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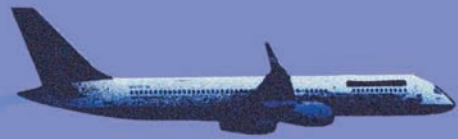
# ECOLOGIST

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MARCH 2009

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**EDITORIAL**

**Pat Thomas**

Editor, the Ecologist

# ECOLOGIST

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DON'T BE AFRAID, EMBRACE THE CHANGES

# If not now, when?

**In the pantheon of great first lines, 'It was the best of times; it was the worst of times' ranks pretty highly.**

In the 150 years since *A Tale of Two Cities* was published, countless grateful journalists have opened their reflective pieces with a touch of Dickens. In a very real sense we have enjoyed, but may never see again, 'the best of times'. We have plundered the Earth's resources relentlessly, unthinkingly, short-sightedly, destructively. Fish stocks in most of the world's seas are seriously depleted. Swathes of rainforest are destroyed annually. Supplies of drinking water are reducing as demand rises. Carbon emissions rise inexorably. Toxic chemicals pollute nearly everything we eat, breathe and touch. Global warming may now be irreversible. The list goes on.

And this is before we even mention any number of political conflicts in the Middle East, Africa, Iraq, Afghanistan and all points north, south, east and west; or the permanent issue of the safe 'disposal' of nuclear waste – or even nuclear war itself. We are truly living in *The Age of Stupid*, a fine film previewed enthusiastically by us last year and scheduled for wider release later this month.

In addition to the man-made destruction of the planet's health, a relatively small handful of bankers have contributed to, if not actually caused, the most serious financial crisis in the working lifetime of any of us. The price we are all now paying for the incredible excesses of the Masters of the Universe is too high. And what is their real legacy? More coffee shops? More chain stores? And while the banks and car manufacturers enjoy government largesse, where is the 'bail-out' for an educational system that will guarantee a high standard of education for all – perhaps our most important investment in the future?

We try to tread a careful line at the *Ecologist*. We do not rejoice at significant rises in unemployment on the grounds that at least scarce resources will be preserved. Alongside our monthly reports of fresh ecological disasters (and updates of ongoing ones) we also seek out good-news stories wherever we can. While such stories provide hope, however, we will need more than this to see us through.

We are not cheerleading for recession or deflation. What we really stand for is sensible growth, sustainable growth, renewable growth. Almost any form of economic activity requires using the Earth's resources. We are not absolutist about it. We do not dress in hair-shirts and sandals. We are not prescriptive about diets, though we are opposed to those who degrade the land and are indifferent to the suffering of animals. We accept with regret, but accept nevertheless, that natural resources will be consumed if we are all to be decently fed, sheltered, kept warm and put to productive and fulfilling work. But we do not accept that such resources must be exploited to the edge of extinction and beyond.

For individuals, the leitmotif is common sense. Consume less. Conserve more. Walk, cycle. Shop locally. Support renewable energy. Insulate your home. On the political stage, things are more complex. Will President Obama reverse his predecessor's disastrous environmental policies? The world holds its breath. But even if he hasn't come too late, he can't do it all by himself. What used to be called 'the vision thing' has to be shared by approximately another 200 world leaders, and acted upon decisively.

The crises we face give us an ideal opportunity to re-evaluate how we should live. Let's use the worst of times to make a new start. Because if not now, when?



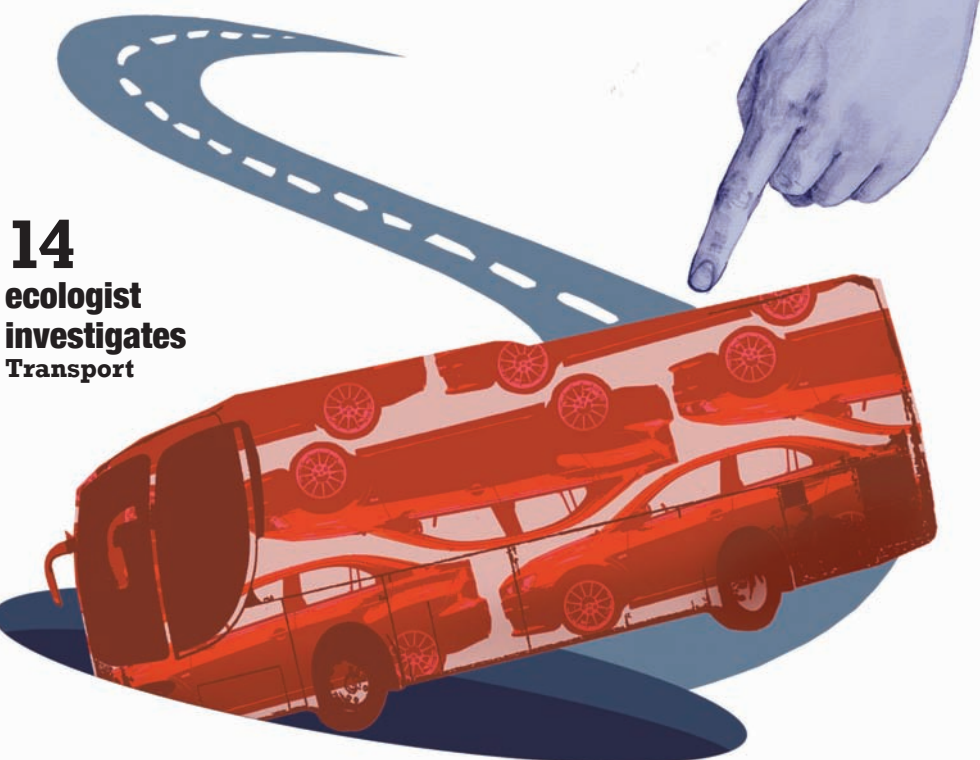
**We stand for sensible growth, sustainable growth, renewable growth... the leitmotif is common sense**



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# Streamlining the States

US President Barack Obama's Energy and Environment Plan is perhaps the most ambitious strategy for sustainability the world has ever seen. While questions will certainly be asked about his plans for continued oil and gas exploration, as well as his drive towards second-generation biofuels, there is no doubting that the scale of his planned investments in renewable energy, efficient vehicles and emissions reductions will set the US firmly in the frontline of action on global warming and energy security

## **INTRODUCE AN ECONOMY-WIDE GREENHOUSE GAS CAP-AND-TRADE SYSTEM**

to reduce emissions 80 per cent by 2050. All pollution permits to be auctioned, not given away.

**'WEATHERISE' ONE MILLION HOMES ANNUALLY** for the next decade, upgrading domestic boilers, draughtproofing and house insulation.

**PUT ONE MILLION DOMESTICALLY BUILT**, plug-in hybrid cars on the road by 2012, each capable of achieving 150 miles per gallon.

**ROLL OUT AN AMBITIOUS ENERGY EFFICIENCY STRATEGY**, reducing electricity demand 15 per cent from projected levels by 2020.

## **ESTABLISH A NATIONAL LOW CARBON FUEL STANDARD**

to steadily reduce the carbon content of fuels, as well as to directly but sustainably incentivise next-generation biofuels.

**INCENTIVISE AND DEPLOY** carbon capture and storage technology, in some cases using the captured carbon dioxide to drive oil from ailing wells.

**ENSURE 10 PER CENT OF US ELECTRICITY** comes from renewable sources by 2012, and 25 per cent by 2025. Solar, wind and geothermal to be incentivised.

**SAVE MORE OIL** in the next 10 years than the US currently imports from Venezuela and the Middle East combined.

**BUILD MORE 'LIVEABLE' AND SUSTAINABLE COMMUNITIES**, with facilities for walking, cycling and public transport.

**INSTALL 'SMART GRID' FACILITIES** across the nation, including smart metering, energy storage and energy-monitoring equipment to make best use of fossil and renewable electricity.

**FEDERAL GOVERNMENT**, currently the largest energy consumer in the world, to reduce energy use by 15 per cent by 2015.

**CLAMPDOWN ON ENERGY SPECULATION** - close regulatory loopholes to stop commodity traders driving up the price of energy for everyone.



## NEWS ROUNDUP

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## ON THE WEB

**Some of the key environmental stories from the past month that you may have missed. Visit [www.theecologist.org/news](http://www.theecologist.org/news) to read and follow-up...**

- » We need a revolution in how we see sewage, says expert: it's a precious resource
- » US study shows that independent stores are weathering the downturn better than the chains
- » Amazonian Indian calls on Welsh consumers to buy Welsh, in order to save Ecuador
- » Obama Administration seeking information on harm from mobile-phone masts
- » Antibiotics routinely fed to livestock end up in crops fertilised with their manure, find scientists
- » Bush's parting shot: 195,000 square miles of Pacific ocean nature reserve
- » US Department of Agriculture is worried about the influx of GM food to America
- » Forget CO<sub>2</sub>, say NASA scientists – by tackling soot emissions we could really dent global warming
- » Animals grazed on biodiverse pasture produce better-tasting, and healthier, meat
- » Is think-tank Chatham House for or against GM? It all depends who funded its reports...

## NEWSLETTER

See [www.theecologist.org](http://www.theecologist.org)

- » Weekly news, exclusive web articles, images, videos, podcasts and previews of content from the magazine, our weekly e-newsletter is vital reading for those who can't wait for the next edition...

PHOTOGRAPH: GETTY IMAGES

# Chief scientist to lobby for GM and pesticides

Government advisor calls for regulatory overhaul on genetically modified crops in EU and opposes 'strange' ban on pesticides

**The Government's chief scientific adviser, Professor John Beddington, has nailed his colours to the mast on the issue of GM crops, calling for the EU's stringent regulatory system to be 'turned around' to streamline the planting of new genetically engineered crops in member states.**

In evidence given to the Government's Environment, Food and Rural Affairs Committee, Beddington said that he believed the current stringent European approval process for new forms of crops was 'not working at all well', and posed 'a regulatory burden' to small biotechnology companies hoping to sell their products to EU countries.

Although he acknowledged consumer concern over the technology, Beddington insisted that Europe and the UK are 'way behind' the rest of the world on the issue. He argued that the absence of any legal proceedings in the US on the grounds of health impacts caused by GM crops indicated that such problems were not occurring.

'It doesn't mean to say they don't exist,' he qualified, 'but GM has been eaten widely throughout the world and we've not had indications of major problems.'

Beddington's enthusiasm for GM still appears more tempered than that of his predecessor, Sir David King, who was known to be an evangelist for the technology.

'I would say, GM is not the only answer,' Beddington told the Committee. 'Proponents of GM say that it is the only answer; I believe they are incorrect, but it may well be a part of an answer to solve a number of very difficult problems that we can't solve by genomic-related marker breeding or conventional breeding.'

When asked for his opinion on the recent landmark EU ruling on pesticides, which could see a number of the most harmful agricultural chemicals removed from sale, Beddington was less equivocal. He described the legislation as 'very strange', and decried the methodology behind it as 'unscientific and inadequate':

'Just banning the use, or severely reducing the use, of something just on the basis that it is a hazard, rather than doing a proper risk assessment, seems to me to abrogate scientific responsibility, and certainly is not compatible with an evidence-based policy,' he said.

Beddington added that he would continue

to lobby the European Parliament on the issue – an action that is likely to result in a greatly watered-down list of banned substances when the final legislation appears.

His tirade against acting to ban certain pesticides merely because they are hazardous chemicals came on the same day that the Co-operative Group – the UK's largest farmer – announced that it would suspend the use of neonicotinoid pesticides on its farms because of their suspected role in UK honeybee population decline.

'We believe that the recent losses in bee populations need definitive action, and as a result are temporarily prohibiting the eight neonicotinoids pesticides until we have evidence that refutes their involvement in the decline,' said Simon Press, the Co-op's senior technical manager, at the launch of the group's 10-point plan to reverse the decline in honeybee numbers.



## The cure is worse than the disease

**Conservationists' zeal to rid countries of so-called 'invasive species' could have serious unforeseen effects on ecosystems, new research has suggested.**

A study published in the *Journal of Applied Ecology* describes how rabbits were introduced to sub-Antarctic Macquarie Island in 1878 by sealing gangs. The rabbits' presence led to a subsequent increase in the island's feral cat population, but when the rabbits were controlled through the introduction of the myxomatosis virus

in 1968, the cats turned to the island's burrowing bird population for food instead. The islanders then set about eradicating the cats – which had been introduced in 1818 – and killed the last animal in 2000. Since then, the rabbit population has bounced back, and has now reduced some areas of vegetation to bare ground. The effect – known as a 'trophic cascade' – will cost the islanders dear: 'Our study shows that, between 2000 and 2007, there has been widespread ecosystem devastation and decades of conservation effort compromised,' said lead author Dana Bergstrom. 'The lessons for conservation agencies globally is that interventions should be comprehensive, and include risk assessments to explicitly consider and plan

for indirect effects, or face substantial subsequent costs. On Macquarie Island, this cost will be around A\$24 million.'

The study was released just weeks before environmental historian Professor Christopher Smout published a book describing campaigns against invasive species as 'almost quasi-racist'.

In an interview with the *Independent* newspaper, Professor Smout pointed to the cull of American ruddy ducks in order to prevent them breeding with European ducks and creating a genetic 'mishmash'.

'I don't think that's a scientifically valid point of view,' he told the paper. 'Our attitude to alien species is culturally determined and sometimes you end up with rather bizarre actions by scientists.'

The RSPB described Smout's comments as 'outrageous'.



The end of the McMansion? According to the US Census Bureau, the average size of US homes started in the third quarter of 2008 was 2,438 square feet, down from 2,629 square feet in the second

## Renewable energy: joined-up thinking

**The problem with renewable energy is not that there isn't enough, it's how to bring that power to where it's needed, when it's needed.**

To that end, two new projects are set to help make the most of green electricity.

The first aims to exploit the tremendous tidal energy of Scotland's Pentland Firth by using it to run a series of underwater turbines, generating enough electricity to power an internet data centre built on the shore in Caithness. The project's developers, IVI and Atlantis Resources, hope to harness the waste heat from the energy-efficient computers in the data centre to warm greenhouses at the nearby Castle of Mey.

What makes this project different is that rather than having to join a lengthy and expensive queue to await connection to the

National Grid, the team behind the 'Blue' data centre is taking the energy user to the source, relying only on existing internet connections. When a grid connection eventually becomes available, the turbines will be able to sell any excess power to other consumers.

Meanwhile in Hemsby, Norfolk, energy company EDF is planning to install a bank of lithium-ion batteries to help even out the power supply from the region's wind farms.

By storing energy generated during periods of low demand, the batteries can then supply extra electricity when it is needed. The project's developers, Swiss firm ABB, says that the facility will not only make renewably generated electricity more versatile but also will provide a useful test-bed for similar projects in the future.

## IN BRIEF

### Tennessee fly ash spill

A catastrophic spill of fly ash slurry from a coal-fired power station in Harriman, Tennessee, USA, has renewed calls for the waste to be classified as toxic and its storage in open pits outlawed.

More than a billion gallons of ash and water sludge spewed through a collapsed retaining wall in December 2008, destroying houses and covering 400 acres to a depth of up to 9ft.

Analyses of the mixture show it contains unsafe levels of radium and arsenic, which would have been leaching from the slurry pond into the surrounding environment for decades.

'There is no excuse for further delay,' said Lisa Evans, an attorney with Earthjustice. 'The EPA [Environmental Protection Agency] has the data... and it's time the EPA made these polluters do their part to clean up.'

### Aborigines feel the heat

As Australia swelters in record heat, a new report warns that Aborigines in the Australian outback will bear the brunt of climate change, with higher rates of disease and spiritual suffering as they see their ancestral lands ravaged.

The study, published in the *Australian Medical Journal*, argues that unless new preventative action is taken, climate change will lead to higher rates of dengue fever, a mosquito-borne virus, and an increase in communicable diseases such as bacterial diarrhoea, which are common in hot and dry conditions.

It also said that Aborigines' close connection to their tribal land means that land degradation due to climate change will adversely affect their psychological wellbeing.

### 2nd-gen biofuels bubble

Just days after the *Ecologist's* February edition hit the shelves, with its cover story on the tenuous case for second-generation biofuels, a group of US NGOs published an open letter describing the technology as 'a dangerous green bubble'.

The groups, including the Global Justice Ecology Project, ETC Group and the Rainforest Action Network, are calling on the US government radically to reduce the demand for energy, to ignore the pleas of agribusiness and biotechnology firms, and to repeal the Bush Administration's Renewable Fuel Standard, which sets a target for the quantity of biofuels to be produced.

To read the full text of the letter, 'Unsustainable Biofuels', visit <http://tinyurl.com/d707xh>

## HOME, GREEN HOME

Weather permitting, construction on the Natural House (pictured) was due to start at the end of January. Built in the BRE Innovation Park in Watford, the Natural House is a low-energy but normal-looking home built from natural materials by the Prince's Foundation for the Built Environment. Its vital statistics are impressive:



<b>Natural materials</b>	Walls are formed from a single skin of aerated clay blocks (good insulators, taking little energy to make), with external lime render and internal woodfibre board to provide high levels of insulation. Outside walls are lime and hemp.
<b>High air quality</b>	House will be a testing ground to examine the impact of natural materials on air quality and allergy resistance.
<b>Ease of manufacture</b>	The Natural House will be simple to construct, making it appealing to commercial housebuilders.
<b>Versatility and adaptability</b>	It can be built as a semi, a terrace or as part of a square, and inside as either a family home, maisonette or flat.
<b>Emphasis on health</b>	Healthy, non-toxic materials will be used throughout.
<b>Local labour and materials</b>	Local sourcing of materials and use of local labour will be encouraged to shorten supply chains and reduce emissions.
<b>Repair and recyclability</b>	The simplicity of materials and construction make the building easy and inexpensive to repair.
<b>A sense of place</b>	The Natural House is standardised enough for quick construction, but modular enough for it to be adapted to local conditions, materials and settings.

# The 'Buy British' backlash



**The Government has opened a can of worms by calling on consumers to buy British and support UK farmers, with a food industry and supermarket backlash revealing the full complexity of a globalised food system.**

Environment secretary Hilary Benn called in January for a change in labelling to reflect food provenance more accurately:

'A pork pie made in Britain from Danish pork can legitimately be labelled as a British pork pie,' Benn told the conference. 'That's a nonsense, and it needs to change.'

But his remarks drew swift criticism from food industry lobby groups. The Food and Drink Federation said it would be a 'bureaucratic nightmare' to label processed foods, such as pizza, with country-of-origin labels.

In January, Sainsbury's and Tesco failed to attend a meeting for supermarkets convened by the Department for Environment, Food and Rural Affairs (Defra), but Tesco issued a statement saying: "'Produced in the UK"... will be in small writing on the back of pack and is

intended only to indicate where the food has been produced. It is not used in a way that suggests any ingredients are British and is not used to market the food as a "British" product.'

Supermarket lobby group the British Retail Consortium claims that simply labelling a product as 'British' does not alter customer buying habits. But this is in contrast to new research by the Institute for Grocery Distribution, showing that 88 per cent of the public believe that farmers deserve the support of the British public, and 81 per cent that they should have better prices and purchase conditions from the supermarkets.

Meanwhile, an identical situation is playing out in the US, with previously stringent Department of Agriculture (USDA) rulings on country-of-origin labelling (COOL) on food products now watered-down so much that consumer groups have described them as leaving people 'shamefully uninformed'.

The USDA had proposed placing COOL on all cooked foods, but has now ruled that cooking

is a form of 'processing', and as such is exempt from bearing COOL, along with canned, marinated, extruded, roasted and cured foods, or foods sold at restaurants or cafés.

The Center for Food Safety has condemned the ruling as containing 'huge loopholes'.

Elsewhere, a report by Sweden's National Food Administration (Livsmedelsverket) has highlighted the dwindling possibility of maintaining 'GM-free' labels on products, so widespread is contamination of foodstuffs.

Scientists tested 29 different food products from six Swedish regions. Ten products had labels proclaiming they were GM-free, yet four were found to have traces of contamination.

'The increase in "GMO-free" labelling is misleading,' food administration inspector Zofia Kurowska told the TT news agency. 'It's extremely hard to hold a product free from GMOs throughout the production chain.'

## Pollution affecting brains and balls

**A flurry of new reports have all suggested that the presence of environmental pollutants is leading to a decline in our mental and physical health.**

A pioneering study conducted in Mexico compared the mental abilities of 73 children – 55 from heavily polluted Mexico City, and 18 from the much less polluted city of Polotitlan. They found not only that the children from Mexico City performed much worse on cognitive tests, but also when a sample of the children from polluted areas were given brain scans, the results showed signs of lesions (scarring) at the front of their brains. Similar lesions were also found in dogs from Mexico City whose brains were examined for the same experiment.

Researchers believe that the high levels of particulate pollution in Mexico City could cause a prolonged state of brain inflammation, affecting the frontal and prefrontal cortexes – crucial for cognition and working memory.

The study was published shortly before the European Commission launched legal proceedings against Britain and nine other EU member states for failing to reduce their hotspot levels of particulate pollution to legal levels.

Meanwhile, a study by Brunel University and the Universities of Exeter and Reading has discovered a new link between water pollution and declining male fertility.

Previous studies suggest the presence of female hormone mimics (oestrogens) in drinking water could adversely affect male fertility. The new study, however, classified a new group of chemicals that could inhibit the function of testosterone in men and even lead to testicular dysgenesis. Known as anti-androgens, the chemicals could come from a wide variety of sources, the researchers said.

'Our findings... strengthen the argument for the cocktail of chemicals in our water leading to hormone-disruption in fish, and contributing to the rise in male reproductive problems,' said senior author Professor Charles Tyler of the University of Exeter. 'There are likely to be many reasons behind the rise in male fertility problems in humans, but these findings could reveal one, previously unknown, factor.'

The study was released a week before University of California researchers found a link between exposure to perfluorinated chemicals used in packaging chemicals and difficulties in women becoming pregnant. Critics warn further research is needed to discover if the chemicals are the main cause.

## Coal-fired cover

**While some insurance firms have been forced to go cap-in-hand to the taxpayer, others are busy launching new, perhaps even more risky products.**

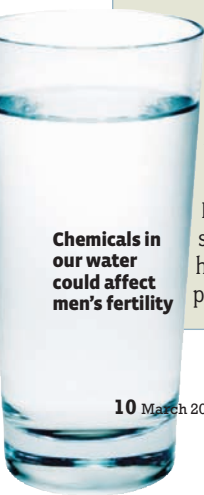
In January, Zurich Financial Services unveiled its 'Carbon Capture and Sequestration Liability Insurance', as well as its 'Geologic Sequestration Financial Assurance'.

The first of these insures the operator of a coal-fired power plant using carbon capture and storage equipment. The cover includes liabilities from 'pollution events' and 'geomechanical liabilities' that might arise in the process of pumping carbon into saline aquifers or disused oil or gas wells.

The second product guarantees a secure source of finance to manage affairs after the closure of the plant. It includes money to 'cap' the well, and to monitor the stored carbon after closure.

The catch is that although the first policy covers the lifetime of a coal-fired power plant, the second only 'monitors' the stored carbon for 10 to 30 years after closure, which falls somewhat short of the centuries for which the CO<sub>2</sub> will need to remain buried.

Zurich Financial Services, which refused to disclose the insurance policy premiums, said that the cover assumes that eventually the liability would pass to governments and public authorities.



**Chemicals in our water could affect men's fertility**

**‘You don’t protect things when you simply destroy them a little less. It’s rather like me saying to you, “Protect your child: don’t beat it too much”’**

Author Michael Braungart at the launch of the UK edition of his book, *Cradle to Cradle*, in London.

## Faster internet, slower children

**The end of January saw the much-vaunted launch of the Government’s interim ‘Digital Britain’ report: an ambitious plan to pipe broadband internet to every home by 2012, to create new, digital content for TV, radio and internet and to encourage economic growth.**

But the report was released the day after the publication in the journal *Science* of significant research from the University of California, which showed that our increasing exposure to visual information technology has led to a decline in our skills of critical thinking and analysis.

Patricia Greenfield, a professor of psychology at UCLA and the director of the Children’s Digital Media Center, analysed 50 studies on learning and technology, and concluded that while our visual literacy has improved, our ability to think and reflect is threatened as we hurry the transition from print to visual media.

‘By using more visual media, students will process information better,’ Greenfield said. ‘However, most visual media are real-time



**Internet access ‘does not enhance learning’, according to research**

media that do not allow time for reflection, analysis or imagination – those do not get developed by real-time media such as television or video games. Technology is not a panacea in education, because of the skills that are being lost.’

One of the studies examined by Greenfield followed a group of students, some of whom

were given access to the internet during classes, while others were not. When the students were tested after lectures, the students without internet access performed better.

‘Wiring classrooms for internet access does not enhance learning,’ Greenfield said.

The two reports came just days before the launch of the Children’s Society’s influential book *A Good Childhood*, which criticised the internet generation’s addiction to

social networking websites such as Facebook.

The book’s authors, psychologists Richard Layard and Judy Dunn, argue that the sites encourage users to brag about the number of ‘friends’ they have, without considering the quality of those friendships.

## Gates opens GM floodgate

**The Bill and Melinda Gates Foundation – the charitable organisation funded to the tune of \$35 billion from its founder’s software fortune – has given \$5.4 million to a biotechnology organisation, funded by Monsanto, to lobby African governments and smooth the entry of GM crops to the continent.**

The Danforth Plant Center in St Louis, Missouri, plans to use the money to fund its ‘Grand Challenge 9’ programme, which aims to genetically modify staple crops such as cassava to boost their nutrient content. A key part of the Center’s work, known as ‘Regulatory Approval Strategies’, is to ensure that the path to field-testing GM crops in developing countries is made as easy as possible.

‘An important task of the Regulatory Approval Strategies component is to provide developing countries with the necessary resources to create and streamline regulatory systems,’ reads a description on the Center’s website. A key aim is to create ‘an enabling regulatory environment that advances the safe use of new biotechnologies in agriculture.’

Speaking on receipt of the Gates Foundation grant, Dr Paul Anderson, executive director of international programmes at the Danforth Center, said:

‘Success with this new initiative will provide a blueprint for other institutions and companies seeking to introduce nutritionally enhanced crops in the countries that will most benefit from approving and growing them.’

### THIS MONTH

## 30 years ago

**The world food problem will not be solved simply by calculating that there would be enough food to go round if only it were distributed more equally. Rich and poor will continue to exist, and the main increase in population will occur in the poorest countries.** Theoretically, in terms of technological know-how, food production could keep pace, but... it has never yet increased at the rate necessary. Climatic vagaries will continue to produce unforeseen shortages and rocketing prices. The cost of food will [increase] because of escalating energy costs. Unemployment is likely to increase. Membership of the EEC (which is self-sufficient in most foods) may help the UK, but when North Sea oil runs out, will we be able to meet our food import bill?

... Personally, I would feel happier if we were aiming at a gradual increase in self-sufficiency, associated with changes in diet likely to be beneficial to health. Others may wonder whether the long-term trend towards an energy- and capital-intensive agriculture that employs fewer and fewer people and depends on non-renewable resources really makes sense any more. Could there be a new agricultural revolution? ... The UK needs to maintain a viable agriculture and, in the face of increasing unemployment from the microprocessor revolution, to encourage the survival of the small farmer, keeping open the option of increasing UK self-sufficiency.



**Dr T L V Ulbricht, ‘Competition in the World Food Market: the implications for the UK’, *The New Ecologist*, March-April 1979**

# Cause and effect

Pirates ruled Somalia's waves last year, but a greater crime is still being perpetrated by the multinational companies using the mainland as a toxic dumping ground. **Chris Milton** reports

**The pirates of Somalia became bandits of international notoriety during 2008, hijacking ever more prolific targets, including arms ships, oil tankers and cruise liners, and extracting huge ransoms from their owners.**

National governments and NGOs decried their actions as an affront to international maritime law, but few examined the pirates' claim that a far greater crime continues in Somalia: the illegal dumping of toxic waste.

For more than 10 years, environmental and human rights organisations have called on the international community to act to stop this dumping, but successive wars have ensured the crisis has only deepened. Now, as Ethiopian troops withdraw from Somalia and the piracy becomes more subdued, there is hope the issue can be properly investigated and resolved.

In 1997, in the Italian magazine *Famiglia Cristiana*, Greenpeace published a landmark investigation into the dumping, which showed that it started in the late 1980s, and exposed Swiss and Italian companies as brokers for the transportation of hazardous waste from Europe to dumps in Somalia. Subsequent research has also shown that the company employed physically to ship the waste was wholly owned by the Somali government.

When Somalia slipped into civil war in 1992, the waste exporters had to negotiate with local clan warlords, who demanded guns and ammunition to allow the dumping to continue. Many of the ships, having brought weapons or waste, then became trawlers, and left Somali waters with holds full of tuna for onward sale.

An investigation into the murder of the Italian journalist Ilaria Alpi in Somalia in 1994 quotes the warlord Boqor Musa as saying, 'It is

evident those ships carried military equipment for different factions involved in the civil war', and it is widely believed that Alpi was assassinated because she had incontrovertible evidence of the guns-for-waste trade.

The Greenpeace report briefly made the news and was followed up by the European Green Party tabling a question in the European Parliament about 'the dumping of toxic waste from German, French and Italian nuclear power plants and hospitals' in Somalia.

It also prompted a large investigation in Italy, a former colonial power in Somalia. This concluded that around 35 million tonnes of waste had been exported to Somalia for only \$6.6 billion, leading the environmental group Legambiente to assert Somalia's inland waste dumps are 'among the largest in the world'.

The Boxing Day tsunami of 2004 served to reinvigorate interest in the continued dumping of hazardous waste in Somalia. Rusting tanks of unidentifiable ooze were washed up on to beaches; villagers began to die of unexplained illnesses and coastal ecosystems collapsed.

In 2005, the UN Development Programme (UNDP) concluded its own on-the-ground investigation in Somalia. Despite being stymied by local political interests and finding no tangible proof, it concluded that the 'dumping of toxic and harmful waste is rampant in the sea, on the shores and in the hinterland'.

A year later the Somali multi-clan NGO Daryeel Bulsho Guud conducted its own survey. With greater local co-operation, it was able to identify 15 containers of 'confirmed nuclear and chemical wastes' in eight coastal areas.

At the same time, the UN and World Bank put together a Joint Needs Assessment (JNA) to

plan for Somalia's return to functioning nationhood. Updated in 2008, it recommends \$42.1 million be set aside for environmental activities, including ensuring all 'toxic waste [is] found and removed'. It doesn't address the cost of human suffering, however, and ignores the fact that the dumping of toxic waste in Somalia continues to this day.

Field research in Somalia by Zainab Hassan, a former fellow at the University of Minnesota and Environmental Justice Advocate, has brought to light a whole range of chronic and acute illnesses suffered by Somalis.

These include severe birth defects, such as the absence of limbs, and widespread cancers. One local doctor said he had treated more cases of cancer in one year than he had in his entire professional career before the tsunami.

'Firms are illegally dumping hazardous and nuclear waste,' says Zainab Hassan. 'The international community should do something in terms of cleaning up, and those responsible should be brought to justice.'

EcoTerra, an NGO with strong connections within Somalia, agrees, though it refuses to name the companies involved or their countries of origin. Possibly with one eye upon the assassination of Ilaria Alpi, it describes the situation as 'deadly'.

The UN's Special Representative for the region, Ahmedou Ould-Abdallah, is similarly sensitive. He confirms that dumping continues on the Somali coast, likening the situation to the shipping of blood diamonds from Liberia and Sierra Leone. His office refuses to name which NGOs he's asked to investigate the issue, however, presumably for their own protection, or the companies suspected of being involved.

Bringing those responsible for the dumping to justice may be hard. Under EU regulations 259/93 and 92/3/Euratom, the originating country is responsible for disposing of its medical and nuclear waste, as well as for its retrieval if it is disposed of illegally.

With many of the containers unmarked and much of the paperwork probably long since lost or destroyed, however, it will take a lot to enable any legal action to take place.

In addition, a UNDP source described the search for hazardous material in Somalia as like looking for a needle in a haystack. It's not that they don't know it's there, he says, but that they don't know where to start looking for it.

This makes it all the more urgent that stability return to the country. Only then will the dumping stop and the clean-up commence.

Chris Milton is a freelance journalist

Greenpeace's investigation into toxic waste in Somalia was published in 1997 in Italian magazine *Famiglia Cristiana*



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# Going nowhere?

When we think of personal transport, we think cars; and when we think of cars, many of us still think freedom and movement. The reality for most of us, however, is that cars represent entrapment – not just in traffic jams and the resulting feelings of frustration and rage, the near-endless cycle of tax, insurance, parking fees and maintenance bills, but in an outmoded way of thinking about how best to get from A to B.

The car's day as our only or primary mode of transport is likely over, and yet most of our efforts for greening transport are focused on greener cars using greener sources of fuel (for example, electricity from renewables). The more we delve into the issue, though, the more obvious it becomes that while clean fuels are good, what is more important are clean, efficient, high-mpg vehicles (whatever their source of fuel). If human transport stays as inefficient as it is now, the cleanest fuel in the world won't be enough to keep us all moving.

Over the next few pages we explore what it's going to take to get us from where we are now, to where we want to be...

ILLUSTRATIONS BY **ANDREW WHEATLEY**







A hub of invention, why can't the automobile industry get a handle on low-carbon cars? The answer's in the profit margins – which is why the credit crunch offers hope for the future, says **Harriet Williams**

# Fuelling inefficiency

Last summer, Friends of the Earth Europe parked an old-style 1948 VW Beetle next to the brand-new model in front of the European Parliament in Brussels. The human genome has been sequenced and man has walked on the moon in between the building of these two cars, but as far as guzzling gas goes, time has stood still: the 1948 and 2008 Beetles both travel exactly the same distance on any given volume of petrol – 38 miles per gallon, to be precise. As environmentalists accosted MEPs filing into Parliament to vote on minimum standards of fuel economy, a banner fluttering in the blue sky above asks, '60 years of progress?'

The energy efficiency of car design has actually taken great leaps forwards in the past decades. Leaner burn engine technologies such as direct fuel injection are now widespread. Friction and drag – two great enemies of fuel conservation – have been reduced through the use of lightweight materials such as carbon fibre, the development of lower-resistance tyres, plus thinner engine oils. Cumulatively, these modest improvements amount to a revolution in vehicle efficiency. So what has become of all this progress, if it is not being used to pack more miles to the gallon?

We return to FoE's temporary forecourt in Brussels for answers. Side by side, the 2008 Beetle dwarfs its postwar brother. If the two were to engage in a cross-town race, the new car should leave the old one for dead thanks to a beefier engine. Climbing inside, the front seats offer more legroom, with air conditioning fitted as standard. And convertible fans can forget about wrestling the lid off at kerbside – in the latest model, the roof opens up at the flick of a switch.

## An industry dragging its wheels

The new Beetle, like the new Mini, is marketed as a cute blast from the past, but in truth these cars have more in common with a truck than the nifty ziparounds of the 1960s. The Mini's transformation from bijou to behemoth is even more striking, having grown 2ft in length and sprouted two new back doors. Drivers would save a lot of carbon and money if automakers applied their technological know-how to reducing fuel consumption. Instead, it has been used to add power and bulk, as well as peripheral accessories such as aircon or seat-back LCD screens – each one comprising a 'parasitic' fuel loss, in the language of auto engineers.

For an industry synonymous with innovation, automakers are pretty coy about fuel efficiency. In the US, carmakers were able to increase average horsepower 90 per cent between 1981 and 2001, and drop 0-to-60mph time by a third. But ask the same auto executives to build you a cleaner car, and they will cry all the way to Congress.

Automakers deliberately associate low-carbon vehicles with futuristic technologies such as hydrogen fuel cells or so-called 'second-generation' biofuels – neat idea, but decades from commercial reality. In other words, don't come calling for it today. The truth is more prosaic. Clean

cars are already among us, some of them well-known – the gasoline-electric hybrid Toyota Prius in particular – but mostly less exotic species such as small Renaults and Citroens, which rarely grace the advertising hoardings but travel upwards of 60 miles per gallon without a murmur.

Clearly the auto industry is capable of building efficient cars, begging the question: why isn't making more? Given that road transport racks up one-fifth of Europe's carbon emissions, not to mention huge oil-import bills, it seems pretty perverse to be fiddling around with heated wing mirrors instead of focusing upon saving fuel. But the pursuit of speed, sinew and accessories makes perfect sense to a sector that has deliberately aligned performance with profit.

At the turn of the millennium, profit margins on fully specified SUVs could easily double or triple those on a family sedan. Many automakers offer small cars in the spirit of a loss leader: entry-level vehicles designed to win customers to the brand, in the hope they will trade-up for larger models in the future. Hefty advertising budgets are deployed to keep customers moving along the ladder. Large, powerful cars have been endowed with all manner of desirable connotations, from good taste to sexual prowess. A remarkable PR job on what is, at the end of the day, a mobile metal box.

### The upside to the downturn

The industry's fierce battle against regulations to improve fuel efficiency and reduce carbon emissions is explained by this context. For more than three decades, automakers have weakened and delayed attempts to improve the fuel consumption of cars in Europe and the US. The oil supply shocks of the 1970s brought about the first bid to slim cars down, as the US required carmakers to meet an average level of fuel economy. Similar policies are now widespread, but their targets remain remarkably timid, trailing well behind the limits of technological possibility.

As a study in corporate lobbying, the automakers' campaign against fuel economy is a masterpiece. Industry representatives tour the circuit of political committees and high-level advisory groups, always willing to discuss fuel economy but delivering little but greenwash. Overzealous legislators are slapped down by grimly painted prospects of economic annihilation for the struggling manufacturing sector. Mandates for more efficient cars will increase costs, send thousands of jobs abroad and enrage consumers through higher price tags in the showroom.

Every one of these arguments has been debunked repeatedly, even by the industry's own analysts, who are urging investors to back cleaner cars as energy security and climate change concerns intensify. A leading auto business school based in Michigan – the no-nonsense backyard of Detroit's automakers – has found that increasing fuel economy would actually improve the bottom line, a result the authors describe as 'surprising, even to us'.

A greater surprise is how resilient the higher costs argument has proven as a shield against regulation, despite a stack of evidence showing that carmakers routinely exaggerate compliance costs. In the early 1990s, the auto lobby estimated that compulsory catalytic converters would cost a prohibitive £600 per vehicle. The final bill was less than £50. The same story is repeated with compulsory airbags, seatbelts and now with fuel efficiency too.

It is a measure of how forcefully the industry holds the ear of government that such arguments continue to be heard at all. In Europe's recent battle over fuel economy, German

chancellor Angela Merkel cast green sensibilities aside to cook up a deal that enables Mercedes, VW and other German automakers to carry on building some of the most polluting car fleets in the world. Other nations sought and received similar leniencies for their own domestic industries, and the final deal that limped off the negotiating table in Brussels last December reads more like a love letter to the car industry than a manifesto for tackling transport emissions.

Auto lobbyists have embellished the standard zeitgeist of economic competitiveness with imaginative flourishes over the years. In the US, the industry claims that smaller cars discriminate against obese people. One group of consultants even calculated the extra fuel-burn associated with ferrying overweight passengers, the suggestion being that the road to fuel savings lies in tackling obesity, rather than building more efficient cars. The industry has also tried to pass the buck on to tyre manufacturers, road planners and motorists.

With deep pockets and decades of lobbying experience, it is little wonder that carmakers have managed to hold tough fuel economy targets at bay. Ironically, the same business model they fought to protect may prove their undoing.

When oil prices were low and the economy was on the up, gas-guzzlers flew off the forecourts. Then along came two mighty blows: soaring oil prices and the credit crunch. Both shook the complacency of motorists and governments on fuel economy. Even before the economic slowdown, sales of large cars and SUVs were sliding, as consumers began to opt for smaller, cheaper-to-run models. Now sales are in free fall.

Carmakers such as General Motors and Chrysler, whose

## 'Automakers deliberately associate low-carbon vehicles with futuristic technologies. In other words, don't come calling for it today'

love affair with the SUV now looks suicidal, are close to bankruptcy, reduced to going cap-in-hand for government bail-outs. Having developed gas-guzzlers at the expense of investing in smaller cars, GM was recently forced to close a number of its plants and seek a buyer for the Hummer – a monster SUV that does only 9mpg – after sales dropped 40 per cent in the first six months of 2008.

Amid this turmoil comes the opportunity fundamentally to restructure the industry in favour of higher fuel efficiency. Belatedly, automakers are starting to walk the talk on cleaner cars, shifting investment into realistic technologies such as plug-in electric cars, and pushing low-carbon models in their adverts.

It is important that these changes are followed through when the economy picks up. Governments must take responsibility for steering the market in the direction of low-carbon cars through tax and regulation, and consumers must actively choose cleaner cars for environmental or money-saving purposes. Only by doing so will the car industry learn to turn a profit on higher fuel economy, and motorists get the choice of cars the world genuinely needs.

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**Harriet Williams is an environmental consultant and freelance journalist**

# Our friends electric?

Everyone from Gordon Brown to Greenpeace backs electric vehicles as a climate panacea, but are there negative impacts we're missing in the rush to electrification, asks **Adam Vaughan**

**T**he tale of why the Eden Project created an eco car show has lessons for sustainable transport across the UK. The Cornwall-based eco attraction worked hard to encourage visitors to use green transport, offering the bribe of cheaper entry for anyone who arrived by bike, foot or public transport. It didn't work. So, in 2007, Eden's Gus Grand founded the Sexy Green Car Show, deciding that if she couldn't change visitors' mode of transport, she could at least make it lower carbon. The show was a success, attracting more than 46,000 visitors in its first year.

Gus's experience is a microcosm of the UK. While groups such as the Campaign for Better Transport lobby for more and better public transport, cycling and walking, the car remains king, with car journeys clocking up 402.4 billion kilometres in 2006, compared to a mere 5.4 billion on coaches and buses.

In a world where few are ready or willing to give up their cars, electric vehicles (EVs) are emerging as a bright hope for greening our personal transport. EVs, as they're known, are fast overtaking competing green car technologies such as hydrogen and biofuel, and are attracting the backing of Gordon Brown, the Liberal Democrats, the Centre for Alternative Technology and Greenpeace. In October 2008, the Department for Business, Enterprise and Regulatory Reforms (BERR) released a cheerleader report on them, and the Committee for Climate Change believes they have a key role to play in cutting the UK carbon footprint. They're seen as attractive because they have zero direct emissions – they have no exhaust pipes – and could theoretically be powered entirely via renewable energy.

Even so, when the subject of electric cars comes up there are still some unanswered questions about how green they are over the whole of their lifecycle.

## We need to talk about oil

One of the criticisms levelled at EVs is that they simply relocate carbon emissions from exhaust pipes to coal power stations. A 2001 lifecycle analysis from Seikei University in Tokyo underscored the notion that lifetime CO<sub>2</sub> emission

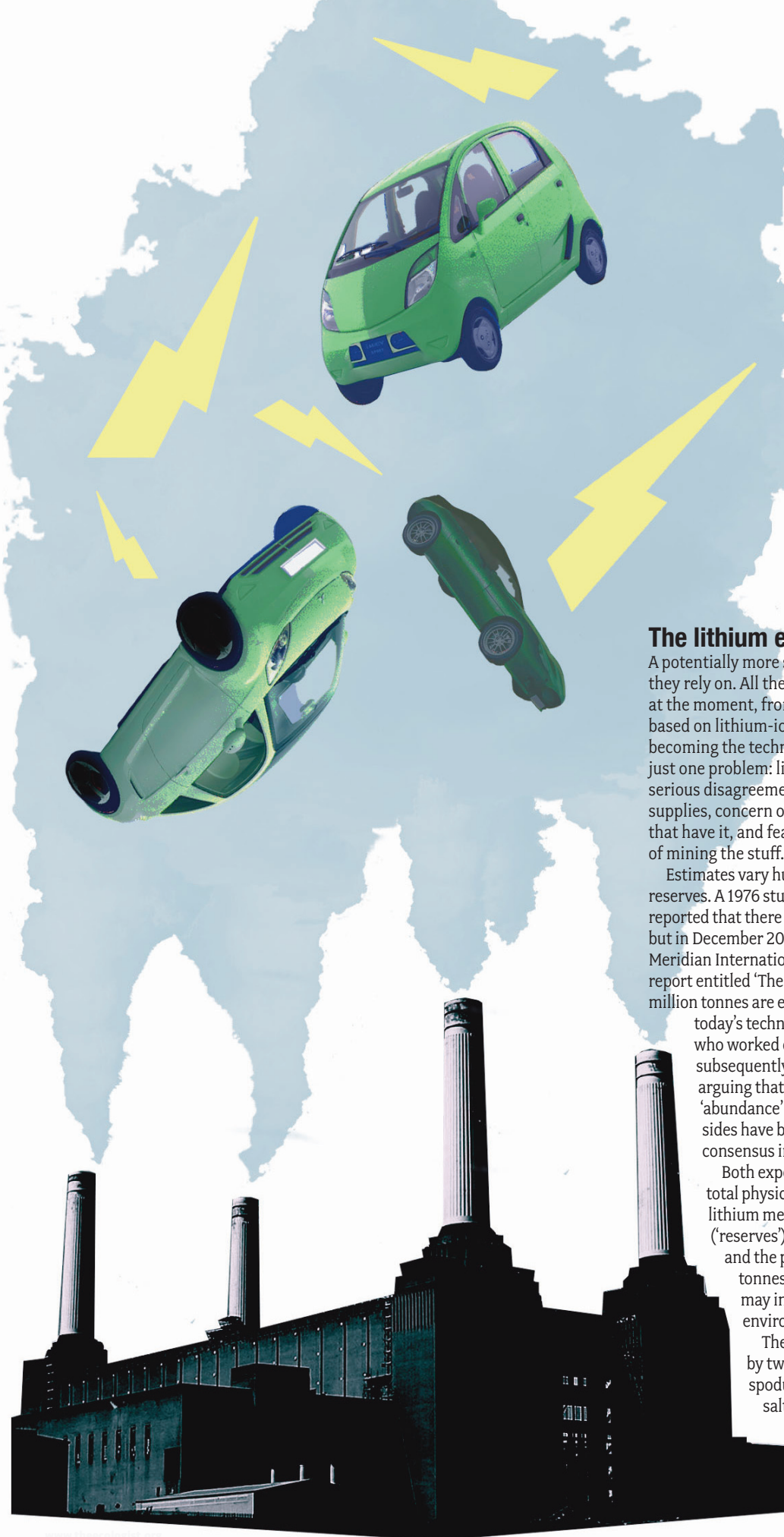
figures for EVs are heavily dependent on the source of energy used to power the car. Thanks to the UK's fossil-fuel-reliant electricity generation – 73.5 per cent of our electricity came from CO<sub>2</sub>-emitting coal and gas in 2006 – charging an EV in the UK is harder on the climate than charging one in France, because three-quarters of that country's electricity is generated from nuclear (though as *Ecologist* readers will know, there are hidden or embedded emissions in nuclear energy that often go unaccounted for).

Despite the UK's relatively carbon-heavy electricity supply, however, electric vehicles charged here still emit less carbon than their petrol counterparts: '40 per cent less CO<sub>2</sub> over their lifecycle,' says BERR. The BERR analysis takes into account the bigger picture for fuel emissions, including the processing of oil into petrol and the transportation of fuel (such as coal) to electricity power stations.

**'Thanks to our fossil-fuel-reliant electricity generation, charging an EV in the UK is harder on the climate than doing so in France'**

Carbon expert Chris Goodall suggests even greater CO<sub>2</sub> savings in his book, *Ten Technologies to Save the Planet* (Green Profile, £9.99). According to his calculations, a 7kw electric car running for an hour will emit 3kg carbon (the G-Wiz is 13.1kw at peak), whereas an efficient petrol car driven for an hour at 40mph would produce about 10kg.

As the technology matures the figures for CO<sub>2</sub> from petrol-powered cars and EVs will shift, especially as hybrid technology bumps up the economy of petrol cars and increasing renewable energy supply decarbonises EVs in coming years. Judging from currently available figures, however, EVs are still better news for the climate.



## The lithium effect

A potentially more serious green issue for EVs is the batteries they rely on. All the major electric car projects underway at the moment, from BMW's Mini E to TH!NK's City, are based on lithium-ion battery technology. Lithium is fast becoming the technology standard for future EVs. There's just one problem: lithium's a controversial choice. There are serious disagreements on the extent of worldwide lithium supplies, concern over the political climate of the countries that have it, and fears over the local environmental impact of mining the stuff.

Estimates vary hugely on the issue of worldwide lithium reserves. A 1976 study by the US Geological Survey (USGS) reported that there were 14 million tonnes of total reserves, but in December 2006, William Tahil, of France-based Meridian International Research, published a pessimistic report entitled 'The Trouble With Lithium', claiming just 6.8 million tonnes are economically possible to extract using today's techniques. Keith Evans, one of the geologists who worked on the original 1976 USGS study, subsequently rebutted Tahil's claims in July 2008, arguing that there are 14 million tonnes – an 'abundance' – of accessible lithium metal. The two sides have been at loggerheads ever since, with no consensus in sight.

Both experts agree there is a difference between total physical reserves (our 'reserves base') and the lithium metal that's economically viable to extract ('reserves'). As demand for EVs and lithium batteries and the price of lithium increases, of course, the tonnes of reserves that are economically viable may increase – but then so might the environmental impact of extracting it.

The lithium used in EV batteries is extracted by two main methods: mining a mineral called spodumene and using evaporation ponds on salt lakes (salars). In anticipation of a surge in demand, there is also embryonic research into extracting lithium from seawater.

## Vehicle-to-grid (V2G)

A massive roll-out of electric cars could contribute to the UK's renewable energy industry. One of the issues of relying on an increasing proportion of renewable power is its intermittent nature and the energy wasted by coping with the peaks and troughs of electricity demand. Under a scheme called vehicle-to-grid (V2G), electric cars would be used to balance out those peaks. While today's EVs are charged by the national grid, in a V2G scenario it would also be possible to reverse the flow of electricity so the cars could supply the grid with power. In effect, thousands of EVs would become a giant backup battery for the UK. Electric car owners would potentially be paid by utility companies to allow the utility to briefly 'borrow' electricity from the car's battery during peak times. The UK's national grid in its current form would need to be substantially upgraded for such a system to work and research is still ongoing on V2G, but the idea is gathering momentum. The University of Delaware has undertaken some of the most detailed research. [www.udel.edu/V2G](http://www.udel.edu/V2G)

The majority of global lithium supplies are believed to be in South America, particularly Chile and Bolivia. The US, Russia, Australia and Tibet are also home to known reserves, and have mining and extraction operations running today.

Tahil is concerned over the local environment impact of these operations. He noted, for example, that 'three species of flamingo live on the Salar de Atacama [Chile's largest salt lake and the source of around 40 per cent of the world's lithium reserves] and they live on micro-organisms in the salt water'. He is also worried about the

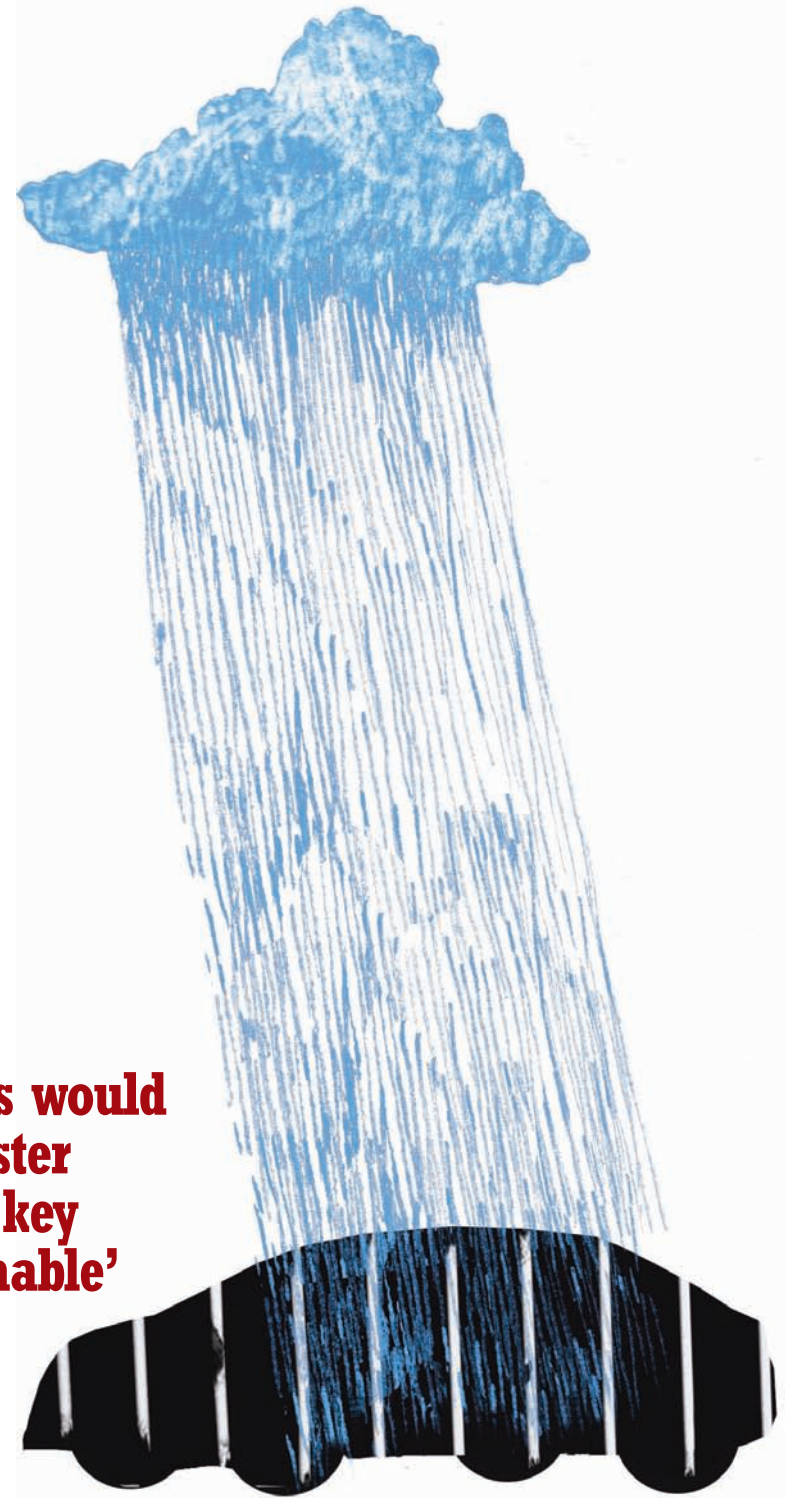
## 'A wholesale switch to EVs would be an environmental disaster if supplies of one of their key elements proved unsustainable'

impact of 'building pipelines and access roads to each well', since according to his report most lithium deposits are far from major transport hubs. Evans argues the flamingos are far from the evaporation ponds and transport concern is not significant.

While an authoritative figure for reserves is hard to come by, what's clear is that a wholesale switch to EVs would be an environmental disaster if supplies of one of their key elements proved unsustainable. Evans doesn't believe that's a danger. 'I would say lithium batteries are a sensible technology to base electrified transport on' he says. 'But it won't be the only technology, and by 2050 we'll be recycling lithium from old lithium batteries.'

Unlike oil, lithium can be recycled and reused in new batteries. That should allay fears over the impact of disposing of EV lithium batteries, which are expected to have a lifetime of approximately 10 years. According to Sony, research by the Japan Battery Recycle Center shows that between 56 and 61 per cent of the lithium in a battery can be reused in non-battery products.

One person proposing a solution to the batteries' lifetime



is Shai Aggasi of Better Place, an international EV project that envisions renting out batteries to consumers via a network of battery-swapping stations.

Based on today's evidence, it seems there's only one hard conclusion you can come to on the environmental impact of lithium: we need more research and a clearer scientific consensus.

### What about embodied carbon?

The UK is home to nearly 26.9 million licensed cars, and only a little over a thousand are EVs (excluding commercial vans and vehicles). We have a long way to go from today to the 'major role' the Government's Committee for Climate Change envisages EVs playing in Britain's driving future. To meet Gordon Brown's stated target that all cars sold in the UK

should be electric (or hybrid) by 2020 we need to manufacture millions of EVs and emit significant quantities of CO<sub>2</sub> – what's known as embodied carbon – through sourcing materials, assembling the cars and then distributing them.

It's hard to pinpoint exactly how much carbon a new generation of electric cars would generate because there's little public data on a single car's embodied carbon. An environmental consultant I spoke to said that Volvo investigated embodied carbon in the mid-1990s, but abandoned the project after little support for the idea from other major car manufacturers.

One US study published by Resources for the Future, a non-profit research organisation in the US, suggests a figure of 124kg CO<sub>2</sub> from the manufacture of each car. Multiply that by 26.9 million cars and you get 3.3 billion tonnes of CO<sub>2</sub>, over five times the 553 million tonnes the UK is projected to emit nationally in 2009. Obviously, such ballpark guesses are unscientific and should be treated with caution. Likewise the car industry's official figures showing that the cost for a national fleet of new EVs could be 18.8 million tonnes of CO<sub>2</sub>. It's a more encouraging figure to be sure, but then it only encompasses production and distribution, not the carbon cost of materials that should be included in any full lifecycle analysis.

## Some lingering questions about EVs

There is no doubt that, under certain circumstances, EVs are the most climate-friendly option for driving. In the drive to grow the market, however, it could be argued that EVs have gone on sale before certain basic issues have been fully addressed. For instance:

### LIFETIME EMISSIONS

There is more to lifetime emissions than what comes out of the exhaust pipe. EVs may have lower CO<sub>2</sub> emissions when on the road, but the type of energy used to charge them can influence the overall amount of pollution associated with their use. The 2008 BERR report, for example, notes that charging EVs with coal-powered electricity can result in significantly higher emissions of gases such as sulphur oxides, nitrogen oxides and ammonia. This in turn has potential to increase air acidification.

A study carried out in 2006 by Ecolane Ltd for the London Borough of Camden found that EVs relying on the average UK mix of energy to charge them were responsible for significantly more PM<sub>10</sub> particles – minute particles of soot that lodge deeply in the lungs and can trigger respiratory problems and heart disease – than the average petrol-powered car. A fleet of EVs powered by renewable energy, on the other hand, was the cleanest of all.

### MORE THAN JUST A BATTERY

Much of the focus on the recyclability of EVs is on the battery, but spare

some thought for the body panels and other components as well. Because of the limitations of their batteries, electric cars need to be as light as possible. Thus their body panels are made of plastic, a composite of plastic resins, polyester and fibreglass or aluminium. How readily available will these materials be in a peak-oil society, and what happens to these materials at the end of the vehicles' life?

### BUILT TO LAST?

It is unlikely that any of us will buy one electric vehicle and then never buy another one – as a market-led solution to climate change there will always be pressure to upgrade. Indeed, in an effort to 'sell' EVs to the public, the industry emphasises how the cars are powered by batteries just like the ones in your computer. If the era of the electric car comes to pass, will we find ourselves upgrading our cars just as frequently as we upgrade our computers and phones?

### SOLVING OUR TRAFFIC PROBLEMS

The likely take-up of EVs will be in urban areas initially – they are marketed as city cars. Is it possible that in selling the electric vehicle as climate-friendly and efficient, people will be encouraged to drive more – putting more cars on our city streets – when in fact using public transport would be the most environmentally friendly solution?

Pat Thomas

## Automotive status quo

One big question mark over EVs is whether they're the right answer for a truly sustainable transport mix, featuring more public transport, more walking, more cycling and shorter journeys. Could EVs just maintain a car-addicted, carbon-heavy status quo? Jason Torrance, campaigns director at the Campaign for Better Transport, believes government money would be better spent on changing behaviour and improving the rail and bus network, rather than investing millions in EVs.

'The focus on electric vehicles and the political love they get is totally misguided,' he says. 'I'm not saying electric cars and car-efficiency improvements are totally irrelevant, but to have that as the spearhead of government transport carbon-reduction policy is insane.'

Under future schemes where a carbon cap is set to limit the amount of CO<sub>2</sub> from cars, Torrance warns that a wholesale switch to EVs could 'potentially' lead to more cars on the road because of their lower emissions. That's already happening today, to an extent, as most of the EVs on sale in the UK today have a limited range – often no more than 50 miles – and are typically used as second cars. London EV dealer G-Wiz often says with pride that many of its customers are affluent business people who buy an EV as a second vehicle to commute cheaply into the Congestion Charge zone.

Torrance also points to the car industry's track record on green promises. 'Let's remember that the new mandatory vehicle efficiency legislation by the European Parliament follows eight years of failed voluntary improvement, so hyperbole from car-makers about massive efficiency improvements and moves towards electric cars are pure fantasy,' he says. 'They're not backed up by the reality of the last eight years.'

## Can technology fix it?

It's clear that while electric cars do have environmental downsides, they also have the potential to overcome those obstacles. Government commitments to the EU and the climate bill mean UK electricity is destined to become greener. If lithium turns out to be an environmental nightmare when upscaled from being the power source for million of small laptop batteries to millions of large EV batteries, there are alternatives on the horizon, from the 'Zebra' battery and zinc-air batteries to using compressed air and hydrogen as an energy store. And while embodied carbon is undoubtedly a serious issue, we are – failing a public transport revolution – still going to need a new generation of cars to replace older polluting models.

Right now, the most serious blow to the environmental credentials of electronic vehicles is the lack of UK cars available now and in the immediate future. With the UK's NICE Car Company in administration, the Smart electric drive (ED) postponed for consumers until 2012 and the financial troubles of Norway's THINK, there's still only one affordable electric car in the UK: the G-Wiz. So when London mayor Boris Johnson says he's waiting for an electric family car because, 'I don't want to buy another internal combustion engine,' he may find he's waiting for a very long time.

Adam Vaughan is the *Guardian's* deputy environment web editor

# Sleeper sell

Rail travel is the cheaper, greener, more comfortable way to go, so ditch your flight plan in favour of a fast train to the world. **Laura Sevier** learns more from rail aficionado the Man in Seat 61

**W**ith a couple of quick clicks you can book a budget flight to Bologna online. It's more tricky to book tickets if you want to get there by train. Corfu by plane takes a couple of hours. Overland it'll take you several days. Which is why, when it comes to travelling to Europe and beyond, travel by train and ferry is generally considered the 'alternative' route for those either afraid to fly, environmentally conscious or young and adventurous with time to spare. Yes, it's easy enough to get to Paris or Brussels by Eurostar, but beyond that most travellers, whether for business or pleasure, prefer a quick 'n' easy flight. Getting from London to Sofia (via Paris, Munich, Vienna and Belgrade) by train is

rail and sea, is passionate about sharing the joys of it.

His website, [www.seat61.com](http://www.seat61.com) is a one-stop source of information. Whether it's Italy, Malta, Morocco or Russia you want to get to, the site shows you how. It will save hours on Google, fumbling around foreign rail network routes and timetables. In fact, if you type in something like 'train London Italy', the chances are, the Seat 61 site will be pop up at the top of the page. Named after his favourite seat on the Eurostar, the site is a labour of love. It started in 2001 as a hobby, run from Smith's laptop on his hour-long train journey to work. Since last year it's been a full-time job.

## Get locomotivated

'One of the reasons I started up the site was to correct the imbalance between how easy it is to book flights and how difficult it is to book a train ticket,' says Smith. This he puts down to two market failures. The first is that government-subsidised railways such as Thai Railways and Malay Railways don't have the funds to market internationally with the big billboards that you'd see on the tube. The second involves train travel in Europe, which is 'all so fragmented. There is a lack of focus; a lack of integration. So it's very hard if you want to get to Greece by Eurostar, sleeper train and ferry.' Before he started Seat 61 up there was no website at all like this. He hopes now to correct this 'disinformation.'

The site currently gets approximately 500,000 visitors a month. It's been featured extensively in the media and has won five awards, including 'best travel website' in the 2008 *Guardian & Observer* Travel Awards.

Interestingly, Smith says that the website's clientele has changed. When he started it up he immediately tapped into a vein of people afraid to fly: 'Now it's become much more mainstream. People who say they are "fed up with the hassle" of flying – and from people who want to reduce their carbon footprint.'

Judging by the many complimentary comments posted in the guestbook ('extremely helpful'; 'amazing site'; 'hugely comprehensive') it's doing a thoroughly useful job.

In terms of booking, Seat 61 has certainly made it easier for trains to compete with planes, but what about other concerns, such as cost? 'For most destinations in western Europe, it's not that much more than flying,' he assures me. 'By the time your cheap airline fare of £12.99 has £40 tax added on, baggage fees, transport to and from the airport, you're looking at £120 return.' Good point. A train ticket, on the other hand, will take you from city centre to city centre, with no extra taxes or fees for baggage on top. Sleeper trains may even save you a hotel bill. And, with Eurostar London to Paris tickets starting at £59 return, it is possible to travel on

## The fast track to taking the train

### WHERE DO I START?

Go to [www.seat61.com](http://www.seat61.com) for train times, routes, prices, advice and ticket information. Or buy the book: *The Man in Seat 61: A Guide to Taking the Train through Europe* by Mark Smith (Bantam Press, £12.99).

### ON A BUDGET?

Budget train travel has arrived. London-Paris Eurostar tickets start at £59 return. Paris-Switzerland by high-speed TGV start at as little as £22 each way, and from Paris to Rome, Florence or Venice at £30 each way with a

couchette. Paris-Barcelona start at £59 each way in a four-bed sleeper.

### TOP TIPS FOR THE BEST DEALS

- Book online: there's no booking fee and you can see for yourself if any cheap deals are available.
- Use the relevant train operator's website where possible: it's usually the cheapest. Almost all have English-language versions. The Seat 61 website will link you through to them while the book has a list on page 473.
- Book early: you can usually find cheap deals a month or two ahead.

daunting; it requires more research, more effort. Then there's cost and time – surely it'll be more expensive than going by plane and will take longer to get there?

It's well known that planes have the heavier carbon footprint. Aircraft emissions from a London to Paris return flight range from 110kg to 172kg CO<sub>2</sub> per passenger trip. A return on the Eurostar cuts the emissions down to just 17kg CO<sub>2</sub> per passenger. But in terms of ease, directness and popularity, planes appear to hold all the aces. Or do they?

Dig a little deeper and you'll discover that overland travel has its fair share of winning attributes; and thanks to the valiant efforts of one man, travelling across Europe and beyond by train and ferry is now easier to navigate and easier to book. Mark Smith, aka the Man in Seat 61, is a former railwayman and self-confessed 'travel fanatic' based in Buckinghamshire. He is, if you like, the guru of train travel, and, having travelled all around the world by

a budget. Admittedly, the further away you are from London the more the daisy chain of rail tickets adds up. 'But look at it this way,' says Smith. 'It may cost you £500 to get to Istanbul by train, but it's a 3,000 mile adventure with three nights of accommodation factored in.'

## The return of the journey

In a time-pressed world, though, isn't it just quicker to take a plane? What if I just have to get to Barcelona and I don't have several days to spare in getting there?

Smith runs me through the timings. There's not much difference in it. By plane you leave London at 3pm. By the time you've got to the airport, checked in, waited around a few hours, you'll reach Barcelona at 10pm. By train you can leave central London at 3.30pm, arrive in Paris in the early evening, take the sleeper to Barcelona and be there at 8.30am the next morning. 'Who's in such a rush anyway? Life's too short to fly everywhere,' says Smith. 'There's more to travel than the destination. It used to be called a journey.'

This element of the 'journey' – and making it part of your holiday – sums up the Seat 61 travel creed. By taking the train, you get more of an experience out of your travel and improve the quality of your journey. This, Smith reckons, is its most compelling trait.

Why? Because a train journey is not 'dead time': it's quality time; productive time. 'Only since becoming a dad have I realised that it's a great way of spending quality time with your family. You're sat at a table, facing each other, away from the usual distractions you have at home,' Smith says.

Compared with planes, when you're 'strapped in, in limbo and nothing can really happen,' all kinds of things can happen on train journeys. There's room for people to interact. 'That's why film-makers use them as the settings for romances, mysteries, thrillers. Plane movies are usually disaster movies.'

What really saddens Smith is seeing backpackers in their twenties taking internal budget flights from say, Bangkok to Chiang Mai in Thailand. 'They think they're being clever doing this but they're losing out in relation to the people who backpacked 20 years ago. On the trains you get to meet local people and to absorb different cultures rather than just taking a westernised airline.'

So far, Smith has presented a convincing case. Travelling overland is, quite simply, more interesting, adventurous, romantic, scenic, historic and exciting than flying. In this way, rail and sea journeys have a competitive and enticing edge over planes. He even has the weekend minibreak covered thanks to a good 'short breaks' section in his book, *The Man in Seat 61* (see box, opposite page).

But what about business travel? Can trains compete with planes on that front? They can, says Smith, and have several advantages. High-speed trains are 92-93 per cent on time, domestic flights 65 per cent on time. Added to this, train time can be 'so much more relaxing – and productive. Wifi means you can be online and get some work done'.

Opened in 2007, the new high-speed lines from King's Cross reduced journey times from London to Paris to two hours 15 minutes, and one hour 51 minutes to Brussels, though track repairs mean it's slower

at the moment. The next big route to watch (when the high-speed link opens) is London to Amsterdam via Brussels. 'It'll take just four hours six minutes, changing in Brussels on to Thalys high-speed trains,' says Smith. 'Let's hope they get the pricing right.'

So why are flights the default option for businesses? 'The problem is, businesses usually employ a business travel operator who can book flights very easily. There is an information gap. Rail companies have to get wise to that.'

Still, if more people started travelling by Eurostar instead of from one of the UK's 30 airports, would the networks be able to cope? Smith seems to think so. 'They have a huge capacity. Each Eurostar train is the equivalent of two jumbo jets.' Every weekday, 26 trains, each with 750 seats, depart King's Cross St Pancras to Paris, Brussels and Lille. And it's becoming more popular: in the first nine months of 2008, Eurostar carried seven million travellers (up 13.9 per cent on the previous year). Moving to the new station at King's Cross St Pancras has increased traveller numbers from regions north of London thanks to the introduction of through fares for more than 130 towns and cities.

Yes, airlines offer a larger number of destinations and the Eurostar, at first, seems limited in comparison, but the sheer size of the European rail network and ferrylink options means you can reach thousands of places. It may be trickier to get to know and more complex to navigate, but once discovered and explored it can enrich the quality of your travels.

So, some final words of encouragement for uninitiated or inexperienced long-distance rail travellers: forget your commuter train to work; think more along the lines of a private sleeper across Europe. The real key is to see the journey as part of the holiday. It's all in the mind. Dispel any ideas about getting from A to B as quickly and directly as possible. Check out of the airport mentality of checking-in, waiting around, strapping yourself into a seat and simply arriving at your destination. Prepare for more things to happen. Prepare for an adventure.

[www.seat61.com](http://www.seat61.com)

Laura Sevier is the *Ecologist's* Daily Life Editor



**A** man who, beyond the age of 26, finds himself on a bus can count himself as a failure,' goes the quote most often attributed to Margaret Thatcher. What she would have made of a man of the same age who found himself aboard a national coach service is a sentiment perhaps best kept to the Iron Lady herself.

It comes as something of an awkward surprise for most people to learn that the coach is, in fact, by far the most efficient form of surface transportation bar the bicycle. Emitting just 30g of CO<sub>2</sub> per person per kilometre, the coach knocks the car (110g), the tram (70g) and even our beloved railways (60g) into a cocked hat.

The discovery is rarely greeted with an upswell of optimism. Rather, it tends to summon up memories of draughty, chewing-gum-mottled concourses, the acrid waft of diesel exhaust and views of stationary traffic through grimy, rain-streaked windows.

But the coach's environmental credentials really are impeccable: not only does it have the lowest emissions on the road, but a full coach can remove up to a mile of car traffic from our motorways by simply transporting the same number of people more efficiently. This means less overall congestion, and less pollution. Add in the fact that coach transport is cheaper, safer and less resource-intensive than car use and ownership, and it becomes harder to ignore as a way of keeping us mobile in a low-carbon future.

One proposal for making our coach system faster and more appealing to travellers has been made by Dr Alan Storkey, an economist who has studied the UK transport system in detail. Storkey's proposal, which has received enthusiastic endorsement from environmental journalist George Monbiot, has three key elements.

First, he proposes moving coach terminuses out of city centres, where they make for unbearably slow journeys through gridlocked traffic, and on to motorway junctions, where they would become hubs for interchanging services. Shuttle links – either tube, train or bus – would transfer customers from the motorway hubs into city centres.

Second, a huge increase in the frequency of coach services, from current levels of pre-booked, hourly slots to maybe once every 10 minutes, would make the service much more appealing. Such levels have been achieved by special services such as the London to Oxford 'Oxford Tube', but on most routes there simply isn't the demand.

The third part of Storkey's proposal is to give coaches priority on the roads. To start with this could simply mean that coaches would be allowed to use the hard shoulder of the motorway at around 30mph when the other three lanes had ground to a halt. When the system had grown

sufficiently, dedicated coach lanes could be introduced on motorways. As car drivers began to see multiple coaches whizzing past them, the shift to coach transport would begin in earnest. Combined with road pricing, or a subsidy for the coach operators, the savings on offer could lead to a mass migration from private to public transport that would see emissions tumble. In Storkey's own humble appraisal, 'it's not anything other than common sense, really'.

Storkey first proposed his plan in 1997. Today, 12 years later and notwithstanding George Monbiot's support, we are no closer to seeing such a system. The answer to the question 'why?' paints a brutally honest picture of transport in the UK.

### All aboard the bus network

Initially, Alan Storkey's proposal met with a promising response. In 2000, the Government Office of the South East (GOSE) commissioned a team of consultants to look at what could be done to alleviate worsening congestion on London's orbital motorway, the M25. Storkey, realising that an orbital coach network with a 'necklace' of stops coinciding with M25 junctions could be a perfect test-bed for his scheme, submitted his plan to the consultants. Unexpectedly, it was given a warm reception, and included almost wholesale alongside recommendations for road pricing and demand management in the final report, known as the ORBIT study.

ORBIT's authors stressed: *'We do not believe that the development of such a coach system should be left to the private sector. We consider that it should be very actively promoted by Government and that, for this purpose, a Strategic Authority could be established.'*

The report went to local authorities in the South East and was generally welcomed, with recommendations that the coach proposal receive further study. A letter stating as much was sent to the Department for Transport (DfT), which responded with a resounding silence.

Not to be dissuaded, Storkey phoned the department to find out what they thought of the proposal.

'I must have contacted nearly everybody in the DfT to ask why they've done nothing with the proposal,' Storkey says. 'The only policy statement I've elicited from them is that they don't believe people will want to transfer from one coach to another. They've got no evidence for that, and the fact that people do it all the time on the underground doesn't count. They're just not prepared to think about it.'

In fact, Storkey's response was better than that given to Tim Collins, Tory MP for Westmorland and Lonsdale, who in 2003 dared to ask then-transport secretary Alistair Darling why he hadn't acted on the recommendations of the ORBIT study. Darling was liberal with the sarcasm: 'Given everything that the honourable gentleman said about

You wait all day for a workable UK coach system to come along... and it gets sat on. **Mark Anslow** explains why the Government's bottom line is trumping our most efficient form of transport

# On the buses

# 'Unless environmental benefits are argued for, measures to make life easier for car drivers will always win out'

bureaucracy, I am astonished that his one new policy announcement is that he wants a Strategic Authority for coaches. I should have thought that running buses and coaches was best left to existing organisations, rather than to a new quango set up to do it.'

This political knife-twist was the last time central government saw fit to engage with the issue.

Fortunately, however, in 2003 GOSE and the South East England Regional Assembly (SEERA) decided to commission the in-depth study called for by the authors of ORBIT. The final report, published later that year, consulted with all the major coach operators and concluded that a 'hub and spoke' network (where hubs are interchanges and spokes the links between them) similar to Storkey's was the best solution, combined with increased frequency of service, better-quality vehicles and stations, the introduction of a pricing system to encourage a switch to coaches and, most importantly, priority measures for coaches on the roads.

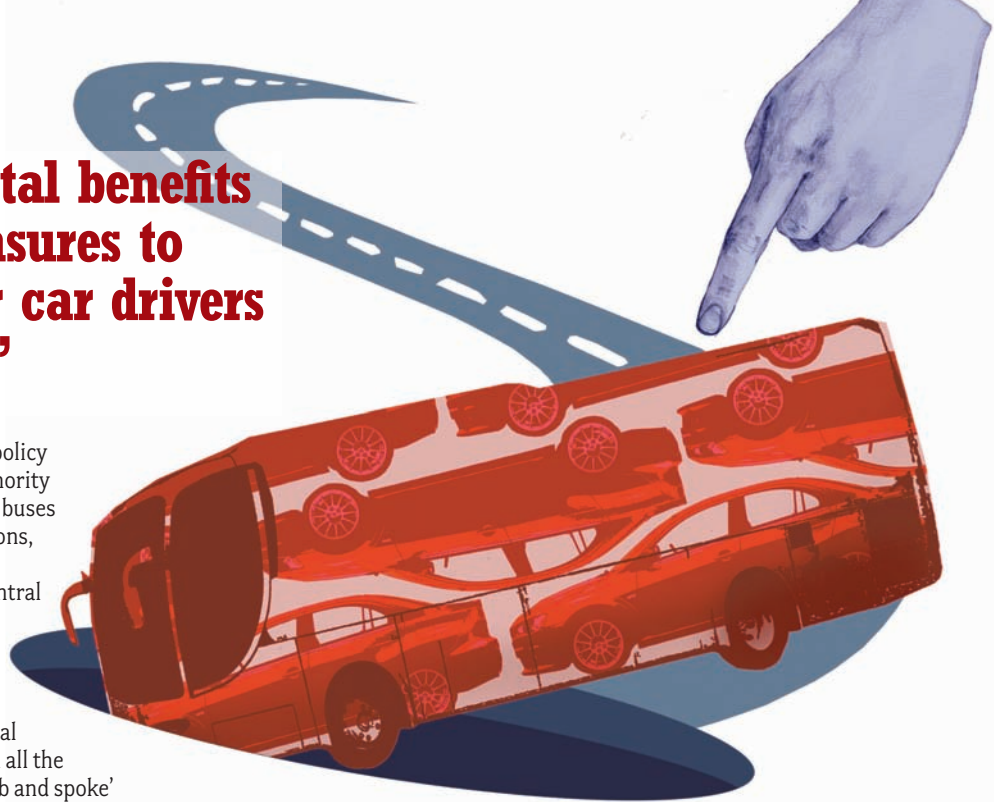
## The bandwagon stalls

There were already precedents for such measures. In 1999, the Government opened a bus lane on the M4 approach to Heathrow airport that, despite being bitterly attacked by motorist lobby groups, did manage to reduce journey times for coaches and cars alike. But decisions to introduce bus and coach lanes on motorways rest with the Highways Agency, a subsidiary of the chronically disinterested DfT.

In 2004, Alistair Darling announced that the country's first car-sharing lane would be opened by 2008 on the newly widened M1 motorway for eight miles between Luton and St Albans. This 'high-occupancy vehicle' (HOV) lane was to have been made available only to vehicles carrying one or more passengers. In March 2008 the scheme was quietly dropped.

The official reason given by the DfT was safety: put the HOV lane on the inside of the motorway, its consultants argued, and you risk drivers 'undertaking' slower-moving vehicles; put it on the outside and it blocks access to junctions. The Campaign for Better Transport points out that the schemes have worked perfectly well on the Continent and in the US, however, and its roads and climate campaigner, Richard George, believes that the Government simply ran out of cash – a theory confirmed by the announcement in January that £5 billion of motorway-widening schemes were to be shelved.

In its stead, the DfT now enthusiastically endorses (the considerably cheaper) 'hard-shoulder running' – opening up the hard shoulder of the motorway at 60mph during times of congestion. There's no mention of making the hard shoulder available only to high-occupancy vehicles, except for a brief reference to an existing scheme on the junction between the M606 and the M62 near Bradford, where vehicles carrying more than one passenger can bypass the junction. There is talk of a trial to extend it on to the hard shoulder of the motorway proper, but no promises are made.



HOV lanes, and the dramatic improvement they could make for coach journeys, seem to be firmly on the back-burner.

One reason for this could be the strict econometric basis to the DfT's strategies for relieving traffic congestion. The model it uses for its assessments, known as Transport Analysis Guidance, contains a vital flaw: it puts a price on the wasted time of car drivers during their working day at £26.43 per hour, whereas the same amount of time wasted by a coach or bus passenger counts for only £20.22. The only non-tradesperson on the road with a lower value on his or her wasted time is the cyclist, with a value of £17. Worse still, the report from which these numbers are derived, published in 2003 by the Institute of Transport Studies at the University of Leeds, computes the numbers on the basis of the drivers' or passengers' salaries: the wealthier you are, the more your time is worth and the more likely you are to be driving a car.

What these numbers signify, other than the crass bases of the Government's cost-benefit analyses, is that unless environmental benefits are strongly argued for, measures to make life easier for car drivers will always win out in transport schemes. The ghost of Thatcher walks yet.

All is not lost for Alan Storkey's coach system. Officials at SEERA are now pushing ahead with a coach hub at High Wycombe on the M40, which combines a 'park & ride' facility with a state-of-the-art coach station. Slated to open in 2012, the 'coachway' is hoped to encourage investment in coach road-priority schemes, but is part of what Andy Mak, planning manager at SEERA, describes as a 'phased approach' – policy-speak for 'don't hold your breath'.

What's needed, suggests Stagecoach's director of corporate communications, Steven Stewart, is some political pluck at a local level. 'Many of these [road priority] decisions fall on local authorities,' he says. 'Politically, there's a lot of nervousness around allocating road space to buses and coaches, and we need braver politicians to make these changes.'

And if bravery isn't forthcoming?

'There's always the threat of re-election,' says Stewart.

Mark Anslow is the *Ecologist's* News Editor



# The Good Market

Environmentalists have long been suspicious of the free market – and with good reason – but a new generation of campaigners are using capitalism to change the world. **Dan Box** reports

**L**et's face it, in the heart of every *Ecologist* reader lurks a dark suspicion of the free market. Even early discussions of this article among magazine staff were cast in terms of 'using the market against itself' to do good, as if the market were geared up only to do bad. This suspicion itself is understandable: the business world is complicated, far beyond the understanding of almost anyone who does not work within it. As a result, those who do work in Big Business have been allowed to get away with too much for too long.

In recent years, some of those involved in the worst behaviour have relied on this lack of understanding to disguise their actions with greenwash – advertising that claims they are better than they are. That does not mean the market itself is bad, however, just that it has been used to do bad things. The truth is more subtle: the market itself is neutral; a mechanism of exchange, a means by which things can be achieved. Increasingly, those who understand how the mechanism

works believe it can be used as a force for good. As this understanding grows, a new generation of environmentalist is born, wearing pin-stripe suits. This new breed realises that standing on the outside and shouting will only get you so far. The smart money is being spent from within.

## A greenbelt buy-out

'What is happening to the countryside? Inch by inch, year by year, its redeeming, restorative qualities are being eroded. Bypasses spawn developments filling in the ground between road and town; motorways suck vast shed-filled industrial estates in their wake.'

National Trust chairman Sir William Proby stirred up a swarm of protest with this speech in November 2007, revealing that the Trust was considering buying up greenbelt land to prevent it being concreted over by urban development.

'The statistics are terrifying,' Sir William said. More than 10,000 acres of the greenbelt,

set up around cities to prevent their expansion and to allow populations to breathe, is believed to be at risk. More than three square miles of greenbelt are lost to development each year. Government plans to build an extra three million houses will only make these statistics worse.

With an annual income of almost £390 million and more members than the three main political parties combined, the Trust is a potentially powerful force, but since 2007 Proby has publicly pulled back, saying 'we are not going to start buying land from in front of the bulldozers'. The Trust is, however, currently fundraising to buy the 18th-century Seaton Delaval Hall, an estate that sits plumb in the greenbelt surrounding Newcastle. A report setting out the organisation's final position on the issue will be released in April.

One woman looking forward to the release is Dame Hilary Blume, director of the Charities Advisory Trust (CAT), itself raising public money to buy greenbelt land. Dame Hilary is hoping the Trust will provide some leadership on an issue in what is a politically fraught

battle for Britain's greenbelt. In a parallel project based in southern India's Shola forests, the CAT is buying up pieces of this tiger territory under threat from encroaching tourist resorts. Blume does not see these Indian acquisitions as a way of using the market against itself. 'I'm just not a campaigner,' she says. 'I'm not interested in standing around with a banner. I just wanted to get the damn thing sorted and the market is the quickest way to get it sorted. I just have a very pragmatic view of the world, and if you want to protect something, own it.'

## Money trees?

Rainforests fall for one reason: they are worth more dead than alive. The profits from logging and agriculture are the driving force behind an annual destruction of around 15 million hectares of rainforest worldwide, a savaging that alone accounts for one-fifth of global CO<sub>2</sub> emissions.

Canopy Capital, a small London-based investment firm, is the first to try putting a market value on living rainforest. Last year the company announced it had paid an undisclosed sum for what it called a licence on the 'ecosystem services' of 370,000ha of pristine tropical forest in Guyana – an area roughly the size of Majorca. Ecosystem services include rainfall production, carbon and water storage, and weather moderation. Canopy Capital's licence lasts for five years, with the money used to fund management and conservation in the reserve.

Managing director Hylton M Philipson openly admits the deal is speculative – he may lose his money – but in putting a financial value on the healthy ecosystem he hopes to create a market, and a profit, from its future trade. Possible investors might include insurance companies exposed to huge liabilities from weather-related disasters, looking to the forests as a means to prevent the worst effects of climate change.

'I've been reading my entire adult life about the destruction of the Amazon forest, yet it's still happening,' Philipson says. 'What's the problem? Frankly, lack of money. Philanthropy is too small, governments are too slow, so it's going to be up to the market. The only way we are going to turn this thing around is through a profit motive.'

## Permits to pollute

If you really want to achieve something, it's best to wield both a carrot and a stick. That, at least, is the principle behind two of the main market-based systems the Government has set in place to tackle climate change: the Emissions Trading Scheme (ETS) and the use of Renewable Obligation Certificates. First,

# 'The market itself is neutral; a mechanism of exchange, a means by which things can be achieved'

set a limit on either the amount of CO<sub>2</sub> a company can emit or on the amount of energy it can buy from non-renewable sources and punish those who break this limit. That's the stick. Second, create a market where companies can profit simply by reducing their pollution or generating renewable energy. That's the carrot. And once you understand the carrot and the stick, you can make them work for you:

## Holding pattern

Behind the car park of the William IV pub and next to an old gravel quarry lies a drab acre of scrubland. When they bought the land, its new owners claimed they wanted to build a donkey sanctuary. But this was a lie. In truth, once the deal went through, this anonymous plot near the village of Sipson in west London became a frontline in what may become the greatest environmental protest of our generation.

The acre in question lies directly in the path of the £8 billion development of Heathrow, including a third runway and sixth terminal, announced by the Government in January. By adding about 600 flights a day, that development could turn the airport into the biggest single source of CO<sub>2</sub> emissions in the country. Years of picnic protests and placards had failed to halt the decision, so Greenpeace – using the plight of the donkeys as a cover – turned to the market.

With £20,000 donated by various celebrities, as well as *Ecologist* director Zac Goldsmith, the charity bought the land and launched a campaign to register members of the public as 'beneficial owners' on the title deeds. The result was one of the country's great property rushes; at its height, nearly 1,000 people an hour were asking to add their name to the paperwork. Any attempt by the Government to use compulsory purchase orders to acquire the land – which it must – will now run into a mass of expensive and time-consuming legal red tape. Similar tactics have been used in the past to protect tropical forests.

No profit will be made from the deal, Greenpeace director John Sauven said. 'This is public activism. We will resist all attempts at compulsory purchase and will represent millions of people from across the world at any planning inquiry.'

**See page 42 for the behind-the-scenes story of the Greenpeace campaign to stop the third runway**

## Sandbag

By her own admission, Bryony Worthington didn't fit the mould at Friends of the Earth, so she left to join the Government, helping draft the climate change bill, and later working for Scottish and Southern Energy, a company that in her campaigning days she called a 'carbon dinosaur'.

Big Business taught Worthington a lot. There was less inertia for one thing; long meetings weren't tolerated. She also became convinced that market-based systems such as the ETS were the only way to make polluters change.

Under the ETS, companies are given permits allowing them to produce CO<sub>2</sub>. Those that reduce their pollution can make a buck by selling on their unused permits. Unfortunately, Worthington says, there are currently too many permits floating around, driving the price of each down and creating little incentive not to pollute. To change this, she set up Sandbag, an organisation that allows people to enter the emissions market themselves, buy up permits – currently trading at about €15 (£13.40) for one tonne of CO<sub>2</sub> – and 'retire' them. Each retired permit means one less tonne of CO<sub>2</sub> goes into the atmosphere. It also drives up the cost of the permits that remain, making pollution more expensive.

By engaging with the market, Worthington says, people also begin to understand it. 'There is so much jargon and so many apparently complicated acronyms, but it is really very simple,' she says. 'People who were emitting freely now can't.'

## Good Energy

Juliet Davenport has also seen government from the inside, having worked on carbon taxation policy for the European Parliament.

'The trouble with politics is that yes, when it makes its mind up it can move quickly, but it's too political. It's useless at making up its mind,' she says. So, in 1998, she set up her own renewable electricity company, Good Energy. A few years later she began playing the market according to its own rules.

The renewable energy market is ruled over by the same carrot and stick as the ETS. Renewable electricity producers are awarded Renewable Obligation Certificates (ROCs), at a rate of one certificate for each megawatt hour they produce. Electricity suppliers, who buy from the producers, must have a number of

ROCs equivalent to nine per cent of their total supply each year, or face a fine. They do this either by buying nine per cent of their electricity – and its accompanying certificates – from renewable generators, or buying ROCs themselves from other companies that have more than they need.

Good Energy, which sells only renewable electricity, has a surplus of ROCs but doesn't sell all of them on. Some are 'retired' instead, reducing the total number of certificates in the market and driving up the price of those that remain. This, in turn, increases the value of those generated by renewable electricity producers and makes it more expensive for electricity suppliers to avoid renewable sources and simply buy their way to the government's nine per cent target.

'It's a way of effecting change, of finding a way of getting things to change as quickly as possible,' Davenport says.

## Cash for trash

At its height, before the current recession, Britain's recycling business was worth about £8 billion, but none of this money found its way directly back to the people that provided the industry with raw material – that's you and me. That may be about to change, with a US company, RecycleBank, in talks with London mayor Boris Johnson about exporting its own take on the trade in trash for cash to the capital.

Established in 2004, RecycleBank built itself up from working a few streets to more than 150,000 customers in nine US states. A million more are signed up and waiting to get started. Essentially, households put their recyclable waste in dedicated bins that are weighed on collection. A computerised system converts that weight into points and credits those to the household's account. Points mean prizes and can be redeemed in local stores for everything from groceries to running shoes. Local authorities pay less for landfill as a result and RecycleBank in turn takes a cut of this saving.

Among the scheme's success stories is Wilmington, Delaware, where approximately 90 per cent of residents are signed up, and where the amount of waste going to landfill has fallen by 40 per cent. By encouraging households into the market for their own rubbish in this way, RecycleBank claims to have saved 687,948 trees and 46 million gallons of oil. It may be very American to say it, but as founder Ron Gonen explains, 'We want people to recognise that "eco" is not just a part of "ecology", but also "economy".'

Dan Box is a freelance journalist who has previously worked as an oil and gas correspondent for the *Sunday Times*

## The old(ish) man and the sea

Orri Vigfússon first made his fortune selling vodka to the Russians, demonstrating a power of persuasion that has made possible his life's work since: asking fishermen not to fish. As a businessman he was also convinced he knew the best way to achieve this. He would pay them.

Vigfússon was an angler who had seen fewer and fewer salmon returning to his native Iceland each year, the result of a vastly destructive drift-netting industry that had spawned across the fish's North Atlantic migration routes. With the deployment of the drift-nets, salmon numbers crashed. In the decade until 1989, when Vigfússon founded the North Atlantic Salmon Fund (NASF), catches fell from an annual four million to 700,000. His response was to buy from the fishermen the licences permitting them to fish. The organisation also helped those who sold find new employment and lobbied governments to provide funding or change policies on the fishing industry. All this was done on a huge scale, with Vigfússon brokering multimillion-dollar buyouts and government moratoriums in Iceland, the UK, Ireland, Greenland,

France and Norway, among others.

Today, more than 80 per cent of the region's long-line and drift-net fishermen have signed up, Vigfússon says, and the salmon are back in force. A slate of honours has followed, including the prestigious 2007 Goldman Environmental Prize. The award citation says Vigfússon 'represents a new breed of environmental leader who utilises business skills and negotiating to effectively protect precious natural resources'. Not that the NASF has always been welcomed. 'The civil servants they hate us because we take away their jobs,' Vigfússon says. 'But I'm a businessman; I believe this is the best way to have success.'

For the future he plans to establish a capital trust, replacing the constant need to raise millions in funding each year, most from a few large donors. He also lobbies for the introduction of commercial agreements,

based on transferable quotas that encourage individual fishermen to take responsibility for the health of fish stocks, to replace the abused and discredited government regulation.

'Who takes the best care of your house? It's you, if you are the owner,' he says.

**'The civil servants they hate us because we take away their jobs. But I'm a businessman; I believe this is the best way to have success'**



Since Orri Vigfússon founded the North Atlantic Salmon Fund in 1998, stocks of the fish are making a comeback in Iceland

PHOTOGRAPH: GOLLI

We can all agree on what the problem is, it's settling on a solution that's the difficult part. **Mark Anslow** explores the complicated world of deforestation

# SEEING REDD?

**I**f 2007 was the year in which the world woke up to climate change, then 2008 was the year in which everyone realised just how damn complicated the whole situation is.

On paper, reducing levels of deforestation should be one of the easiest areas to tackle. After all, in the words of Tim Yeo MP, chair of the Parliamentary Environmental Audit Committee, 'there is no rocket science involved in dealing with deforestation – it is not like carbon capture and storage where we are waiting for a technological breakthrough'.

Indeed not. In practice, however, the situation has become so complicated, with so many different proposals on the table, that very few outside the UN and environmental NGOs have the slightest clue what is happening.

Most of the proposals are happy to come together under the general UN banner of REDD – Reducing Emissions from Deforestation and Degradation. The UN hasn't fixed on one particular proposal for REDD yet, but the concrete is drying fast and will (probably) be set by December of this year.

Before it is, however, there are a battery of problems to tackle. First, there's the sticky issue of setting the 'baselines' or 'business as usual rates' for deforestation. If the baselines are set too far in the future, say between 2008 and 2012, then it's tantamount to declaring open season on forests for the next four years. By logging voraciously while the baseline is being set, countries/companies could 'inflate' their baseline, meaning that the cuts, when they come, would be easier to achieve. On the other hand, set the baselines too far in the past and you will end up rewarding countries that have been pillaging

their forests for years, and penalising those that have preserved – or at least not exploited – theirs.

Then comes the issue of who gets the money. Hand it straight to national governments and large chunks could find their way into the pockets of corrupt officials. Some would prefer to see the money allocated on a project basis – direct to the organisation responsible for reducing the deforestation rate. Opponents say this could simply end up rewarding large landowners and born-again logging companies. Some would like to see the money go straight to indigenous people who live in rainforests, not only for moral reasons, but also because they tend to have the best understanding of how to preserve and sustainably manage forest ecosystems. There are problems, however. Land rights are often poorly established, making it difficult to know whose land is whose, and a number of key nations (the US, Canada, Australia and New Zealand) fought against a clause in last December's climate change negotiations in Poznan that would have recognised the rights of these indigenous people.

Finally, and perhaps most crucially, how to raise the money in the first place? Here, indeed, is the rub. Plenty of industrialised nations would like to see forestry credits made interchangeable with carbon market credits. This would mean that if a country

failed to cut its greenhouse gas emissions in line with its international obligations, it could simply hand over some cash to a forested nation, reduce the deforestation rate a tad and carry on polluting as usual.

Understandably that has raised some hackles, especially of those who point out that the track record of the world's only fully functioning carbon market – the EU Emissions Trading System – is hardly glowing. In its first three-year period of operation, emissions declined by a paltry 150 million tonnes, and windfall profits were handed to several UK electricity generators. Friends of the Earth warns that commodifying forest carbon in this way could also result in a situation where indigenous people, who have relied on forest products for their survival and livelihood, are simply 'priced out' of their increasingly valuable homelands.

One workaround would be to generate money from a 'market-linked' mechanism. This would draw finance from the carbon markets, but not directly. So, for example, when permits to pollute are handed out to nations from the UN each year, they could come with a price tag. A proportion of this 'auction' fee would fund forest protection.

Others still see this as too complicated and too slow to generate cash at a time when it is urgently needed. Brazil, among others, would like to see industrialised nations simply set up large, well resourced funds to pay for forest preservation. Detractors say that this 'voluntary' approach will not generate sustained flows of money for the future.

## A confusion of views

In reality, funding is likely to come from a medley of all three approaches. When it does arrive, though, what exactly will the world be getting for its money? Do we merely want to preserve the carbon in rainforests, or do we also want to protect them as habitats, hives of biodiversity and the generators of vital ecosystem services? If we choose the former out of expediency – as looks probable – we could end up with continued logging but compensatory monoculture plantations.

While you're in the business of preservation, say others, why stop at trees? Managing agricultural lands sustainably can lock in huge amounts of carbon, and preserving peatlands – which in some cases can store more carbon than rainforests

**'Do we merely want to preserve the carbon in rainforests, or do we also want to protect them as habitats?'**

– is crucial work. This ‘terrestrial carbon’ approach is popular among some NGOs.

For these reasons, some are suggesting that deforestation credits could become ecosystem credits as well. Investment group Canopy Capital is so sure that this will happen it has already invested large sums of money.

Others see the whole system as full of gaping loopholes, and believe that ramping up existing schemes would work better. Friends of the Earth says that the only real option is to cease deforestation rather than ‘reduce’ it. The group says that funding (which should be

in the forms of grants, not loans) should address the needs of developing countries, rather than simply hang a big price tag on the branches of trees in their forests.

Some are more cynical still: a report by researchers at Chalmers University of Technology in Sweden in December of last year calculated that even with a carbon price on a hectare of forest, it would still make economic sense to raze it to the ground, pay the appropriate carbon fee, and then grow palm oil for biofuel in its place. It is this sort of analysis that has led some to argue that

without tackling the industrialised world’s demand for wood, paper and agricultural products in the first place, REDD may fail before it has even started.

With so many conflicting views, it’s little surprise that opinions have become heated. The only option not on the table is doing nothing. To help you see the wood for the trees in this ongoing debate, we’ve laid out some of the different proposals for tackling the problem in the table below.

Mark Anslow is the *Ecologist’s* News Editor

## HOW DO YOU SOLVE A PROBLEM LIKE A FOREST?

### WHAT COULD BE PROTECTED?

#### TREE-BASED CARBON

Carbon credits issued based on satellite and ground measurement of the amount of carbon ‘locked up’ in forest vegetation. Widely supported and simplest option. Most would allow new plantations to be counted as conserved carbon.

#### ALL CARBON

##### – TERRESTRIAL CARBON APPROACH

Two groups in particular, the Humane Society International (HSI) of Australia and the Terrestrial Ecosystems Group, have suggested that valuing forest carbon should be just one part of a wider scheme to protect soil-based carbon. HSI argues for a ‘carbon stores approach’, in which scientists would simply ask, ‘has this part of the landscape got more or less carbon in it than it did before?’, regardless of whether the land is forest, peat-bog or farm. They argue that plantations should not be seen as replacements for forests. The Terrestrial Ecosystems Group proposes a similar system, but with Terrestrial Carbon ‘budgets’ for less-industrialised nations.

#### ALL ECOSYSTEM SERVICES

Friends of the Earth argues that forest protection should be seen as ‘more than just a carbon-counting exercise’, and that plantations should be excluded from any REDD proposals because they store less carbon and harbour less biodiversity. The group proposes scrapping REDD and replacing it with a mechanism to stop deforestation outright, passed under the UN Convention on Biological Diversity. A more market-based approach is advanced by the Global Canopy Programme (GCP). The coalition of groups argues that REDD should take full account of the ecosystem services provided by forests, and is encouraging investors to buy the ‘ecosystem services’ of areas of rainforest, turn them over to local communities to manage and split the profits. Some communities are already making payments for these services, notably for providing clean water downstream of the protected area.

### HOW WOULD IT BE PAID FOR?

#### DIRECTLY LINKED TO CARBON MARKETS

If deforestation-reduction credits were made available in the general carbon market, it would allow a country that couldn’t meet its annual emissions targets to buy up some of these credits to ‘offset’ its carbon. Critics argue that this would slow the transition to a low-carbon economy, and the volatility of the carbon market could have dangerous knock-on effects on the preservation of forests. If and when the credits do become tradable, industrialised nations would only be able to use a limited proportion of them to count towards their own targets.

#### INDIRECTLY LINKED TO CARBON MARKETS

In order to avoid a few of the problems above, some have proposed linking forests and markets indirectly. One of the most popular ways is to charge a fee on the auction of emissions permits to countries and businesses. This is already done in a few cases under Europe’s Emissions Trading Scheme, and will become widespread after 2012. A percentage of this money – which amounts to billions of pounds – could be used to fund REDD schemes.

#### NEW, SEPARATE MARKET

Others would rather forget the conventional carbon market altogether, and create a completely new and separate carbon market specifically for REDD credits. Greenpeace is the main proponent behind this scheme, and advocates a system called Tropical Deforestation Emissions Reduction Mechanism (TDERM). Although the markets are separate, industrialised nations would be obliged to buy a proportion of the TDERM credits each year to count towards their national totals.

#### TAX ON FOSSIL FUELS

Another, relatively simple way to raise cash would be to introduce a levy on fossil fuels. Principally advocated by Friends of the Earth, which also suggests simply eradicating current fossil fuel subsidies and using the money instead to fund REDD schemes.

### WHO WOULD GET THE CASH?

#### NATIONAL GOVERNMENTS

Under direct voluntary fund schemes, such as those proposed by Brazil, national governments would receive international funding to tackle deforestation as they see fit. Critics worry that the money will go astray, or at least be used inefficiently.

#### LOCAL PROJECTS

Some have argued for the money to be allocated strictly on a project-by-project basis, which is how carbon money is allocated at the moment, both through Kyoto and voluntary offset schemes. Although this ensures that money arrives right at the coal face, it raises a serious problem with so-called carbon ‘leakage’. Leakage would occur when a project covering, say, 1,000ha of forest simply forces logging companies to move just outside the project’s perimeter. For this reason, policymakers have argued that targets have to be set at a national level, so that logging companies are subject to the same restrictions everywhere.

#### ‘NESTED APPROACH’

The nested approach is an attempt to solve the carbon ‘leakage’ problem. Proposed by the Tropical Agricultural Research and Higher Education Centre (CATIE), the scheme would keep track of carbon reductions at both a project and a national level. Projects would get carbon funding directly, even if the country had not met its national emissions target. The approach is supported by several South American countries.

#### INDIGENOUS PEOPLE

The Rights and Resources Initiative argues that receipt of REDD carbon money must be conditional on recognising the rights of indigenous people and improving forest governance – issues which it says have been frequently glossed over in the past. It also argues that REDD policies must deliver local benefits as well as atmospheric ones, and help secure land and resource tenure for local people. Although most REDD proposals nod to the rights of indigenous peoples, few spell out how their needs will be addressed.

If we hope really hard maybe things will get better – or maybe it's time to consider a new plan of action. **Michael Nelson** and **John Vucetich** propose a virtuous approach to environmental change

# ABANDON HOPE

**I**t's a troubled world, and motivating people to take action to live sustainably is a difficult task.

Barack Obama's campaign during last year's US presidential election brought into the spotlight the role of hope as a critical – even 'audacious' – motivator. But can hope really help motivate and solve unprecedented social and environmental problems? Or is hope a placebo, a distraction merely sowing the seeds of disillusionment?

Consider what may be the environmental message of our time, Al Gore's *An Inconvenient Truth*. There is no doubt that the film and book are convincing, and offer good reasons for why we should change our relationship with nature: global climate change is real, humans are to blame and human society needs to change radically to stand any chance of averting the worst of this crisis. But its reasons for why I should change my relationship with nature are weak: if I live sustainably, and others do the same, then there is reason for hope for averting environmental disaster. *An Inconvenient Truth* fails the obstacle presented by all 'Tragedies of the Commons' (when individuals acting independently in their own self-interest ultimately destroy a shared resource). In this respect the role of hope is more profound, misplaced and detrimental than is initially apparent.

In an interview on US National Public Radio following the release of his popular book *Collapse*, Jared Diamond spent 53 minutes of the 55-minute interview explaining why and how our current relationship with the environment makes us dangerously vulnerable to environmental disaster. At this point the interviewer asked Diamond whether, in the face of this dreadful fact, he is hopeful. Diamond quickly said yes, and supported his answer briefly with the observation that sudden and unexpected changes in human behaviour sometimes occur, and tragedies are sometimes averted. Then the interview ended.

*An Inconvenient Truth*, Diamond's response and our instinctive relapse to the 'we can't give up hope' mantra, all mistakenly assume that 'hope for a sustainable future' is an adequate reason why each of us should change our relationship with nature. But these are examples of a profound mistake that rises from our inability to understand the proper roles of hope and ethics in environmentalism.

## Hope as dis-ease

Even in mythology, the role of hope is contestable. According to the Ancient Greeks, Pandora, sister-in-law of fire-thieving Prometheus, was burdened with a dowry that Zeus instructed remain unopened. Curious Pandora opened the jar, however, and the scourges of humanity – Greed,

Vanity, Slander, Envy, Pining and other dis-eases – were swiftly released. Before it could escape, however, Pandora quickly shut the jar and Hope was left behind. Was the failure to obtain Hope Zeus's final sadistic revenge on Prometheus and the humanity he aided and abetted, or, as some scholars believe, was Hope – in Greek, translated as 'anticipation of misfortune' – itself an evil; a dis-ease that Pandora's speedy jar-closing skills spared humanity?

Since the late 1960s, we have been continuously and increasingly exposed to messages about our common environmental crises: global climate change, massive loss of biodiversity, air and water pollution, habitat destruction, ozone holes...

Notwithstanding the extent to which we have all been desensitised, little reflection is necessary to appreciate the profundity of these messages and the seeming hopelessness of it all. Our impact on the planet is indisputably unprecedented. Just as unprecedented is the continuous and convincing broadcasting of this message of hopelessness to entire generations of citizens.

Jane Goodall's *A Reason for Hope* and Bill McKibben's *Hope, Human and Wild* are conspicuous reactions to these messages, emphasising and reinforcing the need to remain hopeful. Hope is treated as a prime motivator and a fundamental virtue for



environmental ethics. Hope is expected to encourage behaviours that – if they gather enough critical mass – might avert profound environmental disaster. Hope for a sustainable future is supplied as the fundamental reason for why I should change my relationship with nature: if I live sustainably, and others do the same, there is hope – and one should never give up hope – that we will avert environmental disaster.

Hope may, however, ironically, deteriorate motivation to live sustainably: I have

little reason to live sustainably if the only reason to do so is hope for a sustainable future. Why? Because every other message I receive suggests that disaster is guaranteed, and the reasons to think that if I live sustainably enough others will do the same are unconvincing.

But isn't attacking hope as mean-spirited as stealing Tiny Tim's crutch? Wouldn't you just as readily choose hell over heaven as abandon hope for... what? Despair?

It's an understandable objection, but

misplaced. For example, what about the young man who hopes to become a pro basketball player, neglects his education and never makes it to the NBA? Or the terminally ill patient who hopes to mend broken relationships and do what she always wanted to do, but postpones these activities because she hoped to live? These people were hopeful (i.e. believed in a certain outcome) when they should have merely acknowledged their unfulfilled desire. The failure to distinguish between hope and desire in cases like these is not merely delusional, it is detrimental.

It is true that, sometimes, unexpected fortune is realised mysteriously or inexplicably when a person is hopeful – the cancer patient may suddenly go into remission. Even in the realm of social behaviour, unexpectedly good circumstances arise. For example, attitudes about smoking

**'Hope is seen as a prime motivator but it may, ironically, deteriorate our motivation to live sustainably'**

## To hope or not to hope?

ACTION	WHAT WE HOPE WILL HAPPEN	HOPE'S UNINTENDED CONSEQUENCES	VIRTUOUS ACTION – THE ALTERNATIVE
Reduce, reuse and recycle (R3)	R3 gives hope for a sustainable future, but only if most other people recycle.	Hope gives me little reason to R3; I don't believe my actions will result in a sustainable society because too few others R3.	The needs and desires of other humans and non-humans outweigh the planet's limited resources. Reducing, reusing and recycling are kinds of sharing; it is virtuous to share even if nobody else does.
Reduce fossil-fuel consumption	You should reduce your fossil-fuel consumption because doing so gives hope for preventing worsened climate change, but only if most other people reduce their use.	Hope gives me little reason to do this because there is good reason to expect worsened climate change regardless of whether I reduce fossil-fuel consumption.	Driving less (and walking more) promotes personal health. Wars will be (and are being) fought over oil. You should reduce fossil-fuel consumption because it is inherently virtuous to promote personal health and not war, even if nobody else does.
Reduce reliance on products that use pesticides (e.g. buy organic) or otherwise needlessly destroy habitat	You should reduce your use of such products because doing so gives hope for averting catastrophic environmental degradation, but only if most other people act similarly.	Hope gives me little reason to reduce reliance on such products; catastrophe should be expected because others are not acting as you are asking me to.	You should reduce your use of such products because it is inherently virtuous not to ruin resources that others need, even if you are the only one to refrain from being ruinous.
Be an environmental activist	You should be an environmental activist because doing so gives hope for a sustainable future, but only if your activism changes the lives of enough other people.	Hope gives me little reason to be an environmental activist because other activists do not seem to be changing the lives of enough others, why should I expect my activism to do so?	You should be an activist because it is inherently virtuous to show others what counts as, and how to live, a virtuous life. Doing so is virtuous even if your activism changes some people, but not enough to avert future disaster.

in the US changed suddenly and unexpectedly in the late 1980s. So, miracles and unexpected good fortune occurs from time to time. Fine. But is this good reason to think that if we continue destroying our environment, we can expect (hope) that things will mysteriously work out okay?

### A profound contradiction

It could be that this is all obnoxiously Cartesian; that we are disregarding the real effects of the human spirit and attitude on the physical world. We know anecdotally and scientifically that positive attitudes promote human health: calm attitudes reduce blood pressure, which reduces risk of heart disease. Scientists have discovered that meditation can cause cancer remission, due to the mind's influence on the immune system. Hopeful attitudes certainly inspire some of us to live at least a bit more sustainably. However, with the same certainty, we know that hope does

not inspire most of us to live sustainably.

What we need are environmental leaders with whom their presumed target audience – those who are not living sustainably – can empathise. Like it or not, deserved or not, many such individuals are unsure about how environmental leaders differ from authorities such as presidents who lie about reasons for war, or cardinals who turn a blind eye to paedophilic priests.

To this audience, environmental leaders deliver an incredible message, in three parts: 1) scientists give good reasons to think profound environmental disaster is eminent; 2) it is urgent that you live up to a challengingly high standard – sustainability; and 3) the reason to live sustainably is that doing so gives hope for averting disaster.

The most conspicuous element of the message received may be its apparently profound contradiction – be hopeful in a hopeless situation. Given a predisposition

to mistrust authorities, such contradictions justifiably elicit mistrust. Environmental leaders need to employ motivators for living sustainably that do not appear contradictory, and that do not require trust, but that are self-evident. Mere hope will simply not do.

When hope is controversial – as it has been since Pandora's jar – the environmental leader's most effective strategy is to provide a self-evident motivation. But if hope for averting environmental disaster isn't the right reason to live sustainably, what could be?

### Vicious or virtuous?

If 'not being hopeful' really meant being in despair, then giving up hope may be unacceptable, if not incomprehensible. This ontology gets it all wrong, however.

Consider again athletes who really have no chance of winning a competition. Do they all really hope to win? Probably not. Might not some athletes – those with realistic expectations and honour – compete simply because the virtue and rightness of the activity (competing) is more important than any particular outcome (winning or losing) – which is not entirely within the control of the athlete? The athlete is not hopeful, nor is she in despair. She competes simply because she believes it is virtuous to compete.

The assumption that despair is the necessary and unacceptable B-side to hope,

**'If hope for averting environmental disaster isn't the right reason to live sustainably, what could be?'**

and that the hope/despair dichotomy captures the sum of all ethical motivators, shows a preoccupation with the consequence of our actions over and above the inherent virtue of our actions. It also suggests a preoccupation with judging the rightness of an uncontrolled circumstance rather than judging the rightness of one's own actions.

Such preoccupations diminish the value and role of ethics in environmental problem-solving because there is something futile and morally vacuous about judging the rightness of the circumstances in which others involuntarily find themselves.

In contrast, judging the rightness of one's own actions, given one's circumstance, is a wholly ethical activity, and perhaps the whole of ethical activity.

The 19th and 20th centuries were like no other in human history, not so much because of advances in technology, the advent of industrialisation or global environmental crises and warfare, but because of the dominating influence of an odd form of ethics.

Up until that, a phenomenon known as the Enlightenment Virtue Ethics, and healthy ecosystems, dominated the western world. Since the mid 19th century, however, Utilitarianism has permeated nearly every aspect of our lives – why we pick the jobs we do, our laws and policies, and even what counts as having lived a good life.

Utilitarianism holds that moral actions are those whose future consequences are good, inasmuch as they produce the most utility, happiness or pleasure for the most people. So we've built a society fixated on the future, perpetually risking all the attendant problems of justifying means by their ends, and forever flirting with endorsing the hedonistic instincts of the masses.

Even though the ethical tyro knows that morality depends on motivations, Utilitarianism, oddly, has not the least interest in motivation. Utilitarianism's fixation with the future requires a means for judging the future; in this way hope, despair and Utilitarianism are entwined.

Our preoccupation with the future at the expense of concern for the present is a hallmark distinguishing the Modern West from non-Western cultures and even from its own moral history. Twenty-three hundred years ago Aristotle worked out many details of what we now call Virtue Ethics, which holds that ethical people are those who appropriately manifest virtues such as respect, humility, empathy, sharing and caring.

We usually think hope is a salve; the Greeks thought hope was a scourge. The Greeks had a proclivity for judging the virtue of present actions, and hence considered hope just another way of being preoccupied with the future and thus a distraction from morality.

We, however, have a proclivity for judging the utility of future outcomes, and thus we sanctify hope. From this sanctification we even develop odd beliefs about how hope can affect the future.

### Doing the right thing

The notion that being hopeful is not unconditionally virtuous, and can, at times be delusional is oddly juxtaposed with a Christian view of hope that dominates the Western mindset: the more hopeless the circumstance, the more unconditionally virtuous it is to be hopeful. But Christian hope has nothing to do with the welfare of life on Earth; it refers to 'hope in eternal life in heaven'.

If we find it difficult to believe that hope is sometimes vicious, it may be because the modern secularist has inherited, with remarkable transformation, the Christian view of hope. Like a moth to the flame, the modern secularist is drawn to unconditional hope. However, the environmental secularist's hope is earthbound and concerns a future over which they have little control. It is difficult to conceive of a more tragic transfiguration of the Christian conception of hope.

Instead of hope we need to provide young people with reasons to live sustainably that are rational and effective. We need to equate sustainable living, not so much with hope for a better future, but with basic virtues, such as sharing and caring, which we already recognise as good in and of themselves, and not because of their measured consequences. Living by such virtues is a fundamentally right way to live – even if nobody else does and even if it might not avert environmental disaster (see table, opposite page).

Relating sustainable living to virtues such as caring and sharing has other important benefits. First, it can motivate sustainable living in people who do not even believe we are on the verge of environmental disaster. One only needs to understand that a less disparate distribution of wealth requires more sharing (rather than more extraction). Second, it clarifies the connection between environmental and social problems – a connection that many people fail to grasp.

There is a desperate need for environmental educators, writers, journalists and other leaders to work these ideas into their efforts. We need to lift up

**'Instead of hope we need to provide young people with reasons that are rational and effective'**

There is one point where the narrative in *An Inconvenient Truth* touches on this moral truth. Gore tells us that after his sister Nancy died of lung cancer, his father stopped farming tobacco not because he hoped that his actions would have some impact on the future, but because it was the right, or the virtuous, thing to do. Evidence about future effectiveness was an irrelevant, even inappropriate, consideration. So, it is ironic that Gore boldly and correctly insists that global warming is a moral issue, yet his reasons for why we should live sustainably are, in the end, morally vacuous: if you live sustainably, and others do the same, there is hope – and one should never give up hope – that we will avert environmental disaster.

### Inspire by example

This is no neo-Stoic attempt to abolish emotion. Emotions are essential for a healthy ethic. Consider, for example, sadness. Environmental abuse is a sad circumstance. If you love the environment, to respond with sadness is virtuous and can inspire care.

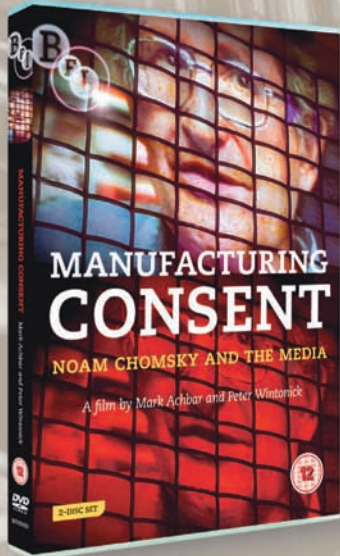
examples of sustainable living motivated by virtue more than by a dubious belief that such actions will avert environmental disaster. Without such examples, one is justified – sadly so – in being hopeless about one's future as a virtuous person. If they do, there may be legitimate reason to hope for a better relationship between society and nature, and hope to avert environmental disaster.

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Michael P Nelson is an associate professor of environmental ethics at Michigan State University and co-author of *American Indian Environmental Ethics: An Ojibwa Case Study*. John A Vucetich is an assistant professor of animal ecology at Michigan Technological University and co-leads research on the wolves and moose of Isle Royale, a remote island in Lake Superior. Nelson and Vucetich co-founded and co-direct The Conservation Ethics Group, an environmental ethics consultancy group. See: [www.conservationethics.org](http://www.conservationethics.org)

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**Online Campaign:** 'Join the Energy Revolution'

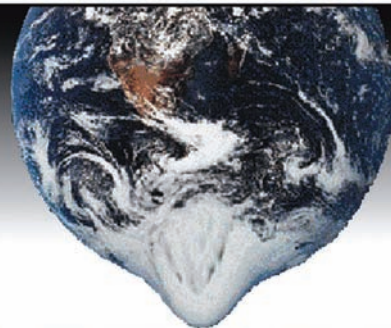
Organised by FRIENDS OF THE EARTH (UK)  
We have to revolutionise the way we power the UK. Climate change is a problem we all must tackle together. Please ask your MP to support a strong and sustainable Renewable Energy Strategy by visiting [www.foe.org.uk/energyrevolution](http://www.foe.org.uk/energyrevolution)

**12 Dec 2009:** 'Global Day of Action on Climate'

Organised by the GLOBAL CLIMATE CAMPAIGN  
Mark your calendar for this important day in our struggle to stop climate change. On Saturday, 12 December 2009 thousands of people are expected to come together in Copenhagen and other cities around the world for the UN's crucial climate talks. For more information about your country's activities visit [www.globalclimatecampaign.org](http://www.globalclimatecampaign.org)  
To find out more about the UK's events from other NGOs go to [www.stopclimatechaos.org](http://www.stopclimatechaos.org)

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# TAKE ACTION

CAMPAIGNS

LOCAL HERO

ACTIVISM

COMMUNITY

Want to do something to help? Get involved with these campaigns

## SUPPORT SOLAR

On a sunny day at noon, each square metre of the Earth's surface receives around 1kW of solar power. But more work is needed before this deluge of energy can be harnessed effectively. We Support Solar is a campaign to persuade the Government to offer decent financial incentives for the development of solar energy. It has been set up to ensure that the Government's 'feed-in tariffs' to support renewable energy, due to begin by 2010, provide enough backing for solar power. Supported by the likes of Friends of the Earth and Nick Clegg, leader of the Liberal Democrats, it was started by the UK Solar PV Manufacturers Association. Sign the petition and find out whether your MP has backed the campaign at [www.wesupportsolar.net](http://www.wesupportsolar.net)

## >> Chocolate watch

Anti-GM campaign GM Freeze has spotted a chocolate bar containing genetically modified sugar, soya and corn on sale in Tesco stores. Hershey's Nutrageous chocolate bars are clearly labelled as including the ingredients, GM Freeze says. The campaigner's suggested actions include:

- Taking lots of bars to the till and then refusing to buy them, explaining why to the manager
  - Leaving a card on the shelf alerting shoppers to the fact that the bars contain GM ingredients
  - Writing to your local Tesco manager and to Tesco HQ
  - Writing directly to Hershey's head office in the US
- Details at [www.gmfreeze.org](http://www.gmfreeze.org) under the 'Action' tab.

## >> Ludicrous inventions

ETC Group – the Action Group on Erosion, Technology and Concentration – isn't too impressed with the latest round of geo-engineering solutions to climate change. In fact, ETC believes they wouldn't look out of place in a mad scientist's competition. Which is why it's launched one.

Could you do better than the professionals? The DIY geo-engineer who submits the most creative, original and ludicrous scheme to combat climate change will win. A shred of logic helps, but don't worry about plausibility – send an explanation of your scheme and how it would combat climate change to [geoengineer@etcgroup.org](mailto:geoengineer@etcgroup.org)

The deadline is 1 April 2009. And if you're thinking of suggesting trillions of oversized sunshades, you're too late: the pros have beaten you to it.

## SKILFUL VIEWING

*What new skills might we need in the future? Can you catch and gut a fish or weave willow? A new web-based film channel, WoodlandsTV, has been launched to give viewers an insight into traditional countryside life. It features professionally made short films on activities such as making wooden hurdles (fences), logging trees with the help of horses, and hedge laying. To view these go to [www.woodlandsTV.co.uk](http://www.woodlandsTV.co.uk)*

## TREES4TREES

There's not much good news from the world of forest preservation at the moment, but here's an admirable exception to the rule.

Set up by a UK furniture retailer, Trees4Trees is a new initiative that aims to ensure not only that the wood used to make its products is renewed sustainably, but also that a connection is forged between tree farmer and consumer.

Barker & Stonehouse put up the initial funding to create a nonprofit foundation that supplies poor farmers in Java with a mixture of fast- and slow-growing tree seedlings.

The foundation then gives the farmers free training on caring for the trees, pruning and harvesting the wood, as well as recording the position of saplings using GPS equipment to ensure accountability. Trees4Trees also allows farmers to sell direct to wholesalers, rather than operate through middlemen.

Barker & Stonehouse's customers (other retailers are expected to follow soon) will find a green tag on each piece of furniture, explaining the scheme and containing a unique identifying number. Tapping this number into the Trees4Trees website enables them to discover where a replacement tree has been planted. Eventually, once enough have reached maturity, the system will offer true traceability from tree to table.

Trees4Trees ensures that a diverse mix of species is planted on any farm, and that they are compatible with the land type and existing food production. Those behind the programme say it plugs significant gaps left by Forestry Stewardship Council schemes, allowing retailers and consumers to become directly involved with sustainable timber production, and offering help to farmers who would never be able to afford FSC certification.

[www.trees4trees.org](http://www.trees4trees.org)

Bikeworks' Dave Miller with some of the bikes rescued, repaired and ready for the road



## Local Hero: Dave Miller Bikeworks, London

It's the greener way to go, but it seems bicycling can tackle everything from health issues to homelessness. **Claire Baylis** learns the meaning of true pedal power

**F**orget portable wind turbines and designer wormeries – when it comes to bona fide green investments it's hard to beat a good old bicycle, right? It appears we think so. According to the Department for Transport's 2007 survey, 42 per cent of people aged five and above now have their own wheels, and recent research suggests bicycle manufacture could soon

outstrip car manufacture three-to-one. While such trends could be good news for carbon emissions, however, there could be repercussions further down the line. The key materials used to make bikes – aluminium, steel and rubber – are all recyclable, yet numerous unwanted cycles wind up in landfill, wasting precious resources.

Thankfully, the dearth of bike recycling is just one issue being addressed by Bikeworks,

a nifty social enterprise nestled near Victoria Park, east London. Wander into Bikeworks HQ, complete with its own bustling workshop, and you can take your pick from a range of recycled options, from mountain bikes to vintage-style 1970s models. But that's not all: you can also get your own bike fixed, sign up for cycle lessons, even learn to become a cycle mechanic. In fact, this deceptively small set-up has numerous means by which it hopes to

boost sustainable living on a local – and potentially national – scale. ‘We’re not just about one issue,’ says co-director Dave Miller, 33, from Hackney. ‘We’re about how you use cycling and bikes, at a local level, to tackle social, economic and environmental issues.’

The Bikeworks concept was born out of a combination of factors. With a background in the voluntary sector, Miller was working as a social enterprise manager for a community organisation when he started tinkering with scheme ideas of his own. ‘I was always interested in creating opportunities for disadvantaged groups, the young and homeless in particular,’ he says. A trip to London’s Brick Lane – an area notorious for the shifting of ‘hot’ wheels – set him down the bike-recycling path. ‘The stolen bike trade there used to really bug me,’ he says. ‘I thought, “Why isn’t there somewhere you can get decent secondhand bikes that aren’t nicked?”’

## Bicycling, recycling

From that came a plan: ‘The idea was to create a bike-recycling enterprise employing disadvantaged people to help run it’. In March 2007, having secured funding through Esmée Fairbairn Foundation ([www.esmeefairbairn.org.uk](http://www.esmeefairbairn.org.uk)) and the City Bridge Trust ([www.bridgehousegrants.org.uk](http://www.bridgehousegrants.org.uk)), Miller was just gearing up when he met Jim Blakemore, now his co-director. ‘We’d heard about each other through friends, because we were both thinking along similar lines,’ says Miller. ‘Jim had actually registered Bikeworks as a community interest company, doing bits of cycle training. I wanted a business partner and could see that his skills and background – he previously ran a cycling company in Cambridge – fit really well with mine.’

Working together, the options appeared endless. ‘It quickly became apparent we could do lots of different things centring around cycling,’ says Miller, ‘projects that’d be not just about protecting the environment but also about getting people active, healthy and mobile within their communities and creating opportunities for work’.

Aware that cycling – thus cycle training – was in a period of growth, they initially focused on that; Miller even qualified as an instructor in order to help out. ‘Then it grew organically from there,’ he says. They chose east London as their base ‘because it’s where we both lived and worked; it’s our community’.

Organic or otherwise, growth was fast. In February last year, Miller and Blakemore were running the show; today they have six staff on salary, 20-odd freelance cycle trainers plus mechanics, offering numerous services. Cycle training is still a core element. Thanks to local authority funding, designed to encourage more people on to two wheels, Bikeworks actually offers free lessons to local residents.

## ‘We’re about how you use cycling and bikes, at a local level, to tackle social, economic and environmental issues’

‘One thing that majorly kick-started Bikeworks was getting the contract to do cycle training for the borough of Newham – worth £100,000 a year,’ says Miller. They went on to win the contract for Waltham Forest too, plus smaller contracts for Tower Hamlets. With this, plus paid-for private lessons, they’ve trained all ages – from Year 6 pupils to 60-somethings – and abilities. ‘In all, about 3,500 people so far.’

The main thing that stops even more would-be cyclists donning Lycra, Miller says, is the idea that cycling is unsafe, or that the infrastructure is bad. ‘And yes, the infrastructure needs work,’ he admits. ‘I’d like them to stop putting stupid cycle lanes all over the place and create proper, well-lit, off-road cycle roads... But the biggest difference you can make is to do the training, even if you think you’re a good rider already, because it’ll give you the awareness, skills and confidence to ride assertively and safely.’

A key part of Bikeworks’ training work is its weekend All Ability Club. ‘It’s open to anyone with any kind of physical or learning disability,’ says Miller. ‘They can just come along and try out some of our specialist bikes – we have all

kinds: various recumbents (sit-down bikes), trikes, a bike car, bikes you can attach to the front of a wheelchair and power by hand...’

They’ve already had some great results. ‘For people with cerebral palsy, for example, there can be real difficulty controlling the limbs, therefore walking,’ Miller says. ‘But if you sit down and strap yourself into a bike, it’s easier to move because you create a rotational movement without any pressure. People who are hardly mobile can get in one of those and hare off around the park at high speed.’

## Helping the homeless

Cycle training also provides an important revenue stream. As well as the free lessons, Bikeworks has corporate clients, including News International and Lloyds of London, to whom they offer training, ‘Dr Bike’ onsite servicing, support with ‘bike2work’ schemes and more. They explored the corporate route for two reasons: ‘One, it’s about trying to make businesses more cycle- and therefore environmentally friendly,’ says Miller. ‘Royal Mail, for example, told us an estimated 25 per cent of its carbon footprint comes from staff commuting to work. And two, it’s also about getting business, creating more employment opportunities for our people.’

Likely to benefit from such opportunities are those currently involved in another Bikeworks project – the new homelessness programme. Thanks to £75,000 of funding from Spark ([www.sparkchallenge.org](http://www.sparkchallenge.org)), Miller and Blakemore worked with homelessness charities in London to launch the scheme, designed to train the homeless or formerly



homeless as cycle mechanics, trainers or both. 'We've started with eight,' explains Miller. 'We do a two day a week programme for three months, at which point – or before – they will become accredited as cycle trainers and/or mechanics. We then hope to employ some of them ourselves and help others into work.'

The plan is to do three of the courses within one year, then see. 'But the main reason we think it'll work is the fact that it's a relatively short time frame for people to skill-up in,' says Miller. And despite only being five weeks into group number one, they've already reason for optimism. 'There's one guy who literally had nowhere to live and had to move around every night,' says Miller. 'But the programme's been something to hang on to while the rest of his life is completely chaotic. And he's skilled, works really hard and has learnt really quickly. We think he's going to be a good 'un.'

### Raleighing to the health call

An even more recent project is their Cycling for Health pilot, working with Tower Hamlets Primary Care Trust. 'It's really exciting,' says Miller. 'There's the whole agenda around preventative healthcare now, a recognition that if we don't do more, problems such as obesity will worsen,' he adds. 'But with our programme, for a lot of participants it's about mental health too; we have people with problems like depression, for example. We basically take people on referral from a local GP, who asks patients if they'd be interested in doing cycling, if they may benefit from it... then they come down, we do lessons to get them riding, then run regular group rides, too.'

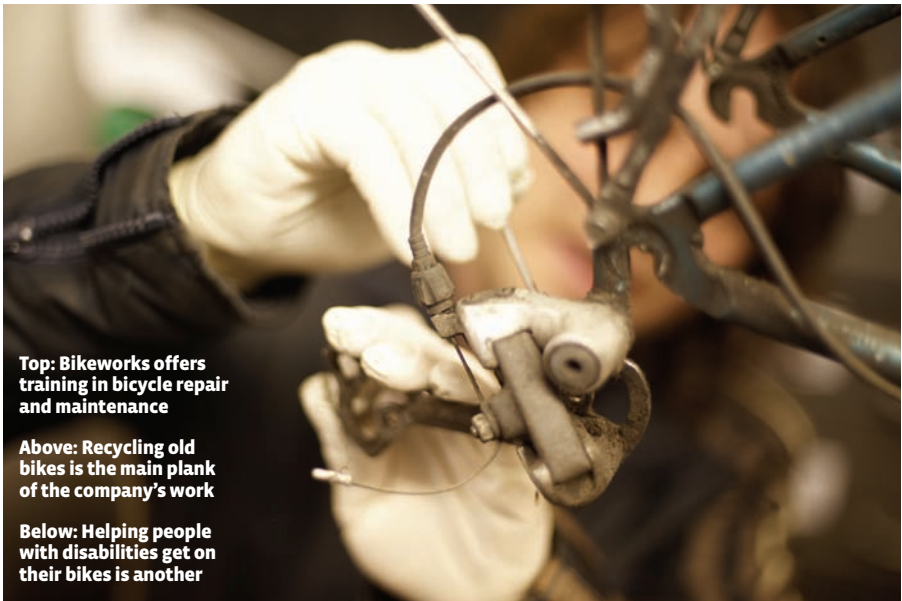
The pilot is expected to run until the end of this financial year. 'But there's a good chance it will grow,' he adds. 'We've just had a meeting with Newham Primary Care Trust who want us to start an obesity-focused pilot for young people, too.' It's easy to see how such projects can impact locally. 'People are just not getting out of their houses, not getting around,' says Miller. 'Tower Hamlets is a fairly poor borough, with fairly high levels of obesity and heart disease. But just giving someone a couple of cycling lessons which doesn't cost much, could make a huge difference. It could, potentially, transform someone's life.'

On top of all this there is, of course, the recycling, Miller's initial 'baby', which fits neatly into the picture. 'We get bikes donated by the public, from housing co-ops or buildings where they've been left, from businesses, from the police – all over,' he says. 'We then refurbish and recycle them.' Ultimately, he explains, it's about stopping bikes going into landfill. 'A lot of abandoned bikes do; when they're dumped they don't tend to enter the recycling system, yet about 98 per cent of a bike can be recycled or reused. Plus, do that and you have a decent-quality,



low-cost bike available for somebody in the community. Last year we resold around 500.'

Miller admits that not all cycles used at Bikeworks have come via the recycling route; they use new ones too, and yes, they're made overseas. 'There are one or two British companies, but the main ones tend to be quite expensive, hand-crafted bikes – not really the kind of thing we'd use,' he explains. 'But to be honest, we've decided not to worry about that too much so far; it's more important to focus on the positive things we can do. I think that aspect will be something we try to develop more, though. We've recently found someone who's started making ecological bike-cleaning products, so we'll try those out. It's a great idea.'



**Top: Bikeworks offers training in bicycle repair and maintenance**

**Above: Recycling old bikes is the main plank of the company's work**

**Below: Helping people with disabilities get on their bikes is another**



With numerous strands, Bikeworks may appear potentially complex, but Miller reckons it's the differing elements that make it tick. 'The business model has different income streams, so it's not dependent on any one thing,' he says. 'There are bike projects that have been around longer than we have, but while we're maybe not unique, the thing about us is that we take a very rigorous, business approach to it all. We're already sustainable, covering our costs. Turnover last year was just under £170,000. This year we're expecting it to be about £450,000.'

The fact there's a Bikeworks base, a facility people can visit, boosts business too. 'You can come in for a lesson and think "Maybe I'll get a recycled bike," or "Maybe I'll do a mechanics course" and vice versa. Come on a Saturday and you've got all these different people doing different things – there's a real buzz.' This also ups Bikeworks' community-building potential. 'It does bring different social groups together,' says Miller. 'We have a real mix. There's your more middle-class cyclists, maybe Hackney-based, then there's what we're really about: Tower Hamlets, which has quite a poor, East End, white community and

Bengali and Somali communities, plus the Shoreditch lot come too, so it's a curious mix.'

What does the future hold? The key aim, says Miller, is to create a way to help not just local communities, but entire cities become more vibrant and sustainable. They're already working on replication plans. 'We're looking at what the model would be and talking to potential partners,' he says. 'We're already being approached to set up in other UK cities; Bristol, possibly, is one.'

But while Bikeworks' future may appear decidedly rosy, Miller insists it's not all been an easy ride. 'There have been the usual hurdles: not having any money, the chicken-and-egg period when people won't give you a

**'The aim is to create a way to help not just local communities, but entire cities become more vibrant and sustainable'**

chance because you've no track record... Yes, we've had a good success rate with funding, but a lot of legwork went into that.'

The ride's come with plenty of highs too, of course: 'Like getting the homelessness programme going – that was something I was really passionate about'.

Then, of course, there are the clients. 'I don't get chance to do so much direct work now, but I did a lesson with a middle-aged Chilean woman the other week,' Miller recalls. 'She'd never ridden a bike before, but I got her going at the end of it and she was so ecstatically happy she hugged me. She came back the next week with a bike of her own and said, "I love it; you've changed my life." She had no car and little money for bus fares, but now she could scoot around the community, had a little basket on her bike for her shopping, could pretty much get wherever she wanted. It's times like that that reinforce the sense you're doing the right kind of work, and that the enterprise really is delivering.'

For information, see [bikeworks.org.uk](http://bikeworks.org.uk)

Claire Baylis is a freelance journalist



Dave Miller uses his background in the voluntary sector to make Bikeworks a tool for social good

PHOTOGRAPHY: PHIL FISK

I'm told I was about four metres away from them when they hatched it. They were innocently sipping pints on the pavement outside the Island Queen in north London and bemoaning the scientific illiteracy of Gordon Brown – whose administration had assumed office a few months beforehand and had flown a number of anti-environmental kites in the media that week. Whitehall sources were whispering to their Fleet Street contacts that the new PM was ready to authorise new coal-fired power stations and a third runway at Heathrow. A brief cessation of hostilities while they waited to see which way the new Brown-run Labour government would go was coming to an end. The Green movement was ready to slide its unfounded optimism back into the drawer and end the ceasefire with No 10.

Behind me that evening, murmuring dark thoughts about what to expect from Brown, were Sarah North and Laura Yates. North is the campaigns director at Greenpeace UK, Yates a climate campaigner who was leaving the organisation to move to Paris. It was her leaving drinks that had brought us to the pub. I didn't know it until more than a year later, but it was on this evening that North took a sip of lager, wiped her mouth with the back of her hand and said: 'Of course, we could always buy Gordon's runway from under his nose.'

### Acorns to oaks

Not even she could have known that, 15 months later, the *Evening Standard* would describe this acorn of an idea as 'the ingenious plan that could stop Heathrow expansion', and that 'Airplot' would have made headlines all around the world.

Sarah North is a veteran of the roads protests of the 1990s, and was once described as 'a thorn in the side of Nigerian generals' by the *Independent* after her direct actions following the murder of anti-Shell campaigner, Ken Saro-Wiwa. For her the Heathrow fight is a bypass battle writ large, and now with the added threat of climate change. It was not just a matter of public campaigning, but about the taking and holding of the land.

In September 2007, she was exhausted after leading the successful battle to overturn the Government's energy policy in the High Court, setting back Tony Blair's nuclear programme by two years. The pro-runway soundings coming out of government rarely mentioned climate change, and the word was that the coming consultation into Heathrow expansion was both a CO<sub>2</sub> free-zone and a stitch-up. She wanted some way – any way – to inject climate into the process, preferably the legal process, to stop the runway being built. That's when she hit upon the idea of buying Brown's runway.

'We were feeling pretty confident after our win in the High Court over Blair's energy



EXCLUSIVE

# AIRPLOT: THE INSIDE STORY

What started as a pub chat evolved into Greenpeace's most audacious coup yet. **Joss Garman** reports on a plan to pull the carpet out from under BAA's third runway at Heathrow – by buying up the very land beneath its feet

Comedian Alistair McGowan, a long-time Greenpeace supporter and staunch opponent of the third runway, christened the cunning plan 'Operation Baldrick'



policy, and we thought if we could buy the runway we'd have a stake in the legal process and get climate into the courts when they tried to wrestle it back from us,' North says.

Of course, most ideas conceived down the pub collapse under the sheer weight of their own logistical impracticality, but on this occasion North just wouldn't let it go. 'Seriously,' she said to Yates that night, 'BAA would have to argue it has a greater interest in the land than the victims of climate change. We could own the runway land on behalf of people in Tuvalu or the Inuit community.'

At this moment I apparently turned around and asked what they were whispering about. Already appreciating the need for secrecy on the project, Sarah North remembers shrugging her shoulders and, with a mildly cheeky grin, saying, 'Nuffin'.

She mulled it over that weekend, asking her partner – a lawyer who acts as legal observer for the Climate Camp – whether there was any mileage in the idea. The following Monday morning she put the idea to the organisation's director John Sauven – described by the *Sunday Times* as 'a suave political insider' – and Greenpeace's head of media, Ben Stewart. Both got it straight away.

Sauven gave the project the green light, but

**'If BAA learned what it planned, Greenpeace would soon find itself in a bidding war – a war it would inevitably lose'**

was not yet ready to direct resources at it. The group was instead busy planning the shutdown of Kingsnorth power station, where most of the organisation's resources were being directed. Soon after the Kingsnorth shutdown had been delivered Sauven turned his attention to Heathrow, and authorised North to take the project forward under a thick cloak of secrecy. Greenpeace has long known its office is bugged, so campaigners have to take extra precautions. For the runway project it was decided at an early stage to adopt security proceedings usually followed only for the planning and execution of direct action protests. The worry was that airport operator BAA would learn what it planned, and Greenpeace would soon find itself in a bidding war – a war it would inevitably lose. Later, when TV comedian Alistair McGowan became involved, the project was given the moniker 'Operation Baldrick' – on account, he said, of its cunning nature.

The Kingsnorth shutdown had been a success: 20,000 tonnes of CO<sub>2</sub> had been prevented from being released and six activists charged with £30,000 of criminal damage. The campaigners intended to plead not guilty on climate change grounds and the scene was set for an iconic trial. North decided to split her team between preparing for the trial and buying Brown's runway. Anna Jones, who had just joined Greenpeace and – as importantly – had recently been through the purgatory of buying a house, was given the task of pulling off the property coup.

'Google Earth became my best friend,' she says. 'The Land Registry was also vital to what we were trying to do, but some documents related to people from the 1950s, so tracing those owners of runway land was difficult. We knew BAA had been buying up land and we wanted to find a patch that was still available and big enough physically to defend from the bulldozers, should it come to that. We were also looking at ways to let people from around the world take ownership of the land with us. The most powerful thing about the campaign against the runway has been the fact that a movement exists, comprising all sectors of society. We wanted to complement that movement, and so finding a way for thousands of people to be some kind of co-owner of the runway was really important.'

Jones made contact with Mike Seifert, a lawyer who worked with the ANC leadership in exile during the apartheid years. He immediately gelled with the team and had the advantage of knowing leading authorities in property and planning law. He became the sixth person brought into the fold.

'It was a fascinating challenge, and one that's still continuing,' he says. 'How to structure a land purchase so thousands of people can have a stake and a voice in a field,



From activists to landowners: Greenpeace's plot of land in Sipson lies at the heart of the proposed third runway at Heathrow

PHOTOGRAPHS: REZAC/GREENPEACE



**Pictured: Greenpeace wastes no time sending a message to BAA and pro-runway politicians**

**Below: The issues – and the challenge – are spelled out in no uncertain terms**

and when the whole thing has to be done in secret. In the end we settled on the idea of people becoming beneficial owners of the land. They could go to the Greenpeace UK website and sign up, and be represented in any subsequent legal battle for the land. But first we had to find the field.'

### Become a beneficial owner

There is a popular perception that BAA's planned expansion would comprise a mere strip of tarmac, but in reality what is planned is a rectangular development the size of Gatwick airport, including a new sixth terminal, that would simply be bolted on to the north edge of Heathrow. Ben Stewart, who spent two years working for a newspaper in Arab East Jerusalem, pointed out that if the Greenpeace team purchased a plot of land in the centre of the rectangle, BAA could only build the new runway if the development included a kind of Jerusalem corridor – the sliver of Israeli land cutting into the occupied West Bank to give Israel-proper access to the Holy City. 'In other words,' says Stewart, 'if they wanted to build the runway but we owned the land right in the middle, BAA's development would look something like occupied Palestine. It wouldn't be a contiguous landmass. It wouldn't be in a viable state to build a £9 billion development.'

Jones walked the streets of Sipson – the village earmarked for destruction in the runway plans – getting to know local people and asking if any land was free for purchase. 'It was important we kept a low profile as we wanted to avoid a bidding war with BAA,' he says. 'Also, the plan was to reveal we had the land on the same day as the Government announcement of a third runway, so we needed to maintain the shock value of what we'd done.'

Jones met a range of colourful characters, but the right piece of land remained elusive. It

was a race against time with the owners of the few suitable fields not willing to sell, and the Government green light for expansion at Heathrow appearing imminent. Then, in late 2008, an available plot was uncovered right at the centre of BAA's proposed development. It was perfect, but efforts to buy it became stuck in a quagmire of negotiations and haggling – a situation made vastly more complicated by the secrecy the Greenpeace team had to adopt.

Around this time they'd also made contact with Alistair McGowan, who had been a Greenpeace supporter for years. He has since told the press: 'The Government, by deciding to build this runway, is sticking two fingers up to the environment and the people of this world. By giving this runway the go-ahead, Gordon Brown is effectively holding a giant blowtorch to the polar icecaps and saying "Melt! Melt!"' McGowan said he'd buy the runway with Greenpeace. Soon, *Ecologist*

director Zac Goldsmith and actor Emma Thompson had made similar commitments.

With time running out, the team were frank with the landowner. He now knew who the buyers were and why they wanted the land. 'He totally understood and really, in focusing on security, we totally underestimated how much local people hate BAA,' Jones says.

It still looked as though it would happen too late, however. The runway announcement was due for December and the whole project was mired in the minutiae of property law. Then transport secretary Geoff Hoon announced a four-week delay – a final chance to pull it off.

It later emerged that, behind the scenes, environment secretary Hilary Benn and climate change secretary Ed Miliband were leading a Cabinet revolt, with a split running through the Labour Party from top to bottom and more than 50 Labour MPs rebelling.

'The movement's multiple strands really paid off,' Jones explains. 'While John [Sauven] was speaking to Emma Thompson, as well as MPs from all three parties, Miliband and Benn were managing to delay the decision. Ultimately, we managed to sign the legal deeds on the Friday before Hoon gave the runway the green light.'

At the time of going to press, 30,000 people from around the world have signed up to be beneficial owners of the land. But Sauven is not satisfied. 'We've got dozens of MPs on the title deeds and people from all over the world, from Sipson to San Francisco,' he says. 'But we need to make this as hard for the Government and BAA as we can. *Ecologist* readers are the kind of people we need to get involved and stop this runway, so we're hoping they'll go to [www.greenpeace.org.uk](http://www.greenpeace.org.uk) and get involved. This runway cannot and will not be built.'

**Joss Garman is an environmental campaigner and journalist**



PHOTOGRAPHS: REZAC/GREENPEACE



# In a class of their own

More and more educational establishments are becoming environmentally friendly, thanks to the Eco-Schools scheme. The writing is on the greenboard for the rest, says **Nick Kettles**

**I**t's not quite the environmental equivalent of the Normandy landings, but it might yet come to pass – if, that is, the children, teachers, NGOs and local authorities whose inspired action is currently transforming schools throughout the UK into models of sustainable best practice and learning are allowed to have their way.

In the past two years, Eco-Schools – developed in 1994 by not-for-profit NGO the Foundation for Environmental Education and administered in Scotland by Keep Scotland Beautiful, in England by ENCAMS, which runs the Keep Britain Tidy campaign, in Wales by Keep Wales Tidy and in Northern Ireland by Tidy Northern Ireland – has seen a massive spike in schools signing up to use its roadmap to sustainability. It offers guidance on a raft of initiatives, funds and laws on nine key themes, ranging from litter and recycling to transport, healthy living, energy and water conservation. From 4,000 schools in 2006, some 11,000 are now enrolled in the scheme, more than half of UK schools.

All over the country, schools are evaluating

their carbon emissions, upgrading lighting, water taps and cisterns, changing computers from old cathode ray tubes to energy-efficient flat-screens, and, where possible, integrating the learning experience into the curriculum.

While some schools have only just opened the hatch to their uninsulated lofts, or are stuck in areas still wedded to incineration, others are well on their way to becoming carbon neutral, with their own recycling and compost systems, transport plans, rainwater-harvesting systems and solar panels.

If they successfully implement energy-reduction measures, most schools can save as much as 10 per cent on utility bills – water and heating – which, even for a small primary school, can run into £30,000 a year. With decreasing budgets and increasing costs, this is money they sorely need: UK schools spend approximately £450 million on energy each year, three times as much as they do on books, about 3.5 per cent of their budgets.

## Grow and eat to sustainability

Naturally, too, given the huge cost both to the NHS in diet-related disease and the effect

food production has on climate change, school dinners have become a big feature of many schools' drive towards sustainability.

At St Peter's CE Primary in Wem, Shropshire, the school's central quad has been given over to raised beds, from which herbs and vegetables are used in school dinners, along with fresh eggs from two chickens. The school has a cooking club, and pupils get to cook with and eat the produce grown in the school growing area. School meal take-up has gone up by 17 per cent, and inspired the local authority to roll out the Food for Life 'silver menu', which favours locally and organically sourced food, across the county.

In London, Merton Parents for Better Food in Schools has set up a farm-twinning scheme with Rushall Farm in Berkshire, which will see reciprocal visits between the schools and farms to talk about growing, and give the children a chance to witness the harvest.

'It is amazing what can be achieved when the whole community pulls together,' says Jackie Schneider, chair of Merton Parents. 'It was the combination of parents, governors, catering staff, schools and local government

working together that finally got 39 kitchens built in Merton primary schools and a new improved menu.'

In an attempt to encourage teenage boys to choose healthy food at the canteen, the canteen manager at Glyn Technology School, Surrey, initiated a system of 'points' that boys could collect towards rewards, including the top prize of a mountain bike.

And, after sustained campaigning by the Soil Association, Focus on Food Campaign, Health Education Trust and many others, the Government has decided to help mend the national diet by putting cooking back in the core curriculum for 11- to 14-year-olds.

## No stone left unturned

It seems that every area of school life is coming under scrutiny.

Forward-thinking local authorities are ensuring that new school-builds don't just meet building regulations, but exceed them. For example, when Hampshire County Council recently built Wellstead Primary School, it installed a horizontal, closed loop, ground-source heat pump below the school's football pitch, providing 100 per cent of the school's heating requirements with 50 per cent less CO<sub>2</sub> emissions than a conventional gas-fired condensing boiler.

There's the Walk to School movement, whose annual Walk-to-School Month has inspired children and parents to promote healthier living and conserve the environment. Even the environmental impact of uniforms has been put under the spotlight. Clean Slate's range of fairtrade and organic cotton school clothing is exposing the risk to children of PFOAs, a compound used to make Teflon, which is applied to mass-produced children's garments for an 'easy-care' finish.

Traillblazers, such as Brabin's Endowed School in Chipping, Lancashire, which has managed to put all the pieces of the jigsaw together for a long time now – it has won four Eco-Schools Green Flags over eight years – are now busy forming a network with other schools in the area to share good practice in sustainable thinking.

## Greenwash behind the gloss

It is notable that these inspired examples of highly motivated local champions and NGOs willing to drive change invariably do so in spite of government efforts, not because of them.

For example, the eight 'doorways' of the Department for Children, Schools and Families (DCSF) Sustainable Schools strategy, which would like all schools to be sustainable by 2020 without setting a hard and fast target for carbon reductions, blatantly duplicates the nine 'themes' of ENCAMS' Eco-Schools, and has caused confusion among some schools and local authorities seeking to make

## 3 steps towards creating a carbon neutral school

**1** Identify someone within your school – a teacher or parent who is already sufficiently informed about sustainability to be able to see the wood for the trees – who is willing to give their time to start the project.

**2** Use the support of existing NGOs and initiatives, whose case studies offer clear evidence of deep and lasting change.

**3** From the outset, allow the children to be involved in every initiative, whether that be changing light bulbs, planting trees, recycling or creating a new school kitchen.

sense of the huge raft of initiatives, laws and funds for which they can apply.

Not only that, but DCSF has refused to adopt Eco-Schools as a delivery mechanism for England and Wales. It was adopted by the Scottish Executive three years ago. In Scotland, sustainability for schools is a performance indicator for local authorities and, according to ENCAMS, has resulted in an increase in enrolment from 17 to 90 per cent.

Just how deep engagement runs is also uncertain.

One teacher said: 'To be honest, it's very, very hard to get these things started. It's a new concept for teachers, governors and the pupils. Teachers are not facilities managers – we're not taught about how to apply the principles of sustainability in a school setting, with relation to the running of the school. Then there's the question of time.

## 5 things you can do now without anyone's help

**1** Upgrade to energy-efficient computers and light bulbs.

**2** Implement a recycling system in your ICT department.

**3** Reduce your water usage by placing suitable objects into all toilet cisterns to reduce water capacity.

**4** Establish a relationship with a local farm that employs sustainable farming practices to allow the children to see first-hand where their food comes from.

**5** Lobby your local authority to champion the purchase of renewable power through their joint buying consortia. If it refuses, opt out of the contract and purchase your power independently.

## Useful websites

[www.eco-schools.org.uk](http://www.eco-schools.org.uk) (select the 'resources and links' tab for a gateway to all the initiatives you will need)

[www.foodforlife.org.uk](http://www.foodforlife.org.uk)

[www.schoolfoodmatters.com](http://www.schoolfoodmatters.com)

[www.healthyschools.gov.uk](http://www.healthyschools.gov.uk)

[www.lewesnewschool.co.uk](http://www.lewesnewschool.co.uk)

We are looking to incorporate more of the initiatives into the curriculum, but that too is labour-intensive; it requires a lot of planning. And, inevitably, things get put on hold during exams.'

With so much to do, the Government's voluntary self-evaluation tool, s3, a wordy 70-page document that has already been rewritten once, is hardly a must-read for teachers.

For the children, too, especially teenagers, it's not just that going green might not be cool enough, but that there are other extracurricular choices they could be making, such as sport, art and drama – and that's before schools consider how to make the project itself sustainable, once the post-*Inconvenient Truth* fervour dies down.

Then there's the £37 billion Building Schools for the Future rebuilding and refurbishment project for secondary schools, which, while well-intentioned, has a funding gap big enough to drive a Hummer through. While it promotes high standards of energy efficiency and renewable energy sources, it doesn't make the highest standards statutory, and never provides 100 per cent of the funds required. Elements that might make buildings more sustainable (but which are inevitably more expensive) are left vulnerable to cuts by local authorities unable to bridge the funding gap but aware they can still meet building regulations.

It's true that the Government has used statutory muscle where it knows it can, like schools secretary Ed Balls' 'most robust nutrient standards for school lunches in the world' (statutory in English primary schools), but not in other areas, such as energy-saving, where a more radical approach might offend Big Business.

## Fuelling the addiction

Almost every week it seems a company is announcing how it is going to teach children to be more sustainable, in a move to fluff-up its green credentials.

For example, with more than 8,000 schools signed up, British Gas's Generation Green project is not quite the equivalent of soft-drinks companies sponsoring school vending machines, but one wonders just how sincere it really is. Not only does its starter pack of 'climate-change-lite' lesson plans include a range of downloadable posters and stickers emblazoned with the British Gas logo, but also the paltry prizes schools can win include 'educational' toy wind turbines instead of real ones, and, for a limited number of schools, some 'valuable' solar panels to help them reduce their footprints by another 100kg.

Should we expect more from a utility that thinks a child's sustainability learning objectives should include understanding 'that



Pupils at Lewes New School learn are guided in their learning, instead of being forced to follow rigid teaching exercises

energy is supplied to schools, homes and businesses by power companies, and that it is paid for in the form of an energy bill? Energy bills that they will pay to utilities such as British Gas when they're older?

Not all initiatives are so stingy, but like petrol companies that have reduced prices at the pumps, the rationale seems to be that the utilities are happy for their customers, including future ones, to use less – about 10 per cent – as long as they keep on using fossil fuels.

One school said its ideal would be to generate its own energy, or at least run its premises on entirely renewable energy, but even if it were successful in bidding for money through initiatives such as the Carbon Trust, it would never be enough for something like a thermal rod combined heat and power unit. The best it can hope for is to upgrade one of its nine highly inefficient boilers.

Even Eco-Schools, in the absence of wholehearted Government backing, is about to sign a four-year partnership with energy giant EDF to help it with essential funding.

It's true that, from 2010, schools will join a

## **‘One can't help thinking that a bigger opportunity has been missed to inspire and remodel schools completely’**

scheme that will count the emissions of public sector buildings as part of the total carbon footprint of local authorities, forcing underperforming local authorities to purchase carbon credits from those who meet targets, but the reality today is still a far cry from Tony Blair's 2004 vision that 'sustainable development will not just be a subject in the classroom but... the way the school uses and even generates its own power'.

We may feel a warm glow knowing that our children are doing their bit for the environment, but is this sustainable in and of itself? One can't help thinking that a bigger opportunity has been missed to

inspire and remodel schools completely.

'Children's enthusiasm for environmental issues can become absorbed in the technical details of achieving the next level of green credentials,' says James Greyson, who runs global issues think-tank BlindSpot. 'While this undoubtedly makes schools greener and children more informed, it also enrolls them in incremental "do your bit" sustainable development, which has proven to be ineffectual against the scale of damage to a world that is fast becoming unfit to pass on to the next generation.'

'Today we have an education system that delivers a population with a dangerously stunted capacity for critical creative thinking and engagement. This underpins and perpetuates unsustainability, including climate change. So tackling climate change is not so much about changing boilers or adding to the curriculum, but about a radically different way of delivering a curriculum.'

### **A playground for curiosity**

By example, Lewes New School, a small independent primary school in East Sussex, sees itself as a playground for curiosity. There, teachers claim, the learning is guided, not predetermined, and most of the day is devoted to 'project time', where groups of children pursue their expanding interests and ideas. The energy and time lost in other schools trying to coax children to 'behave' and to plod through imposed teaching exercises is freed up to do more.

Such as the potential for schools to become hubs that can inspire the local community's capacity for creating a sustainable world, led by the children's own ideas?

Lewes New School's headteacher, Lizzie Overton, agrees. 'The pace at which schools go green need not be governed by the spare time in overcrowded curricula and the spare money in over-tightened school budgets,' she says. 'Schools are ideally suited to become local demonstrations of creativity and sustainability. Getting to this vision means accepting that technical energy-use changes are pointless without considering how schools can grow society's capacity to design, create and live in a low-carbon, sustainable society.'

This might only be possible if we offer children the chance to learn that understanding the world, including issues of sustainability, doesn't come pre-packed, or that the only correct answers are the ones given to them by authority, whether that be government or business.

---

**Nick Kettles is a freelance writer and consultant to small businesses seeking to express better their unique contribution to world peace and sustainability**

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# DAILY LIFE

Drink tea; explore the world of earthworms; visit an eco wedding show; celebrate your local forest; set your clocks forward; go on a smallholding course; buy a cookbook; meditate. By Laura Sevier

## MARCH

**Although a seemingly basic homeware item, this wooden pan-stand is remarkable in that it can be traced back to a person and a pair of hands.**

It comes from Wongwiang Handicrafts in Chiang Mai, Thailand. Wongwiang Handicrafts was established by Oun Wongwiang, who was taught to craft wood while undergoing treatment to cure the leprosy he contracted at the age of eight. Although his fingers are gnarled and worn, his exceptional work and talent as a craftsman earned him his own business, which now employs 80 people in several neighbouring villages. Wongwiang Handicrafts has supplied Tearcraft, an organisation that provides people in disadvantaged communities with jobs and a fair salary, since 1990. It's not often you see something on sale with anything more than a *Made in...* label attached. Craftmanship deserves appreciation.

Rubberwood chicken trivet, £6.50, available at [www.tearcraft.org](http://www.tearcraft.org)

**Spotlight on...**  
**the craftsman**

## 3 THINGS TO DO...

**Land Love** You know that bit of neglected land you walk past every day, thinking, 'Someone should really clean that up and make it more attractive for wildlife and local folk'? Now's your chance to do it yourself. Find out how on the BBC Breathing Places website. [www.bbc.co.uk/breathingplaces](http://www.bbc.co.uk/breathingplaces)

**Vote** The closing date for votes and nominations for the Observer Ethical Awards is 9 March 2009. Visit [www.guardian.co.uk/observer-ethical-awards](http://www.guardian.co.uk/observer-ethical-awards) and choose your favourite ethical retailer, campaigner or politician, or enter yourself in the ethical garden, conservation, big idea, ethical kids, business or fashion categories.

**Get Crafty** Meet people. Make stuff. Join the Make Lounge, which runs craft workshops with a stylish, social twist. See [www.themakelounge.com](http://www.themakelounge.com)

## 3-5 Mar Ecobuild

The world's biggest event dedicated to sustainable design, construction and the built environment is now in its fifth year. There are 800 exhibitors and more than 100 free conference and seminar sessions.

➤ **EARLS COURT, LONDON**  
[www.ecobuild.co.uk](http://www.ecobuild.co.uk)

20 Mar  
**Vernal equinox**  
The first day of spring



By Laura Sevier

# this month

## 28 Feb 6 Billion Ways

A chance to get inspired, join local and global networks, and help change the world. 6 Billion Ways is a day of films, music, discussion (subjects include the financial crisis, climate, a new green deal and consumer culture) and opportunities to learn and practise new skills. It's a collaboration between City Circle, Friends of the Earth, Jubilee Debt Campaign, People and Planet, Rich Mix, War on Want and the World Development Movement – and is FREE.

➤ **10AM-MIDNIGHT AT RICH MIX, 35-47 BETHNAL GREEN ROAD, LONDON E1 6LA**  
[www.6billionways.org.uk](http://www.6billionways.org.uk)



## PICK OF THE MONTH



**8 Mar**  
**Eco Chic Wedding Show**

Need some tips on planning an eco wedding? From finding a dress you can wear again to sending e-vites and organising green gift lists, the Eco Chic Wedding show is the place to find suppliers.

➤ **BIRMINGHAM BOTANICAL GARDENS**  
[www.ecochicweddingandhomeshow.com](http://www.ecochicweddingandhomeshow.com)



**The World of Worms**

Surprisingly little is known about earthworms and the soils they live in, so starting this month, the OPAL Soil Centre is organising a Soil and Earthworm Survey across England to investigate. The aim is to build a picture of soil quality and earthworm populations across the country. It's easy to take part. You don't need to go far either: back gardens, school playing fields and local parks are all good to explore.

For a free earthworm census pack, email [opalsoil@imperial.ac.uk](mailto:opalsoil@imperial.ac.uk)



- Vegetables**
- Broccoli (purple sprouting)
  - Cabbage
  - Carrot
  - Cauliflower
  - Chard
  - Chicory and endive
  - Garlic (wild)
  - Leek
  - Lettuce
  - Mint
  - Nettles
  - Parsley
  - Radish
  - Rhubarb (forced)
  - Sea kale
  - Sorrel
  - Spinach
  - Spring greens
  - Spring onion
  - Turnip



Spring greens are rich in vitamin C and folic acid

➤ **How to cook... spring greens**

These hardy, slightly tatty-looking cabbages have thick, green, tender leaves. Serve them as a side dish with plenty of butter and seasoning, or add to soups and stir-fries.

To cook, remove the leaves from the stem, wash thoroughly and chop finely. Steam for 5-7 minutes or until just tender. Alternatively, heat some oil in a frying pan, add the greens and stir-fry for 3-5 minutes.

**TEAS FOR HEALTH**

Spring may be on the way, but it's still chilly enough to appreciate a good cuppa.

Black and green tea contains flavonoids, naturally occurring compounds that are believed to have antioxidant properties. For maximum health benefits go for a quality organic, whole-leaf tea such as Solaris Earl Grey, made from hand-picked leaves from one of the oldest tea plantations in India, or its Jasmine Green Tea. Solaris chooses 'spring flush' (first season harvest) teas where applicable to ensure optimum freshness and high vitamin content, and process them using traditional methods.

Grated ginger or fresh mint leaves infused in hot water for five minutes makes a reviving brew, but when time is short try Pukka Organic Teas' imaginative new organic range. We love their Three Ginger tea, formulated to 'uplift and warm'.

➤ [www.solarisbotanicals.com](http://www.solarisbotanicals.com)  
 ➤ [www.pukkaherbs.com](http://www.pukkaherbs.com)



21 Mar

## World Forestry Day

They give us shade and shelter, refuge and refreshment, clean air and water. Forests are essential for life on Earth. Pay homage to them this month and celebrate World Forestry Day by visiting a forest near you.

26 Mar

## Lecture: Forests and Climate Change

Organised by Earthwatch and chaired by explorer Paul Rose, the speakers will be Dr Mika Peck of the University of Sussex (Climate Change, Canopies, and Wildlife), and Dr Dan Bebber of the Earthwatch Institute (The Footprint in the Forest).

Lectures are free to students and current Earthwatch donors. To book your ticket call 01865 318856, or email [events@earthwatch.org.uk](mailto:events@earthwatch.org.uk)

➤ 7-8.30PM AT THE ROYAL GEOGRAPHICAL SOCIETY, 1 KENSINGTON GORE, LONDON SW7 2AR

## OUR TOP PICKS... COOKBOOKS

***The Frugal Cook* by Fiona Beckett**  
(Absolute Press, £14.99)

Buy cleverly, waste less and eat well. This sums up the ethos of this kitchen manual, which has more than 150 recipes and a glossary of how to get the most out of ingredients and their leftovers.

***The Demeter Cookbook* by Hermann Spindler**  
(Temple Lodge Publishing, £20)

Easy-to-use and simply presented, these 200 recipes from Swiss chef Hermann Spindler are based on biodynamic ingredients. Highlights include Moroccan-style ratatouille, an Italian recipe for spinach quiche and spiced apples with vanilla cream.

***Leon: Ingredients and Recipes* by Allegra McEvedy**  
(Conran Octopus, £20)

The Spitalfields branch of Leon (which serves healthy, fresh, seasonal food – fast) has become an *Ecologist* lunchtime favourite. This recipes book shows you how to recreate at home such classics as the Leon Gobi, Superfood Salad and Open Sesame Slaw.

this



# LEARN SOMETHING NEW

## ➤ DIY FOR BEGINNERS (7 MAR)

If you want to install photovoltaics, solar hot water or compost toilets, you'll need some basic DIY skills. This course equips you with environmentally friendly ways to perform common tasks. It also covers suppliers and materials. *Hackney City Farm, London.*  
**Contact Taryn, 01296 714184 or email taryn@lowimpact.org www.lowimpact.org**

## ➤ LOW-IMPACT SMALLHOLDING (13-15 MAR)

Are you thinking of establishing a smallholding? Hoping to make a full-time or part-time living from it? If so, this course is designed to help you plan ahead and avoid the many pitfalls. *Low-Impact Living Initiative (LILI), Bucks*  
**Contact Taryn Field, 01296 714184 or email taryn@lowimpact.org www.lowimpact.org**

## ➤ HEDGE PLANTING (14 MAR)

The Friends of Blythe Hill Fields are having a Hedge Planting Day to fill in some of the missing gaps between previous years' planting. Anyone is welcome to come along and help out. *Blythe Hill Fields, SE23.*  
**Contact Kylie Barnes, email secretarybhfg@btinternet.com www.blythehillfields.org.uk**

## ➤ I'VE BOUGHT A WOODLAND, WHAT DO I DO NOW? (28 MAR)

If you have bought, are considering buying or are about to work a wood then this course, tailored to your needs, is exactly what you need. *Ben Law's Woodland, West Sussex.*  
**Contact Tony Rollinson, 01730 823311 or email tony@permaculture.co.uk www.ben-law.co.uk**



# month

29 Mar  
**British Summer Time begins**

Set clocks forward one hour

## \* OUT NOW

### **Meditation for Everyone DVD (Clear Vision Trust, £14.99)**

A straightforward and practical meditation DVD produced by ordained Buddhists, *Meditation for Everyone* is a 63-minute programme that includes a



thorough explanation of the benefits of meditation and how to do it, and ends with a 20-minute meditation led by an experienced meditation teacher. A great introduction to meditation, a practice which has proven benefits

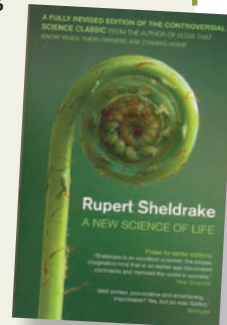
including clearer thinking and greater levels of happiness. The DVD is produced by Clear Vision, a western Buddhist organisation and registered charity.

*Matilda Lee*

➤ To order, call 0161 839 9579 or visit [www.clear-vision.org](http://www.clear-vision.org)

### **A New Science of Life, Rupert Sheldrake (Icon Books, £8.99)**

When the first edition of this controversial science classic was published in 1981, it was described by *Nature* as 'the best candidate for burning there has been for years'. In it, biologist Rupert Sheldrake reinterprets the regularities of nature as more like habits than immutable laws, arguing that phenomena become more probable the more often they occur. The implications are far-reaching and turn a lot of orthodox science upside down. This updated edition will inspire curious minds. *Laura Sevier*



### New release

### **Hungry City Carolyn Steel (Random House, £12.99)**

'This book took me seven years to write out of my bedroom,' Carolyn told me recently. It shows. Not the bedroom part, mind. This is a work of incredible breadth, yet it reads so fluidly that at times you feel you're leafing through a novel. A sensual tour of the metropolis, from Sumerian proto-city of Ur to modern-day London, her lens is food, which shapes not only how cities have developed, but also how we live in them. A rip-roaring read with a pertinent message. Highly recommended.  
*Mark Anslow*





# BARCHESTER GREEN INVESTMENT

I mean, I know the market's down and that it's all going horribly, horribly, horribly wrong. but i've already got investments and i still need to have a pension... and a mortgage... and savings... and life assurance... and all that stuff... and who's going to look after me?



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### What is your life philosophy in a nutshell?

I am a true original hedonist. I believe in maximising pleasure (for all) and minimising pain (for all).

### Can you describe a typical day?

My days are never the same. They're hectic and stimulating. I can work double time and move mountains, but I can also sneak off work in the middle of the day and surprise myself with spontaneous pleasures. When I have my daughter I clock off at 3.30pm to be with her.

### What campaigns do you most actively support?

I have just created the activist arm of Coco de Mer, called Bondage for Freedom – we work with Foundation Rwanda, which supports women raped during the 1994 genocide and who gave birth to children. Also, the anti-sex-trafficking camp I conceived with Emma Thompson, *The Journey*, is travelling to New York in February. This year, I want to work on saving the honey bee and freeing Herman Wallace and Albert Woodfox, two of the wrongfully incarcerated 'Angola Three', known as the 'Nelson Mandelas' of the US.

### What kind of eco and ethical erotic toys do you sell in Coco de Mer?

I believe in slow sex like slow food. I try to make all Coco de Mer own-brand products in the UK, and the majority in London. We also have a community trade project in India which is like fair trade but better.

### What is your top tip for an improved sex life?

Sex is the creative expression of the body. Ultimately it is about personal freedom and communication. It is the most pleasurable dance between you and another. You have to go inwards to unlock your own doors, face your fears, learn to trust and figure out how to communicate your desires. Make it a priority in your life and enjoy it. It is the best elixir to keeping you young and happy. It pumps endorphins through your body and it's free.

### Pornography: for or against?

The porn industry is in desperate need of creative talent and in dire need of ethics. What's wrong with the 'sex industry' as it stands is that it is run by men and is badly regulated. I am not against it, but up for transforming it. There is a lot of porn that makes me wince and worry. I would love to make a porn movie. Watch this space.

### What radical activist antics have you been up to lately?

I have been curating and designing art protests with massive props, costumes and music then



**Sam Roddick**

# Activist & founder of Coco de Mer

taking to the streets of London. The last one was in October, in aid of the Burmese monks.

### What's your favourite food?

Fresh, sweet cherry tomatoes and hand-torn basil leaves, olive oil, salt and cracked pepper and balsamic vinegar. Italian food is my heritage. My dad taught me how to cook.

### What's the most important thing you've learnt from your mother?

My mum was my greatest teacher. She taught me to break all the rules; how to be the ultimate rebel with a cause; to live life with passion, as though it is your last day; to be brave and inquisitive. She also taught me the value in storytelling – and most important: incorporate your beliefs into everything you do.

### What book or film would you recommend to all politicians?

*The People Speak* by Howard Zinn, an amazing collection of speeches quotes and pieces of literature that are the thoughts and inspirations underpinning US democracy. Many are the voices of historical underdogs during their fight for freedom. It's given me a clear understanding that we need continually to exercise our freedom of speech, and that

without civil disobedience and protest we have no democracy. We need to demonstrate to our governments that they are in service not to industry, but to us as a public community. Let us not let them forget.

### How do you define success?

True success is simple: it's about enjoying your life and having a loving community to share it with. One of the most thrilling states is taking huge risks and making them come off – but I'm nothing without my friends and family.

### What keeps you awake at night?

My current lover, who is inexhaustible both horizontally and verbally. We are either talking endlessly or 'exercising'.

### Where are you most happy?

Up a mountain overlooking a vast horizon. A forested valley scattered with jagged, snow-capped peaks (with my daughter close by). We need to immerse ourselves in nature to reflect on our true place on this planet.

[www.coco-de-mer.com](http://www.coco-de-mer.com)  
[www.bondageforfreedom.com](http://www.bondageforfreedom.com)  
[www.the-journey.co.uk](http://www.the-journey.co.uk)  
[www.angola3.org](http://www.angola3.org)

**R**ubber-tapping in the Amazon rainforest is a labour-intensive activity: slashes are cut into rubber trees and the latex sap drains down into a container tied around the trunk. Without the rainforest, traditional rubber-tappers have no livelihood. Cattle-ranching is another Amazonian activity, but one in which huge swathes of forest are cut down to create pastureland for cattle. These are two examples of how to create a market for commercial activity in forest areas, but they are drastically different. One helps preserve the forest; the other endangers it.

François-Ghislain Morillion and Sébastien Kopp, two Frenchmen keen on cutting their teeth on sustainable development projects, went around the world after leaving university, working for different companies, from Chinese factories to South African mines and the Amazon rainforest. After witnessing quite a lot of what not to do ('We thought it was a mistake to send a non-Chinese-speaking auditor to do social audits of a Chinese factory'), they joined up with French fairtrade food brand Alter Eco, which, among other things, sources palm hearts from Brazil. 'Compared with everything else we saw, we

were fascinated to find that through this agro-forestry model you could sustain livelihoods, preserve the environment and create a product that was viable in the French market,' says François. 'It was a good business model. Businesses can look good by donating to charities, but it's not the same as changing and improving your own company's social and environmental impact.'

Both have been trainer fanatics since their teenage years, hence the idea behind Veja, which means 'look' in Portuguese. 'Trainers are the big devils in the fashion industry. They symbolise the relationship between north and south, and the exploitation of people working in factories. Sixty to 70 per cent of the cost of trainers is marketing – we can change this business model,' says François.

Formed in 2004, Veja works with a co-operative of 42 rubber-tapper families – *seringueiros* – in Acre, in the heart of the Amazonian rainforest. Rubber-tappers are paid four to five times more than the world market price for their rubber. Building on this ethical supply chain, the canvas of the trainers is made with organic cotton grown by a co-operative in the north east of Brazil. The trainers are assembled in the south of the country, in a factory that 'respects workers' rights and dignity'.

For co-founder Sébastien Kopp, Veja represents an act of 'commercial disobedience' in terms of the traditional market for trainers, which is obsessed with low prices and profit margins to the extent that the 'human aspect' is degraded.

The Amazon is the only place in the world where rubber trees grow in the wild, but the trees are spread out, making the logistics of tapping them difficult and time-consuming. Because of this, much of the world's rubber production takes place on plantations, where thousands of trees are planted close together. 'Extractive reserves' are specific areas of the Amazon set aside by the Brazilian government for the non-destructive activities of local communities, where logging and mining are prohibited. While rubber-tapping is one of the main commercial activities in the reserves, low market prices and high transport costs mean that making them financially viable is often difficult.

Veja's aim is to valorise traditional rubber-tapping, and by using the triple-bottom-line approach to business, its commercial, social and environmental success will make it that much more lucrative than clear-cutting the forest for cattle ranches.

[www.veja.fr](http://www.veja.fr)

# Rubber Rules

A pioneering ethical fashion company is helping maintain traditional livelihoods and prevent deforestation in the Amazon, writes **Matilda Lee**





**Above:** Latex being tapped from a rubber tree in the rainforest

**Opposite and right:** Veja sources the rubber for its trainers sustainably, working with a co-operative of 42 tapper families in Acre, in the heart of Amazonian Brazil

## **Novo Mundo(s) – New World(s)**

*Novo Mundo(s)* is an exhibition of the work of photographer Florent Demarchez, who followed Veja founders François-Ghislain Morillion and Sébastien Kopp on a journey to Brazil in June 2005. It will be presented at Favela Chic, 91-93 Great Eastern Street, London EC2A 3HZ from 2-30 March.





Obesity, allergies and heart disease... If you think our diets are getting worse, spare a thought for our dogs. Is it fair to reward man's best friend for its service with substandard food, asks **Laura Sevier**



# SHOULD MY DOG EAT DOG FOOD?

**T**ake a trip down the dog-food aisle and you'll be confronted with a mind-boggling range of brands and varieties, all vying for your attention. The

packaging shows pictures of plump chickens, choice cuts of beef and fresh grains, along with claims like: '100 per cent complete and balanced', 'healthy vitality recipe' and 'a meal he'll love every day'.

As with humans, a pet's diet is the basis of good health. For thousands of years, feeding the dog was a simple matter of giving it scraps and leftovers. Nowadays, it's not unusual to hear of dogs on low-carb, low-fat, high-protein diets, or dogs that are 'intolerant' to wheat and soya. There are vegetarian dogs and those that are only fed organic brands or 'real' home-cooked food. There are even dogs on diet pills.

With more than seven million dogs in the UK, the pet food industry is big business. We animal-loving Brits spend around £3 billion a year on pet care, and pet food accounts for about 80 per cent of that. Globally, canned pet food is a £600-billion-a-year industry – the vast majority of which is made using intensively reared animals. In fact, what most people don't know is that the pet food industry is an extension of the human food and agriculture industries, and many pet food companies are subsidiaries of gigantic multinational corporations. Commercial pet food provides a convenient way for grain wastes and meat byproducts considered 'unfit for human consumption' to be turned into profit. This waste can include everything from euthanised shelter animals to cancer-ridden livestock, roadkill, downer animals (those unable to walk), mouldy grains and rancid restaurant grease (see box, right).

Only available for the past century, grain-based, processed, commercial dog foods are a far cry from the variable meat-based diets the ancestors of today's dogs ate. Fed on the same old convenience foods that comes out of cans, bags and boxes, can dogs really thrive?

Surveys show that overall pet health is declining almost as rapidly as human health. Cats and dogs are now developing a vast list of

degenerative diseases, including autoimmune diseases, allergies, heart disease, diabetes, chronic digestive problems joint and arthritic problems and cancer.

Our dogs are also getting fatter, and dog obesity is a growing issue. According to a 2008 report by the veterinary charity PDSA, almost one in three dogs (around two million) in Britain is currently overweight. The report also found that the areas with the most overweight people have the most overweight pets. It appears that as we humans get fatter and more sedentary, so too do our dogs – bringing a whole new meaning to the notion of dogs looking like their owners. This has spawned another pet food marketing opportunity: doggie diet pills. 2007 saw the launch of Yarvitan, the first weight-loss drug for dogs in the UK. Apparently it 'prevents fat from being absorbed into the bloodstream', and can 'help dogs shed 8-10 per cent of their weight.'

### It's a dog's life

Unfortunately there is a frustratingly little research into how pet diets and lifestyles can contribute to illness or behavioural issues. Such studies are usually funded by major pet-care product manufacturers who have no real interest in finding out if they do cause problems.

There is, however, plenty of anecdotal evidence. 'Over the 13 years I've been a practising vet, I have seen a substantial rise in cases of problems caused by poor diet, including allergies and intolerances, and behavioural issues linked to artificial additives in food,' says TV vet Joe Inglis, who spearheads the Campaign for Real Pet Food. His concerns are backed by experts including clinical animal behaviourists. The campaign, launched in September 2008, aims to educate people about what really goes into dog food, and to promote foods that are made from good-quality, natural ingredients, are free from artificial additives and have open, honest ingredients declarations.

Inglis set up his own line of natural pet food, Pets' Kitchen, in 2005. He had been devising home-cooked recipes for dogs and cats in his surgery, and saw the benefits that feeding fresh, natural meals was having on pets with chronic diseases. For those who don't have time or energy to prepare daily home-cooked dogs' dinners, these ready-made meals – made on a little farm in Devon, using local meat and fish mixed with rice and vegetables, then steamed – are a good bet. There is also a growing number of 'real food' brands like Inglis's hitting the market. Most are a far cry from the rest of the sludge you'll find on the supermarket shelf.

Laura Sevier is the *Ecologist's* Daily Life Editor

## What goes into dog food?

Look at the ingredients label on a tin of dog food and you'll see such vague terms as 'meat and animal derivatives (minimum meat claimed 4%, minimum 4% fresh meat)'. What this tells us is that those 'delicious, moist, meaty chunks' are about four per cent meat and 96 per cent something else. Typically, pet food is likely to contain:

- **ANIMAL BYPRODUCTS** Heads, blood, fat, ligaments, feet, beaks, unborn young – the overspill of butchery. Body parts from '4D animals' (dead, diseased, dying or disabled) are also used, which means that whatever made the animal sick and whatever medicines it was given before death remain in the food chain.
- **SUBSTANDARD PROTEIN** The amount of grain and vegetable products has risen dramatically over time. Corn and wheat gluten meals and soya bean meal are often used to boost protein, which are poorer sources of protein compared to meat.
- **FATS** Rendered animal fats or unwanted vegetable fats and oils are sprayed on to dry food to make it palatable.
- **SALT** As much as 1,000 times more than your pet needs in a day, and **SUGAR** in many forms, such as sucrose, corn syrup, and caramel. Semi-moist food usually contains as much as 25 per cent sugar.
- **VITAMINS and MINERALS** Dog food is 'fortified' with these as the ingredients used are not wholesome, their quality may be variable and harsh manufacturing practices destroy many of nutrients.
- **GMOS** Soy and corn are used in many pet foods. By 2006, 89 per cent of the planted area of soybeans and 61 per cent of maize (corn) in the US were of GM varieties.
- **CHEMICAL ADDITIVES INCLUDE:**
  - **Humectants** to keep food moist, which can contain up to 10 per cent propylene glycol (used in the making of antifreeze).
  - **Artificial colours and flavours** to make the product more palatable to dogs and attractive for consumers.
  - **Synthetic preservatives** such as butylated hydroxyanisole (BHA) and butylated hydroxytoluene (BHT). These antioxidants have been shown to affect the nervous system and are potentially cancer-causing agents. Also of concern is ethoxyquin, a newer antioxidant, which has been linked to allergic reactions, major organ failures, behavioural problems, skin problems and cancer.

For more details, see 'What's really in pet food,' a report by the Animal Protection Institute (API). [www.bornfreeusa.org](http://www.bornfreeusa.org)

### Action

- Visit the Campaign for Real Pet Food website to pledge your support and to find out where to buy real pet food. [www.crfp.org.uk](http://www.crfp.org.uk)
- A Lot of Organics has a list of suppliers. [www.alotoforganics.co.uk](http://www.alotoforganics.co.uk)
- *What's In This Stuff?* by Pat Thomas has more information on natural pet care.

### Veggie dogs?

#### Is it okay for a dog to go vegetarian?

The Vegetarian Society website maintains that 'given plenty of variety, deficiencies are unlikely if a wide variety of foods is eaten'. TV vet Joe Inglis says that 'it can work for a dog, but not for a cat (which will die if it doesn't eat meat). Dogs are better, healthier and happier eating meat. Dogs would not be vegetarian by choice. It's a bit much to impose your ethics or habits on them. I haven't come across many.'

# How to... Home educate

There are more things in heaven and Earth than set curricula teach in schools, so why restrict your children's learning? Letting them learn flexibly and organically creates rounder, more educated human beings, says **Mike Fortune-Lee**

**H**ome education is nothing at all like school. There is an old home-education joke (not a very good one) that goes:

Q: How many home educators does it take to change a light bulb?

A: None. The kids would far rather sit in the dark than have yet another conversation about electrical power generation.

That's how it goes. It's all about opportunity, using the context. The whole school approach of set curricula and things children should learn at particular times is anathema to the way most parents home educate.

School can hold children back. If a child of seven asked what an occlusion was because they heard it mentioned on the news, even if the teacher could answer they are far more likely to say: 'I'm afraid we have to do the literacy hour now so open your book at page...' – so another opportunity for real learning is lost. To be fair, though, 30-plus kids all asking questions would be a nightmare scenario for a teacher, and no learning would take place in that class either. Still, one teacher does not and cannot meet all the personal learning needs of that number of pupils.

It is difficult to know how many home-educated children there are in the UK because there is no requirement for home-educating families to register with the authorities. Broad estimates vary between 30,000 and 150,000, but the most convincing suggest there are 50,000 to 70,000. One thing everyone agrees on is that numbers are growing quickly – perhaps by as much as 15 per cent per annum.

I have been home-educating my four children for 18 years. There is no such thing as a 'typical' home-education day. For many the attraction is its flexibility: for example, a family may have an ongoing project, but if they get up one morning and find that it's snowing then that can be abandoned and they can spend the next week building toboggans or studying the properties of ice. Only rarely do families conduct anything that looks like a formal class. Most learning takes place in the form of conversations, but these are just more

## What you need to know

- Home education is and always has been legal in the UK. Local authorities have no duty to monitor home educators and can only investigate when they have reason to believe a child is not being educated. In practice, however, most will want some contact, particularly in the beginning. There are plenty of places families can go to get advice on how to respond to approaches by their local authority.
- There is no financial help of any kind for home educating, but the cost is far less than one might think.
- If your child is already registered at a school, in order to home educate you must first have them deregistered (for details, see [www.home-education.org.uk](http://www.home-education.org.uk)).
- Home educators rarely consider socialisation a problem. As well as being members of local support groups, home-educated children often attend other organisations, such as Scouts and Guides, as well as interest groups, such as archaeology and the like. Families often meet up informally to share resources and socialise. In all likelihood there will also be a locally run group nearby that meets regularly.
- Parents do not need to have any specific qualifications, such as a teaching certificate

or university education, in order to teach their children at home. The best qualification seems to be having an interest in your children and being engaged with them on a day-to-day basis.

■ Home educators do not have to follow the national curriculum, or indeed any curriculum. A parent's legal responsibility is to provide an education suitable to the child's particular needs and abilities, and appropriate to life in the community in which the child finds him or herself.

■ For families new to home educating, it is worthwhile going along to a local group to see families interacting with each other and talking to them about how they go about home educating.

■ Being home educated in no way prevents children from taking examinations as external candidates. A growing number are using Open University courses as an alternative, which are cost effective, at least as academically rigorous as traditional GCSEs and often felt to be closer to the style of learning home-educated children are used to. They can also be used to count towards a degree further down the line. Home-educated children have no problems getting into university.

focused versions of what any parent does with a child. They might go on longer as well (anything up to a couple of months or more – seriously) and they would range wider and deeper in subjects, depending on how the child's mind works through it.

General knowledge tends to deal with many questions children ask, of course, but if a child wanted to go further into a subject we would go to a bookshop and start from there. A while ago we bought encyclopaedias, but these days the internet is a great source of information. For factual information Wikipedia is a good source these days, and often has further useful links, but for politically and socially sensitive data you need more sources.

If something comes up about which we know nothing at all then we ask around. There are extensive networks of home educators, which gave us access to literally thousands of

people. A few years ago I spent a day with a family whose young teenagers had asked: 'why can't the Government just print more money if it needs to?' My degree is in economics, so their parents approached me and we spent a day sat in the garden drinking tea and learning about the circulation of money, inflation, taxation, fiscal control, what money is and different measures of money supply. We did not routinely share educational tasks, but from time to time we have teamed up to deal with an issue that has arisen.

There are as many ways to home educate as there are families, but many home educators follow a more or less child-centred approach, often called 'autonomous'. With this approach parents facilitate their child's own interests. Some families may follow a more formal, school-like route, but this is comparatively rare.

Autonomous home education is based upon

Karl Popper's idea that real learning must be intrinsic; that is, the subject must lead the process. That way, the child will learn and retain those things it wants to learn.

An example: our eldest used to play a PC game called *Civilization*, in which you can replay moments in history. When he was seven or eight he became fascinated by the 12th-century Mongolian invasion of Europe, one of the scenarios of the game. From that he got an interest in comparative political systems and religion; from there to politics and philosophy, and then on to Utopian writing. He is now finishing his MA in creative writing and has a novel close to completion, along with a collection of short stories, for which he has already been offered publication. It really is that unstructured. Another thing: we never tested him on spelling or on grammar but he now works as a professional editor.

We do not teach or think in terms of subjects that are social constructs. Maths comes up when trying to solve a problem and questions about mountains arise when trying to cross them, but we do not study them in isolation, unless of course one of the children asks 'what made mountains?' – otherwise why bother? They won't remember it. And it would be an interesting point of conversation.

## Resources

**For further information on starting out in home education, see:**

- [www.home-education.org.uk](http://www.home-education.org.uk): a huge resource on home-education issues and a gateway to other resources.
- [www.schoolhouse.org.uk](http://www.schoolhouse.org.uk): information on home education in Scotland.
- *Winning Parent, Winning Child* by Jan Fortune-Wood (Cinnamon Press, £11.99). Autonomous parenting and home education.
- *Can't Go Won't Go* by Mike Fortune-Wood (Cinnamon Press, £11.99). Home education and school-phobia.
- *Free Range Education*, edited by Terri Dowty. Home-educating families' stories.
- *Home Education Journal* by Mike Fortune-Wood (Cinnamon Press, annual subscription £11.99). Triannual publication.

PHOTOGRAPH: GETTY IMAGES



# Universities

From 'First' to 'Failed', student activist group People & Planet has created a new way of ranking the UK's universities – according to their environmental credentials. **Laura Sevier** finds out more about turning the tables

**T**he phenomenal growth of student activist organisation People & Planet (P&P) over the past few years reveals an active student movement, campaigning to end world poverty, defend human rights and protect the environment. The P&P network, the largest of its kind in the UK, now covers 70 per cent of Britain's universities and 10 per cent of sixth forms.

But what about the institutions themselves? Britain's universities, schools have a huge environmental impact – one that could and should be massively reduced. The UK higher education (HE) sector emits three million tonnes of CO<sub>2</sub> into the atmosphere every year, and is responsible for more than a million journeys daily. Schools emit 9.3 million tonnes of CO<sub>2</sub> per year, and that's not counting the 1.2 million tonnes of CO<sub>2</sub> emitted by people travelling to school by car.

With many universities leading the research on the environmental threats facing our planet, it's common sense that they also lead in lightening their own footprint.

Which is why this is an area that P&P focuses on. Its 'Go Green' campaign aims to cut carbon in colleges and schools. 'The

campaign excites students because it's very accessible. They can directly impact their university,' says Bronwen Smith-Thomas, P&P's climate change campaigns officer.

In February 2008, 39 university, school and



college groups staged campus actions as part of National Go Green Week – the UK's first national student week of action and events against climate chaos. In February 2009, the number of groups campaigning during Go Green Week increased to around 70. The focus is on institutional change; the aim is to reduce carbon emissions. Actions vary, from question times with MPs, political candidates and campus vice-chancellors to simple awareness-raising activities such as running a stall during a break or lunchtime.

## Final examinations

One way used to grab people's attention – students and staff alike – is to encourage students to sign Valentine's Day cards (provided by P&P), which are then sent to the vice-chancellor or whoever needs to see it. The overall message: 'Fall in love with your climate', coupled with specific requests for action. It's certainly a novel way to put the pressure on.

There are signs that universities are getting the message, if People & Planet's 2008 Green League Table is anything to go by. Sponsored by WWF, it ranks all 129 British universities, awarding them a First, 2:1, 2:2, Third or Fail, based on nine environmental criteria related to both policy and performance. It incorporates data obtained from the Freedom of Information Act, including the percentage of waste recycled and CO<sub>2</sub> emissions.

The 2008 table shows dramatic improvements. 'The first year (2007) was a real wake-up call for the sector,' says Smith-Thomas. 'We saw a big improvement in 2008, with lots of universities adopting new and revised environmental policies, and employing more environmental staff. We're hoping to see an improvement this year too.'

There's nothing like being ranked to enhance performance.

The 2009 Green League Table will be published in June.

Find out how to kick-start a campaign by downloading People & Planet's 'Go Green' action guide from its website, see [www.peopleandplanet.org](http://www.peopleandplanet.org)



# Challenged

## HIGH ACHIEVERS IN HIGHER EDUCATION: THE 2008 LEAGUE TABLE OF ENVIRONMENTAL EXCELLENCE

Rank	University	Environmental policy	Environmental staff	Environmental audit	Fairtrade status	Ethical investment policy	Energy sources	Renewable energy change	% waste recycled	% waste recycled change	Carbon emissions per head	Carbon emissions per head change	Water consumption	Total Score	Class
1	University of Gloucestershire	10	12	10	3	3	2	2	1	2	4	2	4	55	1st
2	University of Plymouth	9.5	12	8	3	0	2	2	4	2	4	2	4	52.5	1st
3	University of the West of England, Bristol	10	12	7.5	3	3	1	-	3	2	4	2	4	51.5	1st
4	Anglia Ruskin University	9.5	12	7	3	0	2	2	3	2	4	2	3	49.5	1st
5	University of Hertfordshire	9.5	12	10	3	0	2	2	3	-2	4	2	2	47.5	1st
5	University of Central Lancashire	10	12	6.5	3	0	3	2	1	2	3	2	3	47.5	1st
5	Loughborough University	9	12	7.5	3	0	3	2	4	2	2	2	1	47.5	1st
5	University of Cambridge	9	12	9.5	0	0	3	2	4	2	2	2	2	47.5	1st
9	Leeds Metropolitan University	9	12	10	3	0	3	0	3	-2	3	2	4	47	1st
9	University of Huddersfield	9.5	12	4.5	0	0	3	2	4	2	4	2	4	47	1st
11	Queens University Belfast	8.5	10	10	3	0	3	2	2	2	2	2	2	46.5	1st
12	University of St Andrews	10	12	8	3	3	2	0	4	2	0	2	0	46	1st
13	University of Glamorgan	9.5	12	10	3	0	2	-2	3	-2	4	2	4	45.5	1st
14	University of Leeds	7	12	6.5	3	3	1	2	4	2	1	2	1	44.5	1st
14	University of Derby	8.5	12	10	3	0	0	0	2	2	3	0	4	44.5	1st
16	Oxford Brookes University	10	12	10	3	0	2	2	1	-	4	-2	2	44	1st
17	University of Liverpool	9	12	8.5	3	3	1	0	2	2	0	2	1	43.5	1st
17	Swansea Metropolitan University	7.5	12	7	3	0	0	0	2	2	4	2	4	43.5	1st
19	University of Glasgow	9	12	9	3	2	2	2	0	0	1	2	1	43	2:1
19	Nottingham Trent University	8.5	12	9.5	3	0	1	-	3	-2	3	2	3	43	2:1

# EDUCATION SPECIAL




## Courses for 2009...

March 6	Straw bale building	June 9-10	Earthen (cob) seating
March 23	Cleft oak fencing	June 29-1	Dry stone walling
April 4	Organic Gardening	July 4-5	Organic Gardening
April 18	Straw bale building	July 14-15	ESDGC and use of outdoors
April 19	Natural plasters	August 4-6	Cob building
April 28-30	Round pole timber framing	August 8-9	Low impact foundations
May 10	Biodynamic Gardening	August 10-14	Straw bale building
May 15	Straw bale building	August 15/16	Low impact roofing
May 16	Lime plasters	August 22-23	Lime plasters
May 17	Clay plasters	August 29-30	Clay plasters
June 3	Earth oven construction	September 5-6	Biodynamic Gardening

Costs per day **£45/£65/£80** (unwaged/waged/high waged) Includes lunch.  
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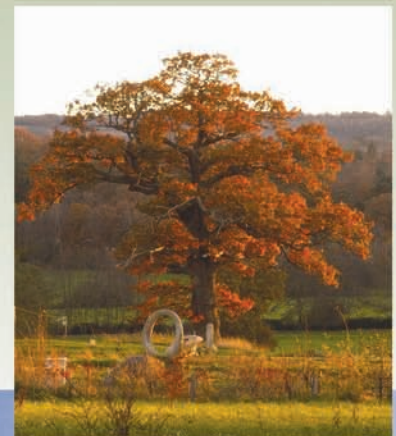
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The University of Bradford Ecoversity project was launched at this time as a direct result of the challenge by the Higher Education Funding Council for England (HEFCE) to the sector to demonstrate leadership on sustainable development in both education and everyday activities. We did not claim to be leaders in sustainable development - indeed we had many unsustainable activities – but declared that we would commit ourselves to becoming a beacon for sustainable development in practice and to report on our journey.

Our stated goal for Ecoversity is to embed sustainable development in the living and learning experience of all our students and staff and influence our local communities, wider region and national and international partners. This cultural shift is complex, challenging and requires radical changes in our organisational thinking, decision-making and ability to learn about ourselves and our actions and chart a new direction.

“Management is doing things right; leadership is doing the right things.”

(Peter Drucker)

As Ecoversity has evolved we have begun the process of asking ourselves questions about what we do and why we do them, whether it be the ethical commitments in our finance policies, to whether we should be supporting certain products and companies to what type of energy we should be purchasing.



Photograph by Emma Banks

Stilt Walkers distribute Ecoversity information, providing a refreshingly different view on campus during this year's Freshers' Week.

# ECOVERSITY PUTTING THE ECO INTO UNIVERSITY

With over 2.3 million students, 300,000 academic related staff and a multi-billion pound turnover the UK Higher Education sector is huge in terms of size, turnover and impact.

In 2005 the funding council for Higher Education in England asked what the sector was doing to contribute to sustainable development. At the time many seemed surprised to be asked the question and the resulting report indicated a fragmented set of actions that failed to demonstrate leadership or a co-ordinated approach to sustainable development.

As an example in the past 2 years we have installed 2 new biomass boilers fuelled by Forest Stewardship Council (FSC) locally sourced wood chip. Other simple actions have included phasing out plastic bags, reducing paper consumption, increasing recycling to 60%; restricting staff use of air travel, promoting free public transport and car sharing; creating space for permaculture and organic garden developments.

“A university is a diverse community held together by common complaints about parking.”

(Vice Chancellor University of California)

As we advocate and make change we are confronting long cherished norms and behaviours that arouse strong feelings, which require care in implementation to build the trust and confidence needed to develop further change. We have developed an Ecoversity Newspaper called The SEED co-written by staff and students to develop a sense of common purpose and community to celebrate individual and collaborative actions ([www.bradford.ac.uk/ecoversity](http://www.bradford.ac.uk/ecoversity)).

With over 10,000 students, education remains one of our biggest potential contributors to sustainable development. We have traditional courses in Geography and Environmental Science, Environmental Engineering and Development studies where sustainable development is well established. We have taken the radical decision however to put in place a requirement that all our courses across the University have to commit to teaching about sustainable development in order that we create a new generation of sustainable literate graduates. We are developing new programmes in sustainability leadership and bite-sized learning modules aimed at industrial and employer needs.

A £70million pound campus regeneration programme aims to bring a green and sustainable lifestyle to the heart of the campus. A new £25million pound 1000 bed space sustainable student village is due to open Sept 2010 designed to achieve Building Research Establishment Environmental Assessment Method

(BREEAM) outstanding and be affordable, adaptable and a showcase for the sector. A number of projects are designed to promote and support student learning and activities around sustainable development through what we call an 'informal curriculum'. These programmes offer students practical experience of developing and running projects in support of Ecoversity. We have a campus wide team of Ecoversity student ambassadors and interns engaged in projects that are supporting the development of Ecoversity. We have worked hard to create inclusive and democratic processes to reflect the underpinning values of sustainable development

and we have widespread student involvement in all the key Ecoversity working groups and decision-making structures.

In sum Ecoversity is an active and collaborative institutional learning process which involves multiple cultures, viewpoints and understanding of what sustainable development and Ecoversity means. We have a built in research process to capture our own learning and fold this back into our University decision-making, actions and culture. We are at early stage of our Ecoversity development but welcome visitors or those wishing to engage or support our goals.



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**For more information, contact:**

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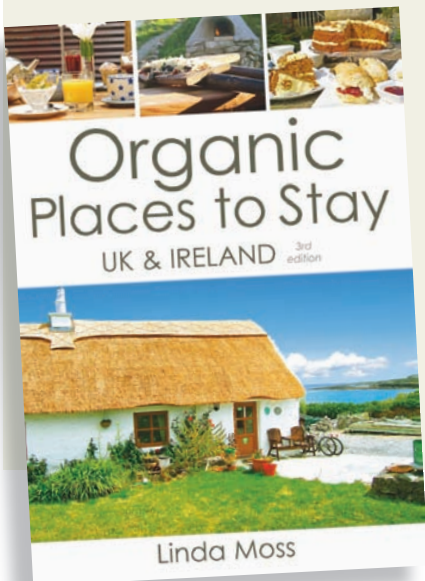
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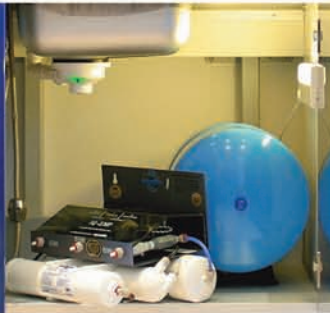
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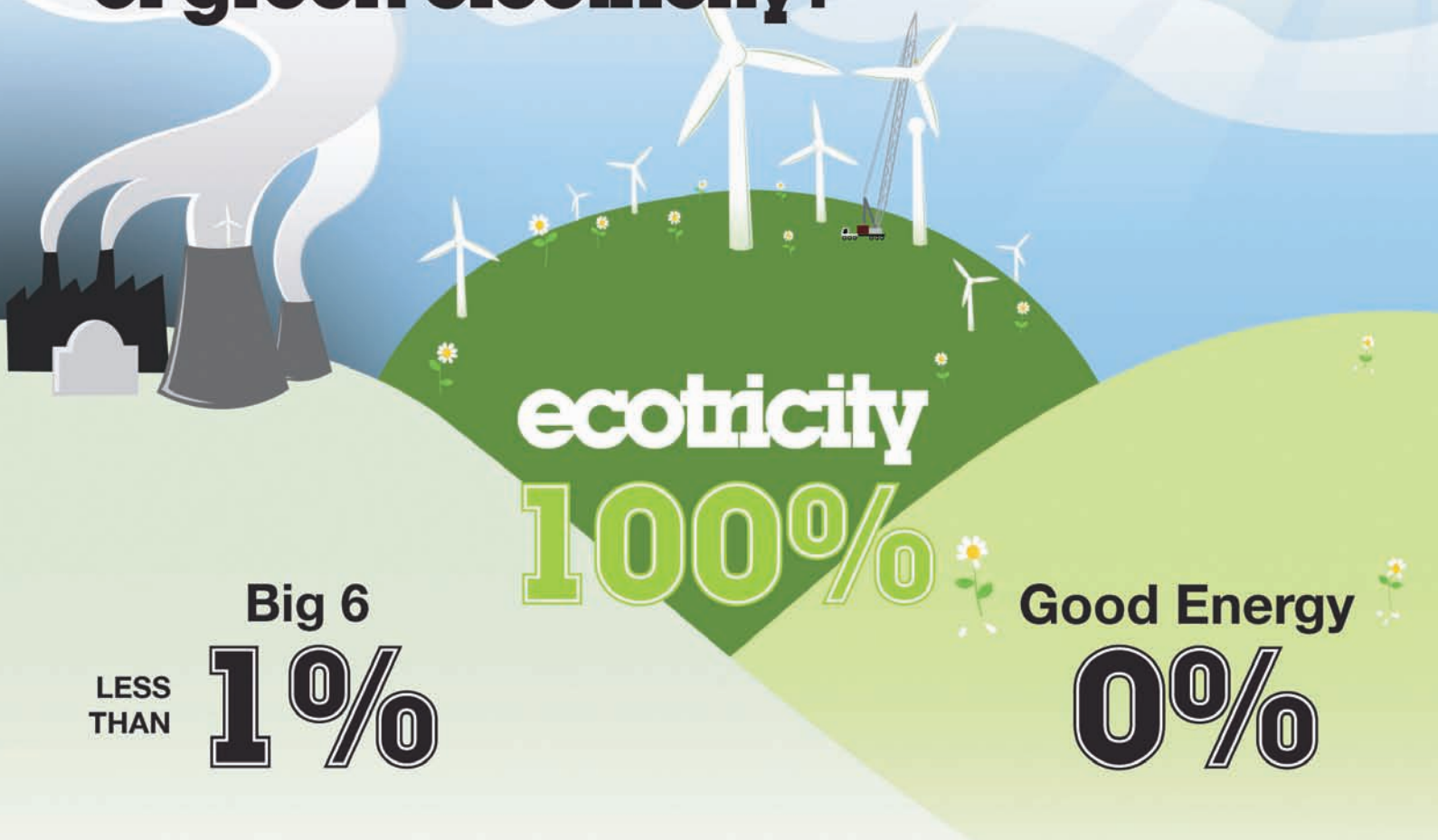
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## Nappiness is...

As a new mother, I read with interest the article on whether disposable or reusable nappies were greener (*News*, December/January). Though the comparison between the two options in terms of CO<sub>2</sub> emissions is valid over the course of 2.5 years, it doesn't take account of the fact that, on average, babies using cloth nappies are 'potty-trained' a whole year earlier than disposable users. This is thought to be because disposable nappies eliminate the sensation of wetness, and thus reduce the child's ability to associate soiling with its own bladder and bowel movements.

Nor does the article address the question of how necessary it is to clothe one's baby in nappies at all. It's only in western Europe and North America that nappy-wearing is the norm. In Africa, China, South America and much of eastern Europe, babies are generally taught very early to 'eliminate' on cue. This has been practised since ancient times, and is an effective means of maintaining natural hygiene for infants. Even in the west, infants in the 1950s were generally toilet-trained by the age of two (a whole year earlier than today's average). The advent of Pampers-sponsored research wrongly suggesting that children have no muscle control before the age of two has led to the current situation: billions of non-biodegradable nappies as well as a mountain of toxic waste are unnecessarily dumped into landfill on a daily basis.

**Susannah Wilson and David Haycock**  
London

## Rash statements

I was disappointed to see your article on disposable versus reusable nappies. It is a continuation of short-sighted thinking that compares products only in terms of their intended usage, and that usage's impact on the environment. If you added their manufacture, transportation to point of sale, longevity and ultimate disposal, you would move towards a far clearer understanding of 'which is greener'.

In New Zealand, there is a burgeoning made-at-home industry of women making reusable nappies and selling them on networking and trading websites such as Trade Me. This adds another dimension of sustainability to disposable-alternatives. While there are 'eco friendly' options, most cheap disposables include a toxic absorbing material that, upon being sent to landfill, can

## LETTER OF THE MONTH

# Power to the people

In Tom Hodgkinson's article 'Don't get back to work' (*How to be free*, February), he advises: 'Switch all your suppliers to co-operatives... Avoid any shareholder-owned business like the plague. They are evil because they exist only to make profits for their shareholders. They are fuelled by greed'. I can't agree more. Here's a true tale that proves the point.

Last autumn, the remnants of Hurricane Ike caused a terrible windstorm (thanks to human-made climate change) in a small section of the midwestern United States. The winds did a lot of damage, and our entire region lost electrical power. However, while we and our neighbours in rural Butler County were only without power for a few hours or up to two days, those living in nearby towns and cities were without power for nearly a week on average, and some for as long as two weeks.

The reason? A co-operative provides the electricity for our rural areas, while shareholder-owned businesses supply electricity to the cities and towns. Our county's electric co-operative is constantly investing in line maintenance, including replacing old poles and other equipment as needed, and pruning trees away from

power lines (and, as an aside, also investing in renewable energy research).

As a result, none of the poles in our system cracked, and no trees fell into power lines. The story in the nearby cities and towns was just the opposite: regular maintenance didn't profit shareholders, so it simply wasn't done. Also, an employee of our electric co-operative told me that she and her fellow employees worked long hours – even taking advantage of a full



moon to work on line-repairs around the clock – because they couldn't rest while their friends, neighbours, and relatives were without power.

Meanwhile, the union workers in the big shareholder-owned power companies worked the normal eight-hour day, so repairs naturally took longer. Our local storm and power outages never made the national news, and nobody has publicly discussed the differences between the rural and non-rural experiences in this situation. But what will happen the next time an environmental crisis knocks out the power in our area? In yours? Co-operatives are the only way to go; shareholder-owned businesses are evil.

**Patricia Platt**  
Somerville, Ohio, USA

leach into the environment. So, as it turns out, considering which is greener is not only about 'how you wash them'.

**Meghan Hughes**  
Wellington, New Zealand.

*News Editor Mark Anslow replies: You're quite right that reusable nappies have other advantages not listed in our table, including the potential to lead to earlier potty training and a reduction in the amount of non-renewable resources used. You are not giving the Environment Agency report, on which we based our table, its due, however. The study*

*(<http://tinyurl.com/5zxuyy>) did indeed take into account all the inputs to nappy manufacture, including energy, materials and water, and all the resulting impacts on disposal. In fact, one of its conclusions is that if all parents in the UK started using reusable nappies on their children, water consumption would increase by 40 million m<sup>3</sup> a year, with greater subsequent water pollution – an unavoidable impact of increases in cotton growing, as well as washing and drying.*

*The Ecologist is no cheerleader for disposable nappies – far from it – but it's important that our criticism of them be science-led.*

**Send letters for publication to: Letters, the Ecologist, Unit D102, 116-118 Commercial Street, London E1 6NE.  
Email: [letters@theecologist.org](mailto:letters@theecologist.org). The Ecologist reserves the right to edit letters as necessary.**

## Cars aren't all bad

I wanted to respond to John Cossham's advice on reducing your carbon footprint (*How to...* February). While I applaud Mr Cossham's lifestyle and his low carbon footprint, his statement that 'you are not green if you drive around everywhere' is simplistic.

Of course we should all drive less and use public transport more, but for some people it is just not practical. I have a severely autistic son and use my car to take him to school, therapy sessions and play activities. Using public transport, at the moment, would be too distressing for him. However, although I regularly use a car, I still consider myself green. Three years ago I bought a cleaner and smaller car. I am a vegetarian, work an allotment, don't fly, invest money with the Ecology Building Society and am a member of Friends of the Earth, Greenpeace and the Green Party. I use recycled products wherever possible, recycle heavily and last year worked hard to persuade my council to install Tetra-Pak-recycling bins at various sites in my local area. When I can use public transport I do. Vilifying car users is not, in my opinion, helpful to the green cause, and if a judgement is to be made about green credentials, one should look at the whole picture.

**John Matthews**  
Harpenden, Hertfordshire

## An astronomical error

I have just had the chance to read Nicola Graydon's article 'Mayan Gold' (December/January 09) and want to correct an error.

She writes: '...the end date in December 2012 corresponds exactly with the moment when our sun will move into direct alignment with the equator of the Milky Way galaxy – an event that will not happen again for another 26,000 years.'

This is not true. First, the end date referred to is only the end of one cycle of the complex calendar of the Maya; other cycles continue.

Second, the winter solstice on 21 December (due to the rotation of the Earth's axis, which causes the effect known as the precession of the equinoxes) does indeed align to the galactic equator at this time. Because of the width of the sun, it came into the alignment about 1980 and will leave it about 2020. The exact date was, in fact, just before the turn of the millennium, not 2012.

The sun crosses the galactic equator twice each day. What makes this time unusual is that it is now doing so at the solstices. The summer solstice sun is crossing the galactic

## ECOLOGIST POLL

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equator on its descending path, the winter solstice sun on its ascending or rising path. What makes this alignment extraordinary is the fact that the two fixed places in the celestial sphere (in Gemini and Sagittarius) where the ecliptic crosses the Milky Way are also aligned to the centre and away from the centre of the galaxy.

Thus a correct statement would read: '...the end date in December 2012 corresponds closely to the moment when our sun is in direct alignment to the centre of the Milky Way galaxy – an event that will not happen again for another 26,000 years.'

It is an extraordinary moment in what has traditionally been seen as an aeonic cycle. For that reason, it is important to get the facts right.

**Nicholas Mann**  
[www.britishmysteries.co.uk](http://www.britishmysteries.co.uk)  
by email



## Eat less fish

Whether to purchase farmed or wild fish (*Dilemma*, December/January 09) is an undoubtedly difficult decision for today's consumers, and your article effectively outlined relevant concerns for each. However, I feel the essay failed to mention the most important aspect towards sustainability: to

reduce consumption. Whether farmed or wild, reducing the amount of fish purchased is the most effective way to minimise the ecological impacts associated with each. One need not consume fish every day in order to survive; it is a luxury product. This is especially true for the carnivorous salmon.

**Michael Price**  
Conservation biologist  
Canada

## Green tips the scales

Yes, I do believe that fish farms can be sustainable especially if they operate in an ecological manner (*Dilemma*, December/January 09). No matter what business you're in, you can choose to be ecological or environmentally invasive. Farming is no different: if you choose the best practice, good ecological results will follow

**James Bishop**  
by email

## Show us your pumpkin...

On reading your *News* item 'Don't mention the war' (February), it struck me that though the Dig for Victory campaign has been kept alive in popular consciousness, it was only one instance of gardens and allotments being a form of insurance for large numbers of people. Any insurance that gives resilience to peak oil, climate change or financial disasters should be welcome, especially if it does not require speculation or short-selling. Along with resilience as a benefit of growing your own

can be added health and happiness: health because what could be more healthy than regular exercise with bending and stretching in the open air; happiness from the many choices offered by seed catalogues, creative opportunities for growing new and old things in different ways and different conditions and of course the chance to meet neighbours while working out doors. Perhaps these themes might help increase the popularity of growing your own. I look forward to the day when you are not judged by the size or speed of your car but by how big your pumpkin is and how

strong your chillies.

**Paul Sutton**  
Maldon, Essex

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**Now playing Fishy Business: the high cost of cheap farmed salmon**

# Too blind to see

From carbon trading to embodied emissions, our difficulties would be greatly reduced if we changed the way we perceive our own beliefs, says **Bob Doppelt**

**'Cap and trade' is seen by many people today as a climate saviour. But emissions have risen, not dropped, as a result of the European Union's programme, indicating that cap and trade faces rough sledding.** This should not be a surprise. Global warming, at its core, is not actually a technology, policy or even an energy problem. It is the greatest failure of thought in human history. Attempts to reduce greenhouse gas emissions will fail unless people first alter their thinking and behaviour.

The Earth is warming because humans, primarily in industrialised nations, suffer from systems blindness. We have failed to recognise the effects of our insatiable use of fossil fuels, massive resource consumption and huge emission of greenhouse gases on the social and ecological systems we are dependent upon for life. Only after people recognise the destructive effects of their current beliefs and assumptions and make the shift to 'sustainable thinking' will successful solutions to the crisis emerge.

Systems blindness seems to permeate all facets of western society today.

Much of the trouble with the EU's carbon-trading programme can be traced to the fact that many of the regulated industries see it simply as another government programme to be manipulated for their financial benefit. Others are pursuing the large-scale use of dubious offsets, indicating that they intend to maintain business-as-usual. Corporate interests are also lobbying the EU to prevent meaningful change to the programme, potentially undermining the entire escapade.

These companies cannot grasp how their production and use of fossil fuels adds more heat-trapping CO<sub>2</sub> to Earth's thermal blanket, threatening the human and ecological systems that they and their customers are enmeshed within. They also cannot comprehend the fundamental economic restructuring that is needed to ensure their own survival. EU government regulators, for their part, seem blind to the systems they are charged with regulating.

Pollution markets were first developed in the US to control emissions from power plants that produced acid rain. The US sulphur dioxide (SO<sub>2</sub>) trading programme achieved a 60 per cent reduction in

**Bob Doppelt is a writer and director of the Climate Leadership Initiative at the University of Oregon, Eugene**



emissions from power plants, and the nitrogen oxides (NOx) programme achieved a 40 per cent reduction, primarily through the use of well-known, mature technologies.

This approach will not work as well with CO<sub>2</sub> because most of the technologies needed to capture CO<sub>2</sub> at power plants and factories and sequester it are still in their infancy, with no guarantees of success. Government bureaucrats don't seem to recognise this fact, however, dimming the prospects of much-needed emissions reductions.

It's not just big business and government that suffer from systems blindness: consumers are also afflicted. Extensive effort is underway in many western nations to reduce domestic emissions. Much of the success, however, may be an illusion. This is because western consumers buy thousands of products that have significant 'embodied emissions' – i.e. the greenhouse gases generated in developing nations such as China to manufacture the goods used in the developed nations.

Emissions embodied in imports of IT, telecom and consumer electronic equipment to the US in 2006, for example, were 3.5 times larger than all emissions from electric power generation in California, according to a 2007 study by the Joint Global Research Institute. The report also noted that total US imported embodied emissions have grown almost threefold in the past decade.

In the UK, even though national CO<sub>2</sub> emissions declined by five per cent from 1992-2004, embodied emissions from consumed goods and services rose by 18 per cent, or 115 million metric tonnes, according to a recent report by the Stockholm Institute on Sustainable Development and the University of Sydney for the UK's Department of Environment, Food and Rural Affairs.

Few nations count embodied emissions, which makes their domestic inventories misleading. Western nations are simply exporting their emissions overseas, but most consumers remain blind to the effects of their consumption choices.

This form of systems blindness is reinforced by blindness about the true purpose of many foreign policy and poverty-alleviation programmes. Few taxpayers realise that their money is used by the World Bank, IMF and other agencies, in cahoots with multinational corporations, to create huge indebtedness among developing nations in order to gain cheap access to their oil and natural resources.

The cost of this economic colonialism on the poor, the climate – and ourselves – is enormous. Many developing nations must allocate a majority of the revenues to debt repayment, leaving little for nutrition, healthcare and housing programmes. Growing poverty, in turn, increases deforestation and other problems that reduce nature's capacity to absorb CO<sub>2</sub>. In addition, export credit agencies – private institutions that act as intermediaries between national governments and exporters to provide export financing – fund or support nearly half of all new energy-intensive projects in the developing world, according to attorney Bruce Rich of the US-based Environmental Defense Fund.

Until the public sees our foreign policy and development financing for what it is, poverty and greenhouse gas emissions alike will continue to grow, threatening everyone.

Is it possible to overcome systems blindness? Can we think and act sustainably? Yes. As I point out in my book, *The Power of Sustainable Thinking* (Earthscan), the key is to understand that humans progress through a normal series of stages whenever they make a fundamental change in their thinking and behaviour. Using appropriate change mechanisms at each stage can move people toward greater awareness. With persistence, most eventually begin to account for the effects of their thinking and behaviours on the climate and others, and act to alleviate them.

If humanity is going to stabilise the climate, we must remove the blinkers that prevent us from seeing the harm caused by our current thinking and behaviour. The future will be powered by sustainable thinking – or it will not be much of a future at all.



**Only after people recognise the destructive effects of their current beliefs will solutions to the crisis emerge**

We can't tackle today's threats using Cold War weapons. That's why what the UK does with its nuclear arsenal has never been more pertinent

# Gone fission

**On the same day the Government announced its approval for a third runway at Heathrow, something else momentous happened that concerns that other major threat to the world – the proliferation of nuclear bombs.** As if from nowhere, three of Britain's most prestigious military commanders called on the Government to scrap Trident. Field Marshall Lord Bramall, a former chief of defence staff, General Lord Ramsbothom, a former adjutant-general, and General Sir Hugh Beach, former master general of the ordinance, said Trident had become 'virtually irrelevant', and argued: 'It must be asked in what way, and against whom, our nuclear weapons could be used'.

Encouragingly, the debate over the nuclear arsenal is making a comeback, but this time the most vocal critics of the weapons system are coming from the most unlikely quarters. Set against the context of climate change and international terrorism, as well as a biting recession, it is precisely the irrelevance of our nuclear weapons system that is making it so relevant. As the generals put it in their letter to the *Times*: 'Nuclear weapons have shown themselves to be completely useless as a deterrent to the threats and scale of violence we currently face or are likely to face, particularly international terrorism'. Lord Ramsbothom told BBC *Newsnight*: 'It is a Cold War weapon. It is not a weapon for the situation where we are now'.

It's a strong point. What use is a Trident submarine that carries 1,536 times the explosive capability of the Hiroshima bomb? This is especially true given that we're talking about 'an enemy' that comes in the form of Islamic fundamentalist individuals blowing up trains and buses.

While in some ways it's understandable that these weapons are no longer at the top of peoples' list of worries – 'they'll never be used,' it is often said – it made the hairs stand up on the back of my neck when I read four years ago that a secret Pentagon report, leaked to the press, showed US commanders expecting that nuclear conflict could arise from the dwindling food, water and energy supplies resulting from abrupt climate change. Indeed, the *Bulletin of Atomic Scientists* claims that, in part because of climate change and the resulting pressure on resources and refugee flows, the likelihood of nuclear conflict is higher now than at any time since the Cuban missile crisis.

There is a compelling argument that says to deal with modern security threats and to improve our national security requires a focus on reducing our dependence upon foreign oil and gas, which in turn means such boring

**Joss Garman is an environmental campaigner and journalist**



things as loft insulation and increased renewables uptake. It'd be good for security and for tackling climate change. Is it more relevant to address Britain's security needs by spending £100 billion on new nuclear weapons or on hitting our renewables target of 20 per cent of

renewable heat, electricity and transport by 2020? The Government estimates that hitting these targets would also cost £100 billion. Were we to meet this target, it would slash our dependence on foreign fossil fuels, a source of instability across the world.

It is something of a relief that important international voices are putting disarmament back on to the agenda, even if they are showing nothing like the commitment necessary. Back in 2007, Barack Obama called for the US to begin building a global consensus to reverse a reliance on nuclear weapons that have become 'increasingly hazardous and decreasingly effective'. On Obama's first full day in office he issued a statement to 'set a goal of a world without nuclear weapons, and pursue it'. Equally, I understand that by the time this article goes to print, our

Foreign Secretary David Miliband will have made a speech outlining support for restarting international talks to set a framework for disarmament. Yet this is undermined by PM Gordon Brown's recent decision to approve a whole new generation of nukes. This hardly puts us in a good position to negotiate

as we re-enter international Nuclear Non-Proliferation Treaty (NPT) talks in May 2010. Equally, Obama's failure to even mention Israel's nuclear status isn't a good sign.

What's new, and particularly important, though, is that while once it would have been Labour politicians arguing most vociferously for disarmament, it is now the likes of the generals, former defence secretary Michael Portillo and right-wing commentator Max Hastings who want unilateral disarmament and are making the most noise about it. That's important because it changes the premise of the discussion. The generals wrote: 'Our independent deterrent has become virtually irrelevant except in the context of domestic politics', but the domestic battlefield has changed as dramatically as the international one. If you favour nuclear disarmament it no longer indicates you are a Bennite. If Miliband got serious, he couldn't credibly be accused of lurching to the left. We might still be able to have a conversation about this most relevant of irrelevancies.



**What use is a Trident submarine that carries 1,536 times the explosive capability of the Hiroshima bomb?**



Rich in rapacious financiers, poor in resources, Iceland's spectacular meltdown teaches us one thing over all: it's the economic system, stupid

# An object lesson

**The world has watched the vertiginous collapse of the Icelandic economy in recent months with a mixture of fascination and horror.**

The Victorians popularised the concept of the 'object lesson', when an item, often from nature, was brought into the classroom and used as a didactic illustration of a general moral lesson. Iceland is providing an object lesson in what is wrong with the organisation of the global economy. Its first mistake was to focus on finance and ignore resources of real value. With a population barely larger than Bristol's and few resources other than hot water and fish, it could not sustain the sorts of huge investment deals its 'Viking raider' entrepreneurs were engaging in. Overstretched, they brought the banks down with them; then the currency; then the whole economy.

But there is nothing unusual about this strategy: 95 per cent of the transactions taking place in the global economy have no contact with real goods. We have an economy that feels it can cut loose of the planet and generate profits through financial engineering. The problem is that this disembedding of economy from environment means there is no longer any awareness of how much the Earth can sustain. Its resources are depleted, its energy drained. We are killing our own support system.

The dislocation between economic activity and natural systems also has consequences for ourselves. We have created an unstable and ungrounded economy: we become similarly unstable and ungrounded if we spend all our lives at work-stations rather than engaged in creative and collaborative work. When our shoes and even our food are produced on the other sides of the globe, it is all-too-easy to forget that all are resources are provided by nature.

Iceland is also demonstrating the insecurity bequeathed by globalisation. An immediate consequence of the crisis was a clearing of supermarket shelves in a country that

**Molly Scott Cato is a reader in green economics at the Cardiff School of Management**



has low-quality land and a poor climate, hence most fresh food arrives in tins. In spite of our lush landscapes, the UK is also running a huge food deficit – the same size as China's, according to the UN's Food and Agriculture Organization – and as the value of sterling declines, the cost of imported food rises. This global

supermarket approach is also damaging the human spirit, depriving us of local meaning and real nourishment.

The lessons Iceland has to show us in terms of social cohesion are perhaps the most disturbing, and also the most promising. Following the implosion of the banks there were numerous violent protests in Reykjavik, and calls for the resignation of prime minister Geir Haarde led to the collapse of his government in January. In November, Iceland had signed a deal with the IMF, which will lend £10 billion to support the economy, but only on condition that it introduces the sorts of policies of cutting expenditure and squeezing living standards that poor countries of the south have been subject to. This has led to disillusionment with the conventional economic model and support for the green-left party by around a third of the electorate.

What can we learn from the Icelandic object lesson? It demonstrates the unsustainable nature of the globalised capitalist system that has come to dominate provisioning and trade over the past 40 years. The most important lesson is to cut your coat according to your cloth. Once you strip away the financial fluff, an economy is worth what it has in terms of resources: its people and its land. Losing sight of this basic fact has created overinflated currencies and excessive asset prices; the other side of the coin has been the devaluing of the resources that really matter: people and planet. Creating green jobs is all very well, but until we tackle the economic system's underlying destructive logic, sustainability will always be out of reach.

## GOOD BUY WORLD

PETER RIGG



# A global land-grab

Wealthy countries and agribusiness want farmland, poorer countries need capital – but what happens to the locals? By **Martin Large** and **Neil Ravenscroft**

**Rising food prices, the drive for food security, biofuels and profits are fuelling a massive global land-grab. Some of this land is being bought by wealthy businessmen, some by predatory transnational corporations, which, with the collusion of corrupt, greedy governments, then enclose the land and clear it of small farmers and indigenous peoples.**

The corporations sell the crops at high prices to the rich north. The result is that millions of people are being cleared from their customary land and forced into poverty.

In South America, for example, the area known as Patagonia stretches across southern Chile and Argentina. In the 1990s the Argentine government allowed large parts of Patagonia to be sold off. 'If we don't stop this intrusion,' said Adolfo Pérez Esquivel, winner of the Nobel Peace Prize in 1980, 'we will live in exile in our own land.' The *extranjerización* or 'internationalisation' of land has resulted in frenzy of land purchased by the rich and famous. Luciano Benetton buying 900,000 hectares of Argentinian land for the mass-production of wool for his international clothing business. The company also has a tannery, pine plantations and other business initiatives there.

Media magnate Ted Turner owns a modest 55,000ha, which he says will be used for the protection of the environment and breeding and conservation of local endangered species.

Douglas Tompkins of North Face clothing owns 800,000ha in Argentina and Chile as a conservation land trust. Tompkins, the second-largest private property owner in Chile, has used the purchase to create the Pumalín National Park in that country, and the Monte León Park in southern Argentina.

Well-publicised good intentions aside, however, some of these *estancias* also enclose massive areas of freshwater, and because they are privately owned, local people no longer have access to this vital resource.

Pérez Esquivel says that the law favours the wealthy *estancieros*. In Benetton's



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case, for instance, 'the police are allowed to evict indigenous people by force and with absolute impunity'. In 2002, two indigenous Mapuche formally requested to reclaim 385ha of ancestral family land from Benetton. There was no response, so they occupied the land with their animals, only to be evicted 10 days later by the police on a provincial judge's order. The judge based his decision on an 1886 title deed of a British company benefiting from the 'Conquest of the Desert' – a war against the indigenous peoples of Patagonia for their land.

Rosa Nahuelquir and Atilio Curiñanco still don't have 'their' land back, in spite of a meeting in Rome with Benetton, which offered them land elsewhere. This particular ancestral land was a special place of origin for them as Mapuche. In 2007, Nahuelquir, Curiñanco and other members of their community reoccupied and set up camp on the land they believe rightfully belonged to their ancestors. The dispute is ongoing.

The complex, tragic story of ownership, clearance and dispossession is one all too well known in our own history. Scottish chiefs signed away their clansmen's land in the Highland Clearances of the 18th century, and dispossessed Highlanders were shipped off to Canada to make way for Cheviot sheep. The House of (landed) Lords passed more than 10,000 Enclosure Acts to enclose common land and drive Welsh and English country people off the land. Opposition to enclosure was put down by the landed elite with thorough savagery and, when necessary, the deportation of ringleaders. Domesticating

their peasants at home prepared British colonialists to expropriate land in Patagonia and around the world. And as Anon says:

*The law will hang the man or woman*

*Who steals the goose from off the common  
But lets the greater thief go loose  
Who steals the common from the goose.*

Rich northern countries and companies alike are targeting the land of developing countries in the current global land-grab.

Agribusiness is displacing small farmers: Korea's Daewoo is buying a 99-year lease on a million hectares of land in Madagascar to grow 5m tonnes of corn, and plans to lease a further 120,000ha for palm oil, to be grown by South African workers. In 2007, the Philippines gave Chinese companies access to 1.24 million hectares. In 2008, the Saudi Middle Eastern Foodstuff Consortium announced plans for acquiring 500,000ha of basmati rice land in Indonesia. Middle Eastern states have been acquiring control of massive areas of farmland in various countries. There is a fire sale of Laotian land going on, with China seeking a million hectares, though between two and three million hectares have already been leased to various states.

There is a similar, if less well documented, land-grab commencing in Central and Eastern Europe, particularly in parts of Ukraine, Russia and Lithuania, although undoubtedly elsewhere as well. In northern Ukraine, for example, where the farmland restituted to small farmers in the 1990s cannot legally be sold, northern European farming companies are buying long leases of large blocks of land. They are then turning this land over to a new form of industrialised farming, based on exporting hemp and flax fibres to China and grain to the northern hemisphere, often with biofuels made from the byproducts of the fibre production. The farming companies offer jobs to some of the farmers from whom they have leased the land, and they also borrow back the lease payments that they have made to buy northern European machinery. In place of the stable small-scale farming communities of rural Ukraine, therefore, a new cash economy is emerging in which foreign farming companies are pivotal, and in which many of the dispossessed cannot participate.

This global agribusiness land-seizure destroys jobs, rural livelihoods and the environment. Millions of indigenous peoples

*continued on page 88*



**Middle Eastern states have been acquiring control of massive areas of farmland in various countries**

**Vast swathes of Patagonia, in Argentina, are being sold off to foreign interests**



*continued from page 87*  
and farmers are being dispossessed. The results are conflict, more urban slums, rising poverty, a corporate stranglehold on food, dislocation, social inequity and hunger, so it is vital to reflect on the causes of the land-grab.

First, the land-grab is being driven by the ideology of neo-economic liberalism of the free market, with its deep-seated dog-eats-dog ethic. As John Maynard Keynes once observed, capitalism rests on the belief that if everyone is nasty to everyone else then a healthy economy will be the result. This ideology is in fundamental conflict with the co-operative patterns of food-growing and complex customary land rights characterising traditional agriculture.

Second, neo-liberal economics treats such commons as air, water, natural resources and land as commodities to be enclosed and traded. Institutions such as the International Monetary Fund and the World Bank favour the commodification and marketisation of land, finding customary tenure systems hard to understand, let alone recognise and support. By definition, they must be inefficient. This is a totally different paradigm from traditional land systems, which are governed by custom, by overlapping rights, and by deep cultural and spiritual attachments of people to the land.



**Neo-liberal economics treats such commons as air, water, natural resources and land as commodities**

We can forget that landed property is a modern invention. Massasoit, a leader of the Wampanoag, asked the Plymouth colonists in the 1620s: 'It cannot be the earth, for the land is our mother, nourishing all her children, beasts, birds, fish, and all men. The woods, the streams, everything on it belongs to everybody and is for the use of all. How can one man say it belongs only to him?'

Third, the legacy of colonialism, where 'virgin land' was conquered, mapped, distributed among immigrants, registered and enclosed is in basic conflict with traditional land systems. Australian Aborigines were not recognised as citizens of their own country until 1967, and were only recognised as its first inhabitants in 1993. Mapping, registering and securing multiple land interests is complex – as opposed to western, ex-colonialist land registry systems. Some people own cashew trees, others can cultivate the land and others have hunting rights. This is a bit like English Common Law, which recognises a bundle of land rights

rather than absolute land ownership and control. Governing elites that sign away land as if it were the state's to lease or sell are bulldozing these traditional land tenure systems, and any agreements signed can be seen as 'odious'.

There are three key questions that need

addressing so as to counter the corporate land-grab. These questions go beyond debates such as private ownership of land versus forms of community land trusteeship on the one hand, or free market versus government regulation on the other. The questions are:

1. How can the multiple and layered rights of land-users be secured?
2. How can land access be secured for both land-users and overall societal benefit?
3. How can land be managed while recognising cultural diversity and tradition?

So what to do? Action needs to be taken on both the demand and supply side. On the supply side, global civil society, land researchers and international institutions such as the UN (through the Food and Agriculture Organization) must research and expose these disastrous land thefts

by rapacious agribusiness and governments. They must also expose how the land thefts are taking place and, thus, how they can be repelled. Active research needs to be undertaken into how nations can secure their land for local farmers and indigenous peoples, not profit-hungry corporations, though it may be that some companies can be sensitive partners. On the demand side, we need to ask how Britain and other rich importer countries can practically and sustainably provide more of its own food, so as to reduce global demand and the profits to be made from the land-grab, thus lessening the burden on the rural communities of the south.

What we need to underpin these initiatives is a new associative approach to the management of farm land; one in which multiple interests in, and uses of, land can be encouraged, such that food chains can be shortened and the land tilled according to the principles of long-term sustainable production. At its core, this is about breaking down the producer/consumer dichotomy and replacing it with mutuality, creating, in the words of agricultural pioneer Trauger Groh, a culture of community supporting agriculture and agriculture supporting community.

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**Stroud Common Wealth and Forum Synergies are planning a September 2009 conference into widening land access for community food-growing across Europe. For more information, email Martin Large at [martinhclarge@gmail.com](mailto:martinhclarge@gmail.com)**

Climate change due to human interference with fragile ecosystems?  
No problem – we can just dump 20 tonnes of iron sulphate into the ocean

# The iron sea

**The time has come to talk about geo-engineering – and I mean really talk about it. If you've never heard the term then get used to it because 'geo-engineering' will be turning up more in editorials, policy pronouncements and heated arguments. It describes any large-scale techno-fix that deliberately tinkers with the climate, weather or ecosystems.**

Polluting the upper atmosphere with nanoparticles that cool the planet? That's geo-engineering. Turning plantations into charcoal to bury our problems in the soil? That's geo-engineering. Changing the chemistry of the seas to soak up more greenhouse gas? Also geo-engineering.

As I write, an Indo-German experiment, dubbed Lohafex, is dumping 20 tons of iron sulphate over an area of the southern ocean about the size of the Maldives. The iron will prompt the growth of tiny plankton, leaving a long green scar on the ocean visible from space. Proponents say this plankton bloom will suck CO<sub>2</sub> out of the atmosphere and lock it away forever. Dr Victor Smetacek, co-chief of the expedition, imagines deploying five to 10 ocean-fertilisation ships all year round, fantasising that this could remove a gigatonne of CO<sub>2</sub> from the atmosphere. Whimsically, he muses that the ships might accommodate eco-tourists who would volunteer to shovel iron sulphate overboard!

In March, geo-engineers associated with the Australian-based Ocean Nourishment Corporation want to dump industrial urea into the Tasman Sea. US-based Climos Inc intends to carry out another large dump in early 2010.

Is all this legal? Actually no. In the past two years, civil society groups and some sober governments have put the

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brakes on the ocean-fertiliser crowd. Last May, 191 states at the UN Convention on Biological Diversity (CBD) agreed a de facto moratorium on ocean fertilisation. The Lohafex expedition ignored both the CBD agreement and the strong advice of the German environment minister, who requested a halt.

The science suggests not only that ocean fertilisation is ineffective at mitigating climate change, but also that artificially messing with marine ecosystems this way might lead to reduced oxygen in the water, the growth of toxic algae species and even more damaging greenhouse gases. If you want to see how fertilising our already stressed oceans can go badly wrong, check out the vast dead zone in the Gulf of Mexico, where nitrogen fertiliser runoff has already done what the geo-engineers are hoping to mimic.

But the urgent public debate on geo-engineering has to be broader than the specific risks of this one technique. We need to decide if geo-engineering of any kind is a road worth travelling. Its advocates are already calling for public funds and society's blessing to conduct real-world tests of equally risky proposals. They will use an upcoming Royal Society report to make their case for increased experimentation. Like GM field trials or nuclear testing, such experiments will massively interfere with our environment. In each case, a small group of scientists and their backers will be using the climate crisis to broker their own legitimacy to alter the planet. We shall hear that extreme times require extreme measures. James Lovelock, originator of Gaia theory, has already described geo-engineering in medical terms as planetary medicine – 'an emergency treatment for the pathology of global warming'.

When I hear such arguments I think of my grandmother. Shortly before she died of cancer, she underwent debilitating chemotherapy. 'Those doctors can kill you with their drugs,' she warned me angrily – and indeed they did. She chose an extreme intervention at an extreme time in her life and it didn't work – but at least it was freely chosen.

What scares me is that the geo-engineers want to put the whole planet into experimental chemotherapy: nanoparticles injected into the sky, charcoal mixed into soil and iron dumped in the ocean. Right now they are preparing to wheel the planet-as-patient into the emergency ward and are not very interested in broader societal permission. We live on that planet. It is time to speak up – before irreversible procedures are set in motion.



**Right now they are preparing to wheel the planet-as-patient into the emergency ward**



# Between you and me...

No more financial meltdown, poor communication and substandard food – if we ditch the middlemen and get co-operative, what couldn't we achieve?

**I have been working out how to escape from capitalism and live like a king into the bargain. I was doing this anyway, but since the banking collapse, to explore new ways of doing business seems more sensible than ever.**

Inspired by GK Chesterton's view that trade in the Middle Ages was carried out under the principles of co-operation rather than, as in our age, competition, I have been trying to stop dealing with any company that is quoted on the stock market. It seems to me that this is the heart of the problem: any company whose shares are publicly available and tradable commodities is always necessarily going to put the interests of its shareholders – which coincidentally, happen to be the same as the interests of its directors, because they are generally the biggest shareholders – before quality of product, staff welfare, customer service or pleasure and fun in the workplace.

What's more, the big shareholder-owned companies are run on the outdated principles of greed, materialism and macho posturing. Their chairmen are generally there because they put money above morality; they are unafraid of sacking 5,000 people or reducing wages in order to fill up their own coffers.

A business run on co-operative lines is a completely different

beast, however. Here we see the principle of 'seizing the means of production' in action. Co-ops are established on the principles of mutual aid, the phrase loved by the great 19th-century Russian anarchist Prince Kropotkin. As a result, the co-ops tend to be staffed by more intelligent, more courteous and more humane people than the brutal capitalist monsters. They do not feel that they are being exploited and therefore are able to act as themselves, and not according to some script imposed on them.

Three examples come to mind now. First, there is the Co-operative Bank. I moved here from First Direct three years ago and my experience has been excellent. The staff on the phone are always very good and, bar the occasional unsolicited phone call trying to sell me credit cards – which I intend never to have ever again – I've no complaints.

The Co-operative Bank was founded in 1872. As a reaction against the brutal capitalism of the dominant culture, the 19th century saw a welter of co-operative groups spring up, all of which harked back to the Guilds system of the Middle Ages, where members looked after one another, for example when sick.

It's true that the bank is run as a big business with three million customers, but we do know at least that it has an ethical

investment policy, unlike any other high-street bank, and that because it is not greed-locked, it has been able to thrive in recent conditions, when all other banks have suffered. Its directors are paid well but not absurdly.

The co-operative movement as a whole was founded in 1844 by a group called the Rochdale Pioneers. The principle of their food shop on Toad Lane was that the customers had a stake in the shop and would share profits. This gives a completely different impetus to a business than that given by a shareholder system.

In December I finally escaped the clutches of BT and Tiscali, and transferred phone calls and internet to the Phone Co-op. Again, this is not a shareholder-owned company, so is different in its very nature. It doesn't spend millions advertising how cheap it is – it simply is cheap. I reckon I will be able to save hundreds of pounds a year, and again, I am not merely serving the interests of a millionaire board member.

The other revelation at the Phone Co-op was the fantastically good and friendly customer service. It's the same with Suma, the wholefood wholesaler. Every three months or so, as part of a local food group, we place an order. Again, the staff are intelligent and friendly without being hard-sell or smarmy. Co-ops make trade into a pleasure rather than a stressful process.

Here is a movement that was started by the people, for the people. Not by governments. The Government has been curiously silent on the matter of co-operative approaches lately, engaged as it is on the ludicrous and hopeless task of trying to keep a dying system afloat.

Clearly, then, we all need to disengage from any dealings with shareholder-owned companies and switch to co-ops. This is fairly easily done with food, banking and telecoms, but what about transport, which is every household's highest weekly cost? Can we imagine petrol co-ops, car co-ops, train co-ops? We need urgently to get the Bransons and other greed-mongers out of the picture. We need to get the tax-eating politicians out of the picture. We need to recreate our own new systems, and the co-operative movement is a wonderful place to start.



**Can we imagine petrol co-ops, car co-ops, train co-ops? We need urgently to get the Bransons and other greed-mongers out of the picture**



Tom Hodgkinson is the editor of *The Idler* and author of *How to be Free* (Hamish Hamilton, £14.99)

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