obviously appropriate, for anyone who cares about their own survival, to discuss whether or not we as a people want to sign up to a technology that exposes us to serious risk of suffering the fallout from an 'incident' that could potentially be lethal on a scale far outstripping that of the al-Qa'ida attack on New York, and even of the 'coalition' attack on Iraq.

And so we are left with theory (3). And this theory seems to me alarmingly plausible, as an explanation for the astounding omission of any mention of terrorism, from the 'energy review' document. For let us ask this question: if someone bent on terrorising Britain could write the government's energy policy, what would it say?

"Our country will in future rely on wind, wave, biomass and solar power?"

or

"We will reduce our reliance on fossil fuels and nuclear by over 50% within 2 decades through implementing best practice energy-efficiency"?

or

"We will build a new generation of nuclear reactors spread around Britain"...

Would a terrorist prefer us to depend on a few centralised nuclear power stations, or on millions of micro-generation systems for individual homes or communities, when it comes to security of a network?

And which would the terrorists stipulate when it came to potential targets for explosions? Nuclear waste stockpiles and nuclear power stations? Or factories making wind turbines and warehouses full of insulation materials?

Answers on a post-card please to Energy Review, Whitehall, London, UK, SW1...

The government tells us it wants to achieve 'energy security'. Such security should be treated as a 2 stage process:

- Security of electricity supply - avoiding political instability, and achieving diversity of supply. This counts in favour of a 'mixed basket' of renewables, from indigenous sources. It counts against relying on resources -- such as oil, gas, and uranium -- which come mostly from countries which are politically insecure!
- Forestalling any terrorist threat to energy generation -- here, nuclear is much more vulnerable and deadly than fossil fuels such as oil and gas, which in turn are much more vulnerable and deadly than renewables (Don't forget how easily a 'minor' disaster occurred at Buncefield oil depot).

Whichever way you cut the pie, it is reduction in demand for energy, implementation of energy-efficiency measures, and investment in renewables -- and not reliance on fossil and fissile fuels from abroad -- which offers the sure path toward energy security.

A very good reason, then, to favour a long-term truly-secure energy supply, is that, in these uncertain times, it will be least-attractive as a terrorist target. You can't really imagine terrorists bothering to fly a plane into a wind-farm or a tidal barrage. Let alone into mini-wind-turbines and solar panels on people's houses, or into an energy efficiency advice centre... It is these small-scale waves of the future that will deliver us genuine energy security.

Many many thanks to Chris Rose for inspiration in writing this column.



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Sadly many of us today live indoor lives, largely or completely cut off from nature. It is poignantly sad for young people, often severely limited from venturing from home. Studies (tinyurl.com/buksq) show what we know - that children are playing for less time and less in nature.

In one or two generations, the freedom to roam and play in nature, discover fields and woods, has been replaced by consoles, joysticks, mobile phones and virtual reality. We can expect that this rapid social change will bring disharmonies and dis-ease to the human spirit.

The Californian eco-poet Gary Snyder captured separation from nature when he wrote "Nature is not a place to visit - it is home". Yes, many of us are fortunate enough to visit nature, but Snyder suggests more - that we completely connect - for without that we are psychically homeless. How many of us are?

A recent book by Richard Louv "Last Child in the Woods" explores the possibility that the rapid rise of Attention Deficit Hyperactivity Disorder (ADHD), barely known before the 1980s, is related to children's loss of contact with nature. Thoroughly researched, his book suggests that we might need a new term - Nature Deficit Disorder.

Louv explores reasons for "keeping our children out of the woods", which include: fear of harm by strangers - actually media generated panic as such incidents are not increasing; officious attitudes to keeping parks "neat and tidy"; children locked in desolate, deprived urban environments; fast-paced lifestyles and increasingly "time poor" children. He points out "It takes time - loose unstructured dreamtime - to experience nature in a meaningful way" - this sort of time is a scarce resource in materialistic world that sees free play as a "waste of time".

But human beings are very adaptive and the damage can be repaired by reconnecting people with the living Earth - so they can see, hear, smell, touch and explore nature in a free, unstructured way. We could say the homelessness is healed by coming home again.

So what can be done to turn around this dangerous trend? The growing "Forest Schools" movement is one step. Originating in Sweden and Denmark, these schools use the outdoors as part of children's learning of practical and social skills. Children are set small manageable tasks, some with their hands in the soil - real connection. Worcestershire is an area leading the way in giving children a good foundation for life and future learning.

It has been found that the combination of freedom and responsibility has been particularly beneficial to children with little confidence or challenging behaviour. Crucially, the experience is fun and child led. This approach may be combined with conventional schooling as ideally children should attend Forest School sessions weekly, throughout the year, therefore experiencing all weathers and the changing seasons.

The Government would be doing something truly valuable for the future if it developed such programmes within the mainstream with funding and skills to make them work. By bringing children home to nature early in their lives, it would be healing the disconnection from nature early - hopefully healing it before it may become conditioned as a fear or abhorrence of nature, or an addiction to technology. Such contact with nature could be reinforced in mainstream schools themselves by providing gardens which children could participate in looking after.

Many adults also desperately need help to reconnect to nature. The World Health Organisation estimates that depression and depression related illness will become the greatest source of ill health by 2020 - this growing epidemic may in part be caused by the same disconnection from nature.

In continental Europe, there is a growing movement, called "Green Care", aiming to mitigate this. People may visit farms to assist their mental and physical health - psychiatric patients, people with learning difficulties or drug abuse history, disaffected young people, elderly people and social services clients.

Farmers benefit by receiving payments for taking patients, and free labour, and can still sell their produce. Whilst there are hundreds of Green Care farms in each of Norway, the Netherlands, Germany, Italy and Austria and Belgium, there is no provision in the UK. With the benefits to mental and physical health, we should surely develop such a programme in the UK.

Here in Norfolk, it was good to read last week that the RSPB at Strumpshaw Fen has employed a people engagement officer, Jennifer Toms, to encourage people to "explore wildlife, relax and interact with nature".

We should all take care of ourselves, taking time out to enjoy nature, and connect to it in "loose, structured dreamtime". This way we can all come home too.



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In a couple of weeks we will know the results of the latest elections in Iraq. Hope for the fragile democracy born of chaos, violence and unthinkable suffering may offer a little light to Iraqis wishing at last to have some say in the future of their country. But despite George Bush crowing that the elections are "one of the most amazing achievements in the history of liberty", we all know that democracy in Iraq is up against formidable obstacles - not least those obstacles created by the "liberating" forces themselves.

For behind closed doors and against the democratic wishes of the people, the country's major asset, oil, is in the process of being handed over to multinational oil companies. An extensive and detailed research report called *Crude Designs* (tinyurl.com/a9o37) published at the end of last year by PLATFORM and a group of NGOs including War on Want and New Economics Foundation (nef) uncovers the truth about the future of Iraqi oil and the consequences of these decisions on the fledgling democracy.

The West's covetous attitude to Iraqi oil goes back a long way - in this time of increasing energy shortage, the war on Iraq begins to make complete sense even to the least cynical of us. As Andrew Simms, Policy Director of nef says "Instead of a new beginning Iraq is caught in a very old colonial trap."

In 1918 the first Secretary of the War Cabinet, Sir Maurice Hankey, wrote: "Control of these (Iraq/Iran) oil supplies becomes a first class British aim". In 1925 Britain installed monarch King Faisal and signed a "concession" contract with a consortium of British, French and later American oil companies, known misleadingly as Iraq Petroleum. The contract was modelled on one used widely in the British colonies and for a period of 75 years the terms were frozen. In the 1930 this consortium obtained the rights to all the oil in the country and Iraqi calls for even a modest 20% stake were denied.

Frustration grew at the unjust terms of these deals and the ultimate conclusion was the nationalisation of many of the oil industries in the Middle East. In Iraq this happened in two stages in 1961 and 1972. Nationalisation meant that the state and not foreign companies had control of the industry. This did not fulfil Western interests.

No surprise, then, that in 2003 Jack Straw Foreign Secretary announced that one of the Foreign Office

priorities was "to bolster the security of British and global energy supplies".

Observers waited for the triumphal privatization of Iraq oil, but while Paul Bremer introduced widespread privatisation of the Iraq economy in 2003 and 2004, he did not include the oil industry. Why?

The oil companies had come up with an ingenious form of contract known as production sharing agreements (PSA). PSAs keep ownership with the state but by setting the terms the right way could deliver the same outcome as the older form of "concessions". The trick of making it look like ownership was in public hands is intended to calm nationalist pressures within the country.

PSAs are extremely complex, often running into hundreds of pages of legal, technical, economic language. The oil industry employs the most experienced accountancy firms and lawyers to ensure it all works in its favour. These contracts are for fixed terms of between 25 and 40 years and once signed the Iraqi people will have to accept the consequences for decades.

Economic projections published in "*Crude Designs*" show that the oil development being proposed will cost the Iraqi people billions of dollars in lost revenue, while providing foreign companies with enormous profits - rates of return of 42% to 162%. The report's authors suggest several workable alternatives which would provide adequate capital for the Iraqi people to develop the industry themselves.

Instead, PSAs represent a fundamental redesign of Iraq's oil industry, shifting it from public into private hands. This is happening without public consultation or scrutiny and with the loss of democratic control of the oil industry to international companies.

The Financial Times responded to the news of the use of PSAs in the oil industry in Iraq by saying: "The move could spell a windfall for big oil companies such as Exxon Mobil, Royal Dutch, Shell, BP, and Total Fina Elf".

As lead researcher of the report, Greg Muttitt of PLATFORM says: "'The form of contracts being promoted is the most expensive and undemocratic option available. Iraq's oil should be for the benefit of the Iraqi people, not foreign oil companies."



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Often, we think of growth as a positive thing. But picture the following:

- A child who grows to be 1m tall. Then 2m. Then 4m. Then 8m... That's growth!
- A child who becomes better and better at maths, at running, or at understanding other people. That's development.
- A cancer or parasite that spreads -- until it overwhelms the organism which it inhabits. That's growth!
- A cancer that is treated; and an organism that finds ways of living which make it is less likely to contract cancer again. That's development.

As 2005 comes to an end, humanity is burning fossil fuels like there's no tomorrow. We are told that this is essential for economic growth.

Surely everyone agrees that economic growth is a good thing...?

But, when you stop to think about it, what's really so great about (economic) growth? The burning of fossil fuels in record quantities is producing pollution (especially, 'greenhouse' gases such as CO₂) in record quantities. As our economy grows, the remaining capacity of our environment to absorb these wastes shrinks.

Something to think about, as you watch those Christmas light-displays burning.

Meanwhile, 'Peak Oil' is fast approaching. What's 'Peak Oil'? It's the year in which the amount of oil produced worldwide reaches its peak – and starts, inevitably, to decline. Because resources are, of course, finite. Their use cannot keep growing forever.

The Peak Oil year may well turn out to be 2006. In fact, it may well turn out to have been 2005. Once oil production starts to decline, get ready for some real 'oil shocks'. Fuel prices will go through the roof, making the price increases of recent years look insignificantly small, by comparison.

Another reason why we should remember the old wartime slogan, "Is your journey really necessary?" We need to think of the onset of 'Peak Oil', and the increasing risk of catastrophic climate change also consequent upon the burning of so much oil etc., as putting us on a kind of war-footing. No-one questioned the need for rationing, in the Second World War, nor the need for voluntary blackouts. Likewise: we need a system of rationing of fossil fuel use. 'Carbon rationing', it's called. It's the only fair way to deal with

the long energy-and-pollution crisis for humankind which is commencing.

And perhaps we should voluntarily black out some of those light-shows! Ask the supermarket, the motel, the ice-rink: are all those lights really necessary? Can we afford them, if we start thinking long-term? If we think like there's always – or should be, always – a tomorrow, for us and our children?

The holiday period and the New Year is a chance to slow down, and to reflect on whether the growth in our economy, which has brought us to the onset of this crisis-situation, is really what we want. Have the changes in our lives over the last generation improved things? Are families closer? Are you less stressed, and sleeping better? Do you feel more fulfilled, relaxed and confident, in your job? Is the local community stronger? Do you have a stronger sense of your life having a point? Are you less worried about the future?

My own answers to these questions are decidedly mixed. And that brings home to me that growth just ain't necessarily a good thing. It's a means to an end, at best. The real goal is the satisfaction of needs, and a worthwhile existence. So: when growth doesn't lead to needs being satisfied, and doesn't contribute to a meaningful life for all, it should be stopped. We should stop growth that is not helping us be happier, not merely because such growth can't go on indefinitely, but because it is pointless.

Whereas development, in its true sense, is always a good thing. We are all, I hope, part of the developing world, in this sense... An economy in which ever more people are rushing around ever faster clocking up ever higher wages (and debts!)...and not feeling any more happy at the end of the day. That's growth.

A society in which people are doing less, slower, but what they are doing is increasingly satisfying to them; a society in which people's real needs are satisfied. That's development.

A world in which our use of resources (and our wasting them) spreads until it finally overwhelms the life-supporting capacity of our planet. That's growth – to the point of collapse.

A world whose limited capacities to provide us with resources and to absorb our pollution we recognise, and live within.

...Such recognition, such 'living lightly on the Earth', would show that the human race had really learned, really developed, really made progress.



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Today is "International Day of Climate Protest". Worldwide from Athens to New Zealand, people are demonstrating for stronger binding targets for carbon emissions reduction after 2012 (post-Kyoto) based on the 'Contraction and Convergence' scheme - as supported by Norwich City Council (tinyurl.com/caqw5) in Tuesday night's vote.

Thousands of UK citizens will march in London, Edinburgh, Cardiff and Belfast - Norwich "Campaign against Climate Change" is hosting a march, too, from the Forum to St John's Catholic Cathedral, starting at 9.15am.

Urgent action is needed to put the UK back on track to meeting in its emissions targets - they are going up, and are only 4% below the level of 1990 whilst the government target is to be 20% below by 2010.

The UK must agree tough new targets for after 2012. Tony Blair deeply worries many people, including MPs of all parties, when he is no longer sure that we need emissions targets, and may turn his back on 15 years of British climate policy to please his friend George Bush again.

The government's climate policy is in disarray, and they have failed to act on their own 2003 Energy White Paper which promoted localised and renewable energy sources, whilst Germany and Spain, amongst other countries, have made much greater progress in implementing similar policies.

This week Tony Blair announced a new energy review - effectively admitting this failure to deliver the White Paper. Time has been wasted in securing our energy, and now that Mr. Blair is desperate to be seen "doing something", he is spinning nuclear energy as a route to a "carbon free" future.

In fact, a new nuclear industry will be expensive in emissions - actually increasing emissions compared to other options.

Anyone thinking that nuclear is "carbon neutral" (ie has no emissions) has taken a telescope, conveniently provided by the nuclear industry, with a fixed line of sight to one very small part of the nuclear process - the physics of the energy generating process itself. In Nelson's blind-eye tradition, they claim "nuclear fission ... E equals $M C$ squared ... can't see much carbon in there ... no, that C isn't carbon, its the speed of light ... no, absolutely no carbon".

Let's take away the deceptive telescope and look clearly with both eyes at the whole nuclear lifecycle.

The industry depends on a rare metal, Uranium, which has to be extracted from weak ores, often in inaccessible parts of the globe. Huge amounts of carbon dioxide are required to mine and extract Uranium, transport it around the world, and process it into high concentrated fuel rods. The carbon emissions from this are estimated to be at least one third of the emissions from a gas fired electricity station.

Over time, the quality and accessibility of available ore will decrease, and both the economic and carbon costs of nuclear fuel will increase drastically. The ore may run out completely before Blair's new power stations would complete their life.

There are further huge energy/emissions costs in building the elephantine power station, and later decommissioning it, processing the waste and disposing of it. The energy required to deal with the waste will continue effectively forever - we cannot be sure of current waste management strategies working for even 100 years. And 10000 generations will need to reprocess and find new solutions to the nuclear waste from just our 2 or 3 generations.

A new nuclear industry will haemorrhage funding into this single (non-) solution. Of course, Blair says his new nuclear industry will be "private" and have to "compete" in the neo-liberal marketplace, but, like with PFI, you can bet the consumer will fund it in the long run with special levies.

This huge expense will directly damage our ability to reduce carbon emissions as nuclear will take vital funding from energy sources which really are renewable - wind, wave, tidal, solar. The miniscule funding that these energies have now would disappear, and so would the political will to fully develop them.

Blair said once he couldn't put an environmental tax on cheap flights, a fast growing source of carbon emissions, because it would be "unpopular" with people, yet he is prepared to back the deeply unpopular nuclear option. The truth is that in both cases he places loyalty to business and the free market before people.

He would fiscally restrict the aviation industry tomorrow if he wasn't scared of upsetting a large and powerful industry. He would fast track renewables, the next day, if it wasn't for the aggressive PR campaign of the nuclear "big boys".

The Norwich march ends at the Green Fair at St John's Cathedral on Earlham Road. Do come and talk to myself and other marchers about Climate Change.



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As I sit here writing this column, we are still enjoying a most unseasonably warm October: it shouldn't be this warm, at this time of year. We all know that, really.

And I thank my lucky stars I do not live in the Caribbean, where yet another killer hurricane has just struck. 2005 has already been one of the worst hurricane seasons on record. The latest hurricane, 'Wilma', is the 12th hurricane of this year -- a figure equalled only in 1969 since record-keeping began in 1851. By one measure, Wilma is the strongest hurricane EVER, with the lowest barometric pressure on record in the Atlantic.

The scientific consensus is now that these changes in the climate are the direct result of more heat-energy in the weather system. In other words: this catastrophic weather IS global warming.

Perhaps we can dare to hope, in the aftermath of Wilma hitting Florida, that the USA (and the UK!) might finally start to move faster toward real action to combat climate change? Such an intelligent response to such a disastrous change in the weather would at least give the many thousands of victims of these hurricanes a kind of legacy. We must begin to act to prevent future destruction on such a scale, by tackling the causes of climate change. The unprecedented scale of the disaster that hit New Orleans (Hurricane Katrina) should already have made that quite clear..

Now, we EDP writers and readers are fortunate to have on our doorsteps, at the University of East Anglia, the world's premier climatologists. We are less fortunate to live in a part of the country peculiarly vulnerable to climate change. Our crumbling coastline, our low-lying land, our inadequate flood-defences ... East Anglians need to be very conscious of the threat that man-made climate change poses to all our futures.

Climate change is in fact the pre-eminent issue -- and crisis -- of our times. Britain's chief scientist has warned that civilisation may perish virtually everywhere outside Antarctica, within a century, if the crisis is not solved. This is a deeply-shocking state of affairs, almost too big and frightening for the human mind to comprehend. We need radical and co-ordinated action on a scale greater than the world has ever known, to solve the climate crisis.

In the early stages of this worldwide crisis, a remarkably effective potential worldwide solution

has been presented by Aubrey Meyer's Global Commons Institute: www.gci.org.uk. It is called 'Contraction and Convergence': contraction of CO2 emissions, to a scientifically-agreed safe level, and convergence of emissions toward the same per capita basis, worldwide.

Contraction and convergence would be equitable: because it is put forward on the basis of the right of each individual to an equal entitlement of the maximum amount of carbon emissions that is consistent with climate safety for all, including for those as yet unborn. It would ensure human survival: because it will be based on the best climate science in drawing up safe emissions levels.

Actually, it will be equitable because it will lead to human survival: insufficiently radical action to counter the threat of climate chaos imposes grossly unfair burdens on those whose lives are threatened by that chaos; especially, our children. And it will lead to human survival because it is equitable: any other deal will be unacceptable either to developed nations (which will ask why they should constrain their own CO2 emissions, if developing nations are not bound to) or to developing nations (which will ask why they should be forbidden development, when it is developed nations who have damaged the world's climate and reaped the economic benefits of having done so).

If any of this sounds too remote or abstract, then just remember: this isn't some academic debate. And it isn't just about people far away of whom we know little. Nor is this even just about your children and grandchildren.

Unless we move now to curb carbon emissions drastically, worldwide, then, next time, it might be us. So isn't it time we adopted a 'Contraction and Convergence' policy, and stopped this man-made climate change, in its tracks?

That's what I'll be saying today, in my keynote speech to a new think tank, the 'Green Economics Institute', who are holding a big conference in Reading this weekend on climate change (www.greeneconomics.org.uk). I hope people are ready to listen: especially, to the boffins at UEA who are leading the way on this all-important issue. We need something of the spirit of the Blitz here: we can only solve this problem if we all pull together. The 'war on Terror' is a sideshow compared to what must become the main attraction: a war on climate change.



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All weekend the hand-carts have been trundling past the window. I'm not reporting the flight of a population from an invading army or natural disaster. My village's annual bonfire night approaches and everyone is using it to dispose of their green and other burnable rubbish. I like to see this annual procession of men, women and children dragging or carrying sundry bits of greenery towards an enormous mound in the middle of a field - like an altar to the Green Man of ancient times! Perhaps something of that pre-Christian era lingers on in our collective subconscious.

Last year there was a scare that the EU was about to ban such bonfires, but it turned out to apply only to certain types of agricultural burning, so this year the trundling continues and it looks as though the pile will be bigger than ever; it seems indeed to be the year of the Leylandii cull. Yet, if the EU is really worried about global warming, it should realise that the rush of CO₂ released in one evening from the bonfires of countless villages, will add considerably to global harmful emissions.

Would it not be better if all that greenery which faithfully absorbed CO₂ for so long, was encouraged to return it slowly over many years while adding useful organic matter to the soil, via shredders and compost heaps? Better still, if villages invested in shredders and sold the resulting compost and mulches so that people could protect their soils from extreme weather, giving the proceeds to local charities.

I can already hear the cries of "Spoil Sport !" Yet paradoxes and incongruities such as these abound in EU affairs, particularly where agriculture is concerned.

Norfolk farmers are unhappy at the reductions in sugar beet growing that are being enforced in the current reforms to the Common Agricultural Policy. The argument rages over whether this will hurt more third world countries than it helps. Yet CAP reform was not principally directed at helping poor countries. It was supposed to reduce the pressures for intensive industrial agricultural production which have been contributing to declining soil organic matter (soil carbon), pollution of surface water, ground and coastal waters and terrible destruction of wildlife over the last thirty years. Intensive beet growing is harmful in all those ways - a fact rarely acknowledged .

Going in the opposite direction, the EU has proposed optional biofuel targets, to which many European countries are responding by developing their biofuel agriculture. Norfolk is berating our own government because it won't create the favourable financial terms under which our own biofuel industry might take off. Again, no one mentions that it would take about a quarter of all UK arable land to meet those optional EU biofuel targets. It wouldn't simply be a matter of growing biofuels on what is presently set-aside. It would mean massive food imports to replace the food that is no longer grown here. Long distance transportation of food across the world is incompatible with the requirement to reduce greenhouse gas emissions by 60 percent by 2050. Statistically, a typical UK family of four emits per year 4 tonnes of CO₂ from the house, 4 tonnes from the car but 8 tonnes from production, processing, packaging and distribution of the food they eat.

That 16 tonnes of CO₂ per year is about six times our global ration - were everyone on the planet given an equal ration of the total CO₂ emissions for a sustainable climate.

A recent European Conference on Climate Change and Biodiversity organised by English Nature, concluded that far more gains for the environment would be made by reducing the size of car engines than by producing fuel from crops. " You can either feed humans or cars but not both", it said.

But there is a type of biofuel that can be developed locally from organic wastes, used cooking oil and damaged crops, using simple equipment that can be erected on a farm or community basis. This would enable farms to generate their own heat and drive their own vehicles and machinery. Villages could build similar plant and profit from the sales while helping to reduce waste recycling and other substances harmful to the environment.

This cannot happen while governments impose swinging restrictions on the development of such systems. We need clear, positive leadership from government down to local council level. Sustainable food and transport systems should be at the heart of national and local policy. In East Anglia we have already started and a Zero-Waste Centre is planned for Lowestoft. Further information can be had on: 01502 584061 or email anna@zwc.org.uk .

Thanks to Peter Lanyon and Maxine Narburgh (Chair - SIREN).



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Poignantly last week's terrible Kashmir earthquake cut through human imposed borders. In affecting both India and Pakistan, the earthquake respected no border showing how we are all connected.

A connection which was aptly illustrated at last weekend's Resolving Conflict conference at UEA by three members of Friends of the Earth Middle East (FoE (ME)) - Mira from Israel, Munqeth from Jordan, and Nader from Palestine presented their project for the Lower Jordan River saying "the River has no borders".

The river from the Sea of Galilee to the Dead Sea is in environmental crisis. Just 50 years ago, a strong river took 1.3 million cubic meters of water from Mt. Hermon and springs across Lebanon, Syria, Israel and Jordan into the Dead Sea. Now the flow is just 10% of this, whilst the Dead Sea surface lowers 1 metre each year.

For 50 years, water has been progressively diverted to meet the needs of Israel, Jordan and Syria for water for agricultural irrigation and drinking. The ecological catastrophe is compounded by all the countries pumping untreated Israeli sewage into the river.

FoE (ME), founded in 1994 as "EcoPeace" by Egyptians, Israelis, Jordanians, and Palestinians, fosters environmental peace building projects across the region - their Jordan river project catch phrase is "Good Water makes Good Neighbours".

As Nader Khatid, Palestinian director has said "Water can be a bridge for peace - the water resources are so scarce in the Middle East that we have to work together with our Israeli neighbors in order to help guarantee that we as Palestinians get our fair share of water and all together stop the pollution of the water resource."

Turning around the river's plight requires a huge coming together of people who are also in conflict. Whilst all parties have contributed to the crisis by excessive water diversion and dam building, discharging sewage and saline into the river, it is only all party solidarity that can turn around these devastating practices.

Due to years of conflict, badly needed cooperative mechanisms between the parties do not exist, and FoE (ME) are working hard to create these and foster joint sustainable development - the third joint meeting between Israeli, Jordanian and Palestinian mayors in the valley takes place next month.

Internationally, they are lobbying UNESCO to recognise the river as a world heritage site, given its natural and cultural significance, leading to jointly developed cross-border nature reserves and national parks.

Their vision needs our support as real action to restore the ecology of the river directly challenges the prevailing tide of economic globalisation that benefits only a minority in the region, and worldwide - the ecological restoration of the river has to be built on a fundamental restructuring of the region's economy.

Right now, the region's agriculture is far from sustainable, nor justified in terms of the water economy. Much of Israel and Jordan's agriculture is for profit oriented export - high value fruit trees such as apples, peaches and bananas needing large amounts of high quality water are favoured by rich absentee farmers because they are more profitable than vegetables.

20th century agricultural development was about making the deserts bloom for burgeoning Western demands - huge amounts of water have been required for this project - literally diverted from the river, leaving it to shrivel away and die.

Yet, the economic benefit of this has only been for a minority of the population - 50 percent of Israel's water goes to agriculture, yet the sector's contribution to the GDP is just 3% (for Jordan, the figures are 75% and 6%). FoE (ME) promote a return to sustainable agriculture that can feed the local people growing vegetables such as tomatoes and aubergines which make less demands on water.

Systemic problems of the imbalance of power and water poverty must be overcome too - Palestinians have a mere 70 cubic metres of water per head compared to 340 for Israel.

As elsewhere, radical change is needed quickly - the river's original water sources must be restored quickly so it may heal - otherwise like rain forests and ice sheets, it too will die. In battling for ecological rehabilitation of the Jordan, FoE (ME) are in solidarity with all those who seek the life of the planet and people to be put before economic growth.

This approach, given a chance, could produce a beautiful outcome - restoration of the natural and cultural heritage of the river and its region, and water playing a fundamental role in the long term Middle East peace process - reminding us we are all connected.

[[I asked Mira, Munqeth and Nader how EDP readers could support them - they asked us to sign their petition to King Abdullah of Jordan, Israeli PM (Ariel Sharon) and Palestinian President Mahmud Abbas at <http://tinyurl.com/bzpog> - please do so.]]



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Dancing in Thetford Forest

Jacqui McCarney

Aug 27 2005

I was sitting in the garden when a haunting and poignant song drifted down from my husband's study, strangely familiar and forlorn - I almost hoped it would end quickly but it was also compellingly beautiful. I remembered the steps that accompanied it; it was in fact a dance, The Elm Dance.

It was fitting that I should be reminded of the Elm Dance after a day spent at the very moving exhibition at Saint Peter Mancroft remembering the dropping of the atomic bombs on Hiroshima and Nagasaki, 60 years ago. This song is a reminder of a more recent nuclear catastrophe, the horrific accident at Chernobyl in 1986, and of the townspeople upwind at **Novozybkov**.

I first saw the dance and heard the story of it at a workshop with the Eco-philosopher, system theorist and Buddhist scholar **Joanna Macy**, who starts each day of her workshops with the joining of hands to follow the simple steps of the Elm Dance. She does so to remember the suffering people of Novozybkov whom she had promised she would never forget. Each time she leads this dance, it is in recognition of their suffering, in solidarity with them, and in hope for the future of humanity.

As the burning reactor in Chernobyl exploded in a volcano of radioactivity, the winds shifted to the north east, carrying a cloud of poisoned smoke in the direction of Moscow. To save the millions in that city, a quick decision was taken to seed the clouds and cause them to rain. So an unusually late April heavy rain bearing intense concentrations of radioactive iodine, strontium, caesium and particles of plutonium, drenched the towns and countryside of the Bryansk region. The people there were not informed of their government's decision and even now, although it is common knowledge, it is rarely mentioned.

Joanna Macy and her team had travelled from one town to another, offering workshops to help with the psychological trauma of those affected by the contamination of Chernobyl. Novozybkov was the last town she visited, and although the most badly affected, nobody wanted to talk about Chernobyl. Sitting in a circle, these people wanted to talk about the anger and breakdown of their community, from sullen children, absent spouses, to backbiting neighbours. But the nightmare of the contamination was taboo.

They also remembered happier times and their own childhoods - harvest time, sleigh parties and picnics in the forests. Even during the Nazi occupation, they fought from the shelter of the forests. Even under Stalin, they went into the forests every weekend - walking, picnicking, mushrooming. They said that they were "people of the forest". They could not move forward from 1986. They refused to accept the horror that happened to them, but felt compelled to speak. They recalled the searing hot wind from the south east, the white ash that fell from the sky, the children running and playing in it, the drenching rain that followed the rumours, and the fear.

As the workshop progressed, a number drew pictures - many of trees, and the road to the trees blocked with a large X, blocking the way for wood absorbs most radiation and the forests had become the most dangerously contaminated area.

When they returned to the circle, they were angry and distraught. One woman cried: "What good does it do? I would be willing to feel all the sorrow in the world if it could save my daughters from cancer. Each time I look at them I wonder if tumours will grow in their little bodies. Can my tears protect them?"

The next day, calmer and clearer, they acknowledged how hard it had been to face their pain, but they also spoke of how it had connected them to everyone else "as if we were all branches of the same tree". Breaking the silence was painful, but cathartic - a man who had left silently every day to visit his young daughter in hospital said: "It is like being clean, for the first time in a long time".

In Norfolk, we are at considerable risk - on our doorstep, we have nuclear warheads at the US base at Lakenheath, and reactors at Sizewell. In June, we heard that the government is considering using a site in Thetford Forest for storing/dumping nuclear waste. There was also the exercise called "**Dimming Sun**", which simulated what would happen if a US plane carrying nuclear weapons crashed in the forest. Those wishing to rid this area of nuclear weapons will be holding a vigil at the Lakenheath base on September 25th. I hope they too will find time to join hands in solidarity with the people of Novozybkov for the Elm Dance.

A CD of the Elm Dance and booklet can be obtained from **info @ scottstudio.co.uk**.



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I recently joined thousands marching for climate justice at Gleneagles. The G8 climate communiqué shows sadly, that our voices were not heard - it triply fails the future by not setting emissions targets, relying on long-term technological fixes, and downplaying the role of renewables now.

Yet, Britain is really well placed to exploit renewables along our 10,000 kilometre coastline with its large tidal range. Graham Sinden, from Oxford's Environmental Change Institute says wind, tidal and wave power could provide 40% of the UK's power needs. Whilst, the Open University's, Dr David Elliott, suggests that potentially as much as 68% of UK electricity could be generated using just tidal and wave:

- Tidal current turbines - underwater "wind" turbines on the sea bed (20%),
- Wave energy (20%),
- Tidal barrages (20%), and
- Tidal basins and lagoons where water is trapped at high tide and released to drive turbines at low tide (8%)

With real investment and political will, "blue energy" can make a huge contribution to UK energy security.

Why, then, is the Government's public stance on "blue energy" so "low key"? Can one smell the carbon rich, whiff of the lobby power that the big power generators have with the DTI and Government? Or even the Caesium-137 whiff of nuclear industry lobbying that was recently exposed in the New Statesman?

To great media fanfare, new Energy Minister Malcolm Wicks, announced £40m funding for the "Carbon Abatement Technology Strategy" last month. This is to research capturing carbon dioxide output from coal fired power stations and storing it in depleted North Sea oil and gas fields - a technology which might possibly start delivering by 2015.

Compare that to the quiet DTI announcement last August of £42m funding to kickstart large scale tidal and wave schemes into the national grid within 3 years, even though then Energy Minister, Mike O'Brien, said "The sector is at a critical point in its development from pipe dream, through R&D, to commercial viability."

Like preventative medicine, it is surely better not to create the (carbon) disease in the first place, than fix it afterwards. I am hugely concerned that renewables were marginalised by the G8, and that only a paltry £42m. has been made available to the innovative UK tidal/wave industry, now on the brink of producing carbon free Mega Watts.

This sunrise industry needs funding far more than the wealthy carbon based energy industries, who can afford their own research. Research, which might, only might, develop mechanisms, of dubious safety, to hide their dirty waste on a timescale of decades.

Exemplar UK "blue energy" demonstrators are already turning into real commercial enterprises. Take the June 16th announcement of the first phase of a 20MW wave farm to power 15,000 Portuguese homes using Pelamis "Sea Snake", which flexes and bends with the waves, and is developed by Edinburgh based Ocean Power Delivery Ltd.

When twenty such farms could power a city such as Edinburgh, one has to ask Mr Wicks, why the first large scale use of this UK developed technology is not in the UK itself?

In our region, Essex based Trident Energy Limited has received initial Government and private funding and are now seeking major backing for its first full scale sea trial of systems which may scale to 100MW.

Meanwhile 1MW underwater turbines are being developed by Bristol based Marine Current Turbines Limited and East Yorkshire-based Lunar Energy Ltd, off North Devon and Orkney.

A novel oscillating hydrofoil tidal device, the Stringray, sits on the seabed. Successfully tested in a 150kW prototype, the project is now stalled, seeking funding for a 5MW version.

On a larger scale, a 60MW lagoon scheme is proposed for Swansea Bay which would, according to WS Atkins Engineering, generate electricity competitively at an estimate 3.4 pence/kWhour.

Tidal fences or barrages offer exciting, large scale developments. A proposed fence between islands in the Philippines is expected to generate up to 2200 MW (peak), equivalent of two nuclear power plants. The President of the Vancouver company behind this scheme, travelled to London early this year for key meetings with the UK's emerging tidal energy sector and the DTI - is it possible the UK could have the foresight to invest in such a large scale scheme here?

A last thought, as the EU and G8 try to convince Iran to give up their nuclear program, why don't they offer the Iranians the latest renewable technologies and the engineering expertise? Their nuclear skills came from the West. Why not help them now build a renewables industry to meet their energy demands? Surely Lagoons, Sea Snakes, and Stingrays in the Persian Gulf are better than nuclear reactors?



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The people must lead on Climate

Jacqui McCarney
Jul 2 2005

All discussions on Climate Change have become very focussed on next week's G8 summit.

And by now, most people are fully awake and aware of the severity of the threat posed by climate change. The extensive media coverage has meant that only the eccentric, the mad or the very young can still be in ignorance of the imminent threat to our planet and way of life. The deniers are either wholly irrational, in the face of overwhelming scientific evidence, or very cynically protecting the oil industry.

A Guardian poll last month showed that 83% of us are worried enough to believe that Tony Blair needs to challenge George Bush on his refusal to help combat climate change, and 73% believe that consumers need to take action. Yet, only a committed minority 26% have made a substantial personal step to help counter the effects of climate change. Why the difference between aspiration and action?

Well we are waiting. We are waiting for leadership and to be told what to do. There are hopes from the G8, not just on the plight of Africa, but on the plight of the planet. Tony Blair, has made clear his determination, but before discussions even begin we learn that proposals on climate change have been watered down by the White House. The extreme US administration has objected to the statement "Our World is warming" and "in large part to human action", and thereby deny the basic science of climate change.

Politicians actually have the least power in this situation. They are too hampered by playing political games to be able to take the necessary action. So while they can be in no doubt of the seriousness of global warming, they are extremely anxious not to upset business interests and are under huge pressure from big business. For them, the immediate political risks are as terrifying as the imminent Armageddon of catastrophic climate change.

In the mean time, the planet burns, and despite endless talk of meeting targets, carbon emissions from the UK have actually increased in the last couple of years.

Locally too, we see little if any evidence of climate change been taken seriously. Lacking nerve to take decisive action, the local Councils are waiting for their queue from "the adults" in Whitehall. Meanwhile, it's business as usual. For example, County and district Councils, and the new "Visit Norwich" Ltd., are

encouraging cheap flights, road building and massive development and expansion of our region, with little thought given to the effects on the environment. These local politicians, myopic, in their singular focus on business interests, are doing nothing real about mitigating climate change.

History has shown that when radical change is needed, it comes from the people themselves. It was ordinary people taking to the streets, demanding and campaigning, who led to the ending of slavery, the emancipation of women, the end of Apartheid in South Africa.

Where is the movement to save the planet? Like Make Poverty History, we need a global Save the Planet people movement.

But we must not wait for this, before taking action. When our children or our grandchildren ask, what did we do when there was still time it will be shameful to say we did nothing. We are all citizens of the earth and are individually responsible for climate change.

Here are five actions, we can all do:

- Switch off electrical appliances at the wall. Appliances on standby pump one million tons of carbon into the air per year.
- Buy local goods - foods flown in from all over the world create huge levels of emissions. Make sure imported food has come in by ship.
- Stop using plastic bags and return unnecessary packaging to the supermarkets. In Austria female shoppers changed legislation by dumping packages at supermarket check outs and forced supermarkets to operate a packaging take back service.
- Stop using cheap flights - the largest growing source of CO2 emissions. Cheap now, the real cost will be catastrophic.
- Use cars less - cycle or walk instead. Two thirds of all car journeys are less than two miles and could be easily covered by cycling or walking with huge health benefits. Change to a small car with low petrol consumption and share your car by offering lifts to others in your village or town.

What will come out of the G8 for the climate? We have been warned by the politicians not to expect much. The planet can not wait while the politicians dither. History is calling us to act now.



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Novozybkov is a Russian city which was heavily drenched with radioactive fallout when the Chernobyl nuclear reactor melted down in 1986. Here radiation moves ghostlike from place to place sensitive to pollutants and chemical toxins, winds dust and rain. For their safety, children and families need to use radiation monitors daily to know where the radiation is (see <http://www.livingearthgatherings.org/novozybkov.html>).

Although the recent election was distinguished by a lack of debate on the key issue of our time - climate change and future energy security - the future of nuclear energy in this county is now on the agenda. Now the pro-nuclear lobby is briefing fast and thick. "Please let us build just one more generation of nuclear power stations - we'll make 'em safer and create less dangerous waste."

Can the people of Novozybkov, or Norfolk, ever believe a nuclear power station can be "safe"? Can hundreds of future generations and those, now, in whose countries the waste is currently dumped agree that "waste can be less dangerous"?

Perhaps the most ironic argument is the one which calls for us all to be more "open-minded" about the nuclear option. We are asked to give up our "prejudices", born of the nightmare experience of Three Mile Island and of Chernobyl, and to give up the small step in imagination of a jet crashing into Sizewell rather than the Twin Towers.

Yes, very ironic, because the environmental movement has called for years for an open discussion on climate change - most recently during the election, when their calls were largely ignored by Westminster politicians (some waiting silently for the post-election nuclear frenzy) and by the press alike.

Still, I agree we need an open debate - and in this light of openness, let's look seriously at every option and alternative. The discussion on our future energy needs must be framed as part of a "bigger than nuclear", and bigger than any single solution, discussion including:

- energy efficiency in industry and in buildings, rapid implementation of regulatory and tax policy to curtail inefficient energy use.
- a national programme of grants to encourage greater domestic energy self-sufficiency through small scale wind and solar energy generation.
- all renewable energy sources - we need a basket of approaches. Whilst wind energy is the most

exploited renewable in this country, and is beginning to make a significant contribution despite its nuclear lobby detractors, wave, tidal and biomass must be developed. Tidal power is being promoted to meet the entire needs of Auckland, capital of New Zealand with over 1million people. With many estuaries and harbours, why are we in the UK not making more of the huge potential of this safe energy source?

- the rich nations should help the uptake of renewables in the third world - so they can increase energy security without the same cost in greenhouse gases (ghgs) emissions.
- all forms of transport "paying their real cost". This means taxing air fuel, and stopping the subsidy of the aviation industry. It means abandoning the £30billion road building programme, and investing instead in public transport and sustainable transport policies.
- eliminating the worst aspects of free-trading globalised economies - for example, the absurdity of flying vast amounts of food around the world. Why can I often only find apples from far flung continents - China, USA, and Chile - in most Norfolk supermarkets, when Norfolk apples are superb, different and surely the best?

Common sense ideas and technically solutions available now abound - see http://www.foe.co.uk/resource/reports/climate_chnge_without_nuke.pdf for more.

Beware too, the misleading propaganda that nuclear provides a "catch-all", single solution to climate change - it does no such thing. UK electricity production only contributes to ¼ of ghgs, and, of this, currently just ¼ is generated by nuclear energy - at current levels, nuclear power can make no more than 1/16th or 6% contribution to ghgs reduction in the UK. Promoting nuclear as a generic panacea is, then, an extreme deception, when we actually need to reduce ghgs by 60%-90% by 2050.

The argument now should not be about whether to go nuclear or not, but how we can achieve so much more by a joined up, sustainable approach. Yes, let's have a truly open and committed debate on the full spectrum of energy policy. Such open debate will show that further nuclear development would divert resources in investment and engineering from much more creative and ecological sound solutions. We are at a crisis time - it is no time to look at expensive, short sighted solutions. I, for one, don't want to read Norwich for Novozybkov in 2033.



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*"The fault is great in man or woman
Who steals a goose from off a common;
But what can plead that man's excuse
Who steals a common from a goose? "*

(The Tickler Magazine 1 Feb. 1821)

When a friend shouldered his spade recently and went off to fill in a ditch that a landlord had dug around a Norfolk common to keep people off it, I thought of the age-old struggles against the enclosure of common land.

In 1649, when Gerrard Winstanley and his band of twenty Diggers peacefully occupied St. George's Hill in Surrey and proceeded to cultivate it, the Law was definitely not on their side. The communal activities of the Diggers alarmed the Commonwealth government and roused the hostility of local landowners who were rival claimants to the common lands. But Winstanley saw the practice of extending private property rights to common land as fundamentally flawed. He believed passionately that the Earth was: "-- a common treasury for all, both rich and poor --- not enclosing any part into any particular hand, but all as one man -"

In the early 1980s, latter-day Diggers occupied the unfenced, disused airfield at Molesworth in Cambridgeshire when it was about to be given by our government to the Americans, to house their nuclear cruise missiles. These lorry-mounted weapons were supposed to "melt into the countryside" undetectable by the enemy, in order to be first to fire their genocidal pay-load. The Diggers bullock-ploughed the airfield, hand-sowed and hand-reaped it and sent wheat to help relieve famine in Ethiopia.

Readers may recall that Defence Minister Heseltine, resplendent in flak-jacket, led a sizeable military force to Molesworth to uproot the campers and fence in the land against further encroachments - an operation which earned him the nick-name 'Tarzan'! The missiles were duly installed. The up-rooted Diggers morphed into a 'Cruise Watch' team and thenceforth every cruise missile convoy in England was successfully followed and logged by them, and the only "melting into the countryside" occurred when the missiles were furtively recalled to the United States. There was little publicity about this at the time!

The ecologist Garrett Hardin identified a trend he called: The Tragedy of the Commons; Suppose that five commoners have rights to graze a certain number of sheep on a common - all rights carefully allocated to sustain the common's resources. If one of the

commoners cheats by grazing one more animal than agreed - a fateful imbalance is set up which leads irreversibly to the destruction of the whole common. The detriment to each of the commoners is shared between them; each suffers from the extra grazing to the extent of one fifth of an animal. Yet the cheat profits by one whole animal, so the tendency to cheat is greater than the individual tendency to object. Even when the land becomes overgrazed, people will continue to put their animals on to the damaged common and may even add to their flock or herd.

So it is with the 'Global Commons' and the problems of globalisation and the accompanying environmental degradation. Individuals - or countries - see no point in making a sacrifice if others continue to use a common asset. Even if everyone is aware that selfishness, competitiveness and unregulated exploitation will eventually make the land unusable for all, once having acquired a disproportionate share of the world's common resources - there is a danger that countries may feel driven to "defend their vital interests" with disproportionate power - even to the point of threatening the global commons with nuclear annihilation.

Who in our One World, will defend the dwindling global commons?

In 2002, Indian scientist and activist Dr. Vandana Shiva, identified two key areas requiring urgent defence; one to reclaim the 'water commons', the other to reclaim the 'genetic commons'.

Vandana Shiva sees privatisation, based on exclusive rights of corporations to vital resources like biodiversity and water, as an enclosure of the commons. She believes that reversal of this enclosure requires a combination of actions at local, national and global levels - putting water and biodiversity beyond monopoly, private ownership and 'commodification'.

This week we learned of the collapse of a "flagship" water privatisation scheme in Tanzania. The World Bank and the UK Government supported the scheme with £76.5 million but Tanzania claims that no new pipe-work had been installed and water quality had declined - not a good advertisement for the privatisation of a common resource.

Some 40% of the world's population now live in countries with water shortages; millions of children die of water-borne diseases that could be eliminated with improved sanitation. It is time to recover the commons.



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My very personal, very grassroots and admittedly unusual eco-friendly campaign for 2005 is to establish the shopping trolley as a fashion accessory superior to a Saab or BMW - more subtle, more refined more intelligent by aeons and definitely way, way cooler. This may look like an uphill battle, it may sound like the ramblings of a very deeply disturbed mad woman - the shopping trolley after all seems to fit snugly into that gap between the last vestiges of independent living and institutionised care. The forward moving ones are often used as a kind of walking frame, and the pull along types are reminiscent of bag-ladies who carry all their worldly possessions around with them.

This is, however, a deeply unfair and superficial view. Why is it only ridiculously expensive items are valued so religiously? Why can't older people be leaders of fashion too? Why, Oh Why, do we reserve such gluttonous desires for machines that poison the very oxygen we breath, destroy the health of our children in a multitude of ways eg: they can't get good healthy exercise by playing in their streets as children a few generations ago did and so they are becoming increasingly obese. There is a huge increase in the number of children with asthma caused by breathing in car fumes and unprecedented numbers are killed every year by cars when they do venture onto our street! This is before we mention the huge global problem of CO2 emissions from cars contributing heavily to climate change.

The unfortunate offspring of western civilization, if they do make it to the age of 18, may then find themselves packed off with inadequate protection to fight an unjustifiable war in order to procure more cheap oil for our oil guzzling society. As decent responsible members of the literate class we all claim to love our children! But how much! Enough to think! Enough to stop for a moment and look at the direction we are heading in.

The humble shopping trolley makes a gigantic leap to a simple and intelligent approach to hunter gathering in the 21st century. It enables the family provider to carry sufficient items without having to pile them, as quickly as

possible in to the back of car. It enables the fore mentioned provider to walk some distance with their consumables perhaps even all the way home, or to the nearest bus stop, or better than private car, a taxi - thus reducing congestion and pollution in the city. The trolley does away with the necessity of using plastic bags - a throw-away item made primarily with our scarce oil reserves

Watching unthinking shoppers use plastic bags as if there were no tomorrow makes me quite literally C Red. And then, this makes me think of our very local initiative to cut carbon emissions and help our children to have a future. I can be then be heard muttering to the checkout girl about not wanting to go to war again so that we can get enough oil to make more plastic bags so that we can throw them away - so "no thank you I do not need a plastic bag". I mostly feel like a lone voice in the wilderness! But by now there is no stopping me and the next question is when is this supermarket going to start charging for plastic bags? I go to customer services and repeat the question and then I write it down and post it in their suggestion/complaints box. The hypocrisy of the supermarkets leads to blood pressuring, vein popping fury by the time I have reached those gracefully sliding exit doors. All the apparently, ethically sound, re-cycling bins stand like over stuffed elephants in the car park and yet supermarkets do nothing to pressurize manufacturers to reduce their hideous overpackaging and do nothing to encourage shoppers to reduce their consumption of plastic bags.

They did it very successfully in Ireland, they set a date for the introduction of charging on plastic bags; they explained their motives to the shoppers and won their support and on the big day shoppers turned out sporting their own shopping bags.

I appeal to all shoppers; let's see you out there with your own bags and to those really up market, fashion conscious ageless hip types I look forward to seeing you with your Rolla trolley. I will just smile and know that there goes a person with a brain and a soul.



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Spring and the annual rebirth of nature have arrived. In the sacred, Easter Saturday is a time before suffering is transformed to new life. Today in 2005, the Easter meaning must be the very suffering of the planet, its eco and life systems.

Our planet is sacred, and daily, we hear more about damage to it. Climate Change is no longer a distant threat. The truth is simple - we are crucifying the planet and it cannot take much more. Yet, really, we have no idea of what the path of Gaia's resurrection might be.

Under this threat, we need a synthesis of pragmatic policy, technology and behaviour change. We are not short of creative ideas, but we are short on political leadership, and real climate governance.

At the G8 summit in Scotland in July, it is crucial that global leaders move beyond words to immediate action. The build up has started already: think-tanks and policy gurus are hard at work, and last week, the first-ever meeting of G8 Environment and Development Ministers was held in Derbyshire. (They kept that quiet, didn't they?)

"Catalysing Commitment on Climate Change" is a report from the Institute of Public Policy Research (IPPR), published to coincide with the Derbyshire meeting. It gives excellent pro-active policy suggestions for the G8 ministers on decarbonising the global economy, whilst contributing to poverty eradication too.

In the authors' words, to prevent dangerous climate change, a level playing field must be created for energy producers, so that clean, renewable energy technologies can thrive globally. The G8 should:

- stop multi-billion dollar hand-outs given to the fossil fuel industry, and
- support the growth of renewable energy and energy saving technologies in developing countries, particularly small-scale renewable projects which can alleviate poverty too.

They suggest a multilateral framework. I agree. Without a great many nations involved, little can be achieved. A climate leadership group should be formed from both industrialised and developing nations, which has annual summits. Further, they suggest a system of international accountability where:

- companies should be made to disclose their emissions.
- the industrialised countries should accept their current and historical responsibility for climate change in developing countries, and make compensation for disaster mitigation and relief.

All this addresses the current vacuum of leadership, policy and international agreement on climate change. It is a shame that the authors didn't go a step further and propose a global system of carbon budgets for individuals and countries. This would really give a fair and pragmatic basis to their proposed climate accountability, and generate wide international buy-in from poorer countries.

This means stabilising the planet's environment by contracting global carbon emissions under the "Contraction and Convergence" (www.gci.org.uk) scheme that allocates a per capita carbon budget to each nation. Carbon trading allows heavy polluters to buy carbon budgets from the poor, less polluting countries forcing high carbon emitting industries to start to pay the real cost of their emissions. They are then driven, by the market, to reduce their emissions, whilst developing nations can continue to develop sustainably. Over time, there is a convergence of the carbon emissions between the north and south - a fair balance of industrialised and developing nations being reached sometime between 2025 and 2100.

As a high emitter, the UK should lead with strong national policies for contraction. Where are they? They barely exist yet as the media and government still do not address the real dangers of climate change, and the climate issue has been marginalised in the current election build up,

This is not to say the other issues, such as health, taxation, terrorism, education and crime, are not important - just that voters are owed a really informed environmental debate. Instead electoral fatigue has set in as the same policies and issues are rolled-out as in previous elections.

Green policies will make a real difference to our future, and deserve real debate and scrutiny. Whatever the election result, the UK should establish a national Department of Climate Sustainability, as sustainability is currently addressed between departments, and largely falls between them.

Such a ministry should have two senior ministers to reflect its urgency, one focusing nationally and the other internationally (cf Home Office, Foreign Office). They should roll out radical policy to start contracting our carbon usage: huge public transport investments, incentives for domestic and industrial energy efficiency, localized sustainable transport and development. Their mandate should be also to ensure participation and accountability for carbon usage of local authorities, industry and citizens.

Resurrecting Gaia, our planet, will take generations, but we will, at least, have made the first step.



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Norfolk needs less development, built better

Andrew Boswell

Feb 26 2005

This week's column is an open letter to the Deputy Prime Minister on the East of England Regional Authority's (EERA) draft Regional Spatial Strategy (RSS), currently under public consultation at www.eera.gov.uk until March 16th 2005.

Dear Mr Prescott, The RSS is a plan of enormous significance for the future of the East of England. Despite efforts by our local media, many in Norfolk have probably still never heard of it, and EERA are widely thought not to have promoted the consultation effectively.

I hope, though, that the response this time may be better than the previous consultation, to which only 88 individuals from a regional population of 5.4million responded - that is, about 0.001% of the adult population. A "public" consultation with such a limited response cannot provide a true representation of people's views.

Norfolk born people are familiar with the region's environmental and natural beauty, relaxed pace, quality of life, and local character, whilst others of us have come here to enjoy these lifestyle benefits. Yet the majority in Norfolk may still be blissfully unaware that the RSS proposes 478,000 new homes to be built across the East by 2021 - a build rate of nearly 24000 a year, with 72,600 being in Norfolk.

These new homes will inevitably bring new roads, shops and other commercial infrastructure. Expansion in schools and hospitals will be needed too - although the plan fails to show how this public infrastructure will be funded. We can expect triple accounting and further PFI Fiascos to leave Council Tax payers with the bill for decades to come.

Not just costly, supercharged growth and business development will destroy this region's way of life: business and construction industry interests will come first, the needs of our people poor second. Similar growth plans for the South East will fry that already overheated region, and extend the pressure on our Eastern region too. Fast-life stress and London/SE pace will become ever more common place in Norfolk.

Whilst some growth is inevitable, it should be at a natural pace, not rapid and forced. Many Norfolk people feel their justifiable concerns are being ignored by your government's policy to "develop" the South East and Eastern Regions at the expense of other UK regions, as rapid large-scale private construction will spread concrete and tarmac over ever greater areas of our beautiful county.

The enormous strain on local services, the environment and infrastructure, lagging behind development in both regions, will fuel a housing crisis amongst the worst off in

our society - the RSS also doesn't offer enough low cost housing to keep pace with such massive growth.

In short, your regional development plans need rethinking. You should:

- rebalance economic activity across the whole country;
- bring empty homes back into use in regeneration areas, such as the North, via an effective empty homes policy.

Then less development would be necessary in the South East and East.

The RSS directly contradicts your own Government's stated position of making climate change a key global issue. EERA accepts "climate change will be inevitable over the period of this strategy" and only advises reactively 'adapting' the region to it. Beyond some small scale sustainable energy, the RSS sets no pro-active policy vision for Norfolk's role in reducing carbon emissions. This is an unacceptable renunciation of responsibility - planners and developers must take responsibility for carbon reduction, as much as governments, industry and individuals.

This can only be achieved by making all planning processes "carbon emission aware". You should show a real commitment to tackling climate change by legislating that all planning and transport decisions must quantify their carbon emissions, and prove they meet strict limits. Without existing legislation, the EERA plan should put be on hold until it is resubmitted with a full assessment of the carbon emission costs of its every development.

Greenpeace have recently suggested ten "climate steps", necessary to your government's credibility on climate change: immediately adopting the following would enable the "built better" sustainable development of our region:

- setting tough environmental standards (zero emission levels) for all new buildings;
- subsidizing domestic renewable power such as solar and state-of-the-art energy efficiency;
- requiring all new buildings to include combined heat and power plants; and
- promoting a much greater expansion of renewable energy production.

We need clear policy and vigorous action on Climate Change from the top. Please will you, and Tony Blair, address this. At the level of regional planning, your office could rapidly make significant beneficial impact on all our climate projects by adopting the above "Less Development, Built Better" policy. Norfolk people who cherish our unique "Do Different" way of life would benefit greatly.



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Tara Greaves' brilliant EDP article on the day of Tony Blair's Climate Change speech called for "action to achieve a more sustainable way of life". Indeed, to encourage Green innovation, isn't it time that a Nobel Prize was created for sustainability?

Ironically, another article that day praised the business opportunities as "Demand soars for flights to Dublin" from Norwich - there should also a dummy's prize for reckless business.

These extremes reflect the predicament of our fragile world. It's seriously endangered, yet we continue to use cheap flights and buzz everywhere in cars - our mantra "Don't worry, it may never happen".

We hope a wonderful, new technology will be discovered to keep us all driving and flying for another century.

Some American corporations have grasped biofuels as an extremely lucrative market, especially in the expanding, Asian countries, where the Indians and Chinese, 2.5-billion people, are set to dwarf economic growth within the United States itself. Just last month, the Pure Energy Corporation (PEC) and American Biofuels (ABF) announced exports of biodiesel to these countries.

Given the huge energy demand of the US - a major reason for the disastrous Iraq War - wouldn't you think the Americans would want to keep their biofuels to help make their own country more sustainable?

Greenwash, now a dictionary word, describes misleading disinformation used to project an environmentally responsible corporate image. Are biofuels being spun in greenwash by interests more interested in making money than sustainable transport?

Norfolk biofuels industry lobbyists, such as Georgina Roberts in this paper recently, bandy about figures of 70%, or even greater, for carbon emission savings. However, even if correct, these large, convincing sounding, figures are based on the pure, unblended fuel before many times dilution with conventional diesel at the pump.

The actual government figures, from research, for unblended biodiesel savings are 40% - 56%. If a market were to be developed on a quick-growth, highly intensive, agribusiness model, the UK whole-market savings could be 0.8 - 3.2% by 2010. It's worth noting, that taking an average of 2.0%, then the same result would be achieved by the typical 10,000 miles a year driver reducing their driving by 200 miles a year.

True sustainability requires introducing a technology with care, so as not to introduce more environmental problems along the way. With biofuels, this means protecting local sources of food production, ensuring land use is not expanded at the expense of biodiversity, restricting practices that lead to soil depletion, eliminating chemical fertilizer regimes to prevent emissions of the dangerous greenhouse gas (GHG) nitrous oxide, and passing legislation to prevent the use of any GM technology in the biofuels cycle.

The Large Scale Biofuels Concern Group is advocating that the public are presented with the real facts - ungreenwashed, and that the socially and environmentally sound applications of this technology are then promoted and funded. Sustainable development requires an accreditation system to ensure all suppliers meet high carbon saving targets, and producers can demonstrate sustainability of their supply-chains. It also means much greater emphasis on small-scale production units, eg on farm, which minimize GHGs from transport costs, and really benefit the local communities. EEDA should be funding more research into such smaller projects.

Localised, small scale, biofuels, are being developed elsewhere in the UK. For example, Pembrokeshire Bio Energy, a farmers' co-operative which supplies biomass for automated heating of buildings such as hotels, swimming pools and homes. Let's see similar, exemplar, small scale schemes in Norfolk, instead of the exploitation of our heritage by big business.

The "Green Fuels" greenwash is distracting motorists from addressing the real issue that we need to be cutting world wide emissions by tens rather than units of percentages. We should demand that the Government urgently introduce a radical sustainability policy, including truly sustainable biofuels. A slower and more sustainable introduction of biofuels would inevitably yield less, short-term - perhaps less than 1% UK GHG savings by 2010.

But a wider sustainability policy would also reduce use of private cars, short haul air flights, make huge investments in public transport, develop electric and hydrogen transport, and introduce incentives for energy efficiency including domestic solar panels and small-scale wind systems.

Alas. no politician is yet prepared to say it - we need to cut private car mileage not by hundreds of miles, but by thousands of mile each year. One of those Sustainability Nobel prizes should go to the Transport ministers in the country, which first implements an integrated sustainability policy; otherwise, it may take an environmental "September 11th" to compel Governments to take real action.



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Slowing climate change is everyone's responsibility now, and much excitement has been generated by the plans for East Anglian farmers to grow oil seed rape for a local biodiesel fuel industry. It is suggested that biofuels can replace dwindling, price spiralling and polluting fossil fuel oil. Already the "Oil Fields of East Anglia" are being promoted as a green way to diminish the harmful global warming caused by road transport.

It is said these new crops will boost the fortunes of struggling small farmers all over East Anglia, and MPs like Gillian Shepherd and Keith Simpson are throwing their weight behind the biofuels movement.

Small scale biofuel production is a good idea, but can it scale up to have the desired good result for the climate? Well, we haven't enough land to replace Oil based diesel altogether with biodiesel, and, even highly intensive agriculture will produce at best enough biofuel to make a 5-10% diesel (ie 90-95% still Oil based). This reduces the amount of CO2 emitted from a diesel-burning engines, so is it enough to do the trick?

Well, the EU target is to create 5.75% biofuels by 2010, but EU road traffic is growing at around 2% per year, and the emissions from just 4 years' traffic growth at 2% per year would put us back to where we started again. The cost to get us back to square one would requires all "set-aside" land across Europe, and some food land to be used for biofuels.

That might give us a breathing space to come up with something else, but, in other countries, vehicle numbers aren't increasing by only 2%; in China, they doubled over the last three years alone, so there's their CO2 to consider as well as ours.

That's the bad news. We hear the good news is that unlike pumping Oil from underground, growing next year's crop of oil seed rape absorbs the CO2 produced by vehicles this year, thanks to the wonders of photosynthesis. So that's all right then.

Except, that to grow this year's crop, farmers will have to cultivate the fields with tractors and drive the product to the factory, 3-8 million transport miles per year depending on production capacity, all of which will have consumed large amounts of diesel, only 10% of which is likely to be biodiesel. And except that growing the rape, as intensively as modern agriculture insists, means applying plenty of nitrogenous fertiliser. Unfortunately, it needs huge

amounts of energy and greenhouse gas emissions to produce it, as well as causing the soil to release nitrous oxide (N2O), a gas which is 310 times more potent than CO2 in causing global warming.

So, we are still looking for some good news to entitle us to feel that biodiesel is going to change the climate in the right direction. Unfortunately, there is one more distinctly biodiesel-unfriendly point. The government's chief scientist recently warned again that severe weather conditions across the world can be expected more often. Insurance claims for drought and heat-related animal and crop losses came to over £7 billion in the EU alone. Biofuels cannot, therefore, be regarded as a 'reliable' fuel source.

And, every field that grows biodiesel means one less field growing food - one less field's worth of supermarket shelves for us to choose from. No one would put up with that, least of all the supermarket owners. So they will try to fill those shelves by importing the food from abroad with further more transportation emissions.

What about the small farmers? To operate industrial scale biofuel plants, long-term contract prices will have to be kept low, for production to be "viable". Low long-term contract prices favour only large landowners and agri-businesses amongst who will demand GM crops to meet their commercial drive for high yields. And small farms will be unable to act on this scale and will continue to be bought out by large ones.

I support any measure which provides verified long-term and sustainable benefits to our environment, but suggest more research and consultation is required on the real "climate change" costs of biofuels. Let's support small scale production exemplars, but we must be cautious in growing a large agri-business industry that may only be a diversion from developing longer-term greener renewable energy sources (eg wave and tidal power).

What we really need is the political will to demand the Government to develop transport policies which reduce dependence on private motor cars. The review of the 10-year transport plan, due in July, provides an ideal opportunity.

I am indebted to Peter Lanyon for the inspiration and much research for this article.



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