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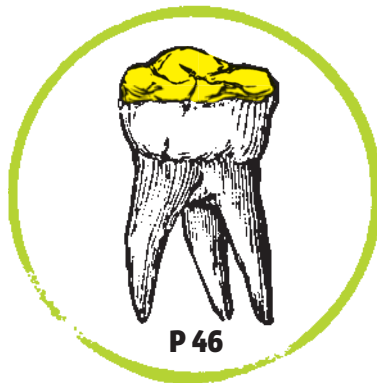
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Editorial

Greens are the new reds

There are two things bothering me. Okay, actually, there are a lot of things bothering me, but let's keep the list short. The first is a recent report that the FBI thinks 'eco-terrorism' is the number one domestic terror threat in the US. Greens, it seems, really are the new reds.

The second is the notion that concern for the environment is now so widespread that we can claim to have 'won' the environmental 'war'. It's hard to reconcile this notion with the war that is currently being waged against environmental campaigners behind the scenes, in the media and through the courts.

Environmentalists – especially the ones who ruffle feathers, challenge the status quo and hang ironic banners on the Houses of Parliament that say 'BAA Headquarters' – have long been targets for political and commercial interests. But rather than fight on the issues, vested interests – and not just in the US – prefer to fight a PR war that uses doubt and insult to discredit these unruly individuals.

They also stoop to espionage – the recent case of activist group Plane Stupid being infiltrated by an aviation industry spy being a good case in point. But this is not new. Documents recently released in the US show that a private security company run by former Secret Service officers spied on Greenpeace and other environmental organisations from the late 1990s through at least 2000.

The courts are likewise enlisted: in the US, judges are banning protesters from protesting – for life. The lawyers that helped force the Department for Children, Schools and Families to stop schools showing *An Inconvenient Truth* without also showing films like Channel 4's widely discredited *The Great Global Warming Swindle* – for 'balance' – have given seminars telling other lawyers how to 'win' as they did.

In the US, the media are already comparing the Earth Liberation Front (ELF) to Al-Qaida. ELF is being blamed for torching a street of \$2 million plus eco houses in Washington State. There is little credible

evidence that ELF is to blame. Indeed, there is suspicion that the builders did it to recoup their losses in a 'soft' property market.

Are ELF extremists? Yes. Are they vandals, arsonists, bullies even? Based on their past behaviour, yes. But terrorists?

My concern is how quickly the eco-terrorist label could spill over on to average people who engage in direct action or civil disobedience. We picked up this thread with our student issue in February, noting that today's students, were they to protest in the manner of their 1968 counterparts, would be branded terrorists.

In this issue we highlight the plight of residents of Merthyr Tydfil who are trying to stop opencast coal mining taking place 30m from their homes (see page 24). The woman who led the legal challenge has suffered multiple threats to her wellbeing: her dog was shot; she has had to install CCTV around her home for security. Imagine the mindset of these people: 'Stop this terrorist threat, granny, or the dog gets it.'

In the meantime, officially sanctioned eco-terrorism – oil companies that dump wastes on pristine landscapes, the 2010 Winter Olympics committee razing vast stretches of wilderness to build yet another sports village, the chemical companies that poison entire communities – goes largely unchallenged and unpunished.

Extremist groups are often made up of people who feel they have exhausted every 'civilised' avenue in order to be heard. They are people left with the notion that only by making a really big noise will they get their concerns on the agenda. Vested interests would like nothing more than for intelligent, concerned ecologists everywhere to stop fighting, speak softly and carry no sticks at all. The rise of direct action groups in the UK and elsewhere is an indication that people are increasingly fed-up with greenwashing, and with the eco-spin of CSR. It's a sign that the war, if that is what you choose to call it, is really only getting started.

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Letters



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THE DIRECT APPROACH

Why does the *Ecologist* ignore direct action?

I'm puzzled. You regularly cover worldwide ecological resistance movements, and even encourage direct action (July/August 2007), but you seem actively to ignore the current wave of climate change-based direct action sweeping the UK (and the rest of the world). After attending the 2006 Camp for Climate Action at Drax, I eagerly awaited the September and October editions to see what the *Ecologist* made of the birth of this exciting new movement. I was disappointed to find nothing more than a single quote from one climate camper.

One year later, we made worldwide headlines joining forces with the residents of Sipson to take on BAA and its plans for a third runway at Heathrow. The corporation had attempted to jump on the let's-crush-civil-liberties-under-the-pretext-of-terrorism bandwagon as it sought an injunction on the protesters, much to the disgust of most of the country. It lost the case, and the camp went ahead. Numbers had more than doubled since Drax and the camp was bigger, better and nothing short of inspiring. Surely the *Ecologist* would support the camp this time and give it its due coverage? Hardly. A couple of months later, all we got were a selection of photos from the camp. Not a review. Not an interview. Not a comment. I just couldn't understand it.

For the first time in history we are seeing the rapid growth of a direct action movement that seeks to tackle the root causes of climate change. Sick of being let down by a government that talks the talk on 'leading the world' in tackling climate change and then proceeds to do everything in its power to accelerate it, this crucial movement is turning up the pressure. We haven't witnessed anything like this since the anti-road protests of the 1990s, so why do you remain silent? Are you afraid of being seen as promoting illegal behaviour? As a faithful reader of more than five years, I look forward to an explanation.

This year's camp will be at Kingsnorth, in Kent, trying to change the Government's mind on its proposed new wave of coal-fired plants (read Joss Garman, March). So, fellow

can provide is context and an alternative view. The *Ecologist* remains firmly supportive of non-violent direct action and regularly documents protests in its news pages and occasional features (see also this month's editorial). We followed the Radley Lakes direct action on our website and in the magazine, and remain a forum for activists such as regular columnist Joss Garman.

THROWING FOOD AWAY

I was walking past my local Somerfield shop the other day when I noticed two employees lifting a huge, clear binliner full of food into a skip – mainly all prepackaged goods such as bananas, boxes of sandwiches, vegetables in plastic and so on. None of it looked as though it had gone off; they were obviously throwing it all away because these goods were past their sell-by dates.

I know that this is a regular occurrence in the UK, and I also know that for some years stores have not been able to give this food away to the needy due to health risks (and insurance claims!). Would it not be possible for UK supermarkets and shops to send this food waste somewhere it can be turned into compost and resold in the gardening industry? Or perhaps given to livestock as a replacement for soya products and the like?

For food waste, city and town councils give the public brown bins, which I actually don't think work that well – they need to refine their idea. In essence, though, supermarkets should really adopt tactics of this kind.

Tamsin Bates, Bristol

HUNGARY FOR A CHANGE

Hungary is being inundated by the spread of multinational supermarkets.

The artificially low prices encourage people on limited budgets to use these pushers of factory-farmed, mass-produced and often substandard food, but the problem is that this cheap – in every sense of the word – fare is destroying a way of life in the countryside. In the past most people would keep a pig or two, but with the increase in grain prices, both due to a bad harvest and the subsidies to produce biofuels, this is no longer economically viable.

There is unfair competition against locally

Ecologist readers, I urge you to go to this year's camp. It could be the most important thing you do this century.

Lewis McNeill, Hull

The *Ecologist* replies:

A member of the *Ecologist* staff went to the Heathrow climate camp but found that his presence, as a member of the media, was met with suspicion – frustrating, but perhaps understandable given the negative portrayal of the protesters. It was precisely this image, cultured by the mainstream media, that we set out to tackle in our exclusive photostory, shot inside the camp by an activist herself, with accompanying editorial. As a monthly magazine it is almost impossible for us to 'beat' the daily press to a story, but what we

Ecologist poll

Would you engage in direct action if it meant being branded a terrorist?

83

per cent of you agreed that it was time to abandon the idea of economic growth

sourced food by the use of production methods that should shame a civilised world. This is allied to the pressure put on producers to sell to the large supermarkets at rock-bottom prices. Even then it would appear some chains can't be bothered to pay taxes, as evidenced by the recent claims concerning Tesco's offshore banking arrangements.

There is a move to close down our local outdoor market in Pécs, and traditional Hungarian supermarkets, with their salami-and-coffee smell, are becoming rarer. In Tesco, Interspar and so on, any feeling of place is gone – it could be Budapest or Birmingham. There is a dislocation between people and their food. Also it appears that there is some objection to people producing their own food: you get the EU paying people to root up their grapevines, for example. You would think, in a time when there is beginning to be talk about food shortages, that small-scale local production would be encouraged.

Alan Durant
Kiskassa, Hungary

WHOLLY RIGHT

I read with interest Chris Milton's article 'What Is Wholefoods' Problem?' (March). As an employee of Wholefoods' Market at High Street Kensington, London, it was refreshing to hear some truths about its wrongdoings rather than the propaganda and double standards we hear and experience daily.

This edition of your publication has been removed from our shelves. That's pretty much what happens to us too if we dare question the company's practices or have a day off sick or have a family emergency or simply use our right to freedom of speech. The consequences are harsh; its arrogance unfathomable. It supports and advocates Fairtrade, yet does not pay sick pay to its employees. It promotes the importance of sharing a wholesome meal with your loved ones, yet one in three marriages within the company fail due to the long, unsociable working hours. The amount of food it throws away daily is obscene.

When I read George Orwell's *1984* I wouldn't have thought it possible just how much our working lives mirror that of Winston Smith's.

Daily dilemmas

In each month's issue, we ask a common ethical question that many of us ponder in our day-to-day lives, and people can go to our website and offer their suggestions as to how to answer it. In a subsequent issue we will publish the most practical and engaging selections in the letters pages.

Is buying a carbon offset better than not buying one?

Go to www.theecologist.org to have your say

Everywhere you look, on and off the shop floor, banners citing 'Our Philosophy' and 'Core Values' scream out to us like an evangelical preacher. My banner would read: 'If something is too good to be true then it probably is.'

Name withheld by request

NOT SO SUPER-MARKET

Although I'm English, I live in Sarasota, Florida, where the majority of the population are a bunch of white, right-wing, Christian fundamentalist retirees who just love their new 'hot spot', the place to be seen, the place to really show how much you care about the environment and this whole global warming 'thing' – they shop at Wholefoods' Market. Actually, it's been about two or so years since the store opened here and I, like many others, had high hopes for it. Unfortunately, when you look real close at the labels or do a bit of information-digging, it's not hard to find that Wholefoods is not living up to its promises or values, and that the old standards of commercialism run deep.

So I was encouraged to read your article and felt strongly that others in the community should also have the opportunity to hear another side... Maybe you should submit the article to local newspaper *The Herald-Tribune*, or one of the local magazines. One of them will hopefully be brave enough to print it.

Vanessa Bell, Sarasota, Florida

GREEN TAXES DON'T WORK

We have had high road-fuel taxes for years, but traffic continues to grow. Now Alistair Darling's timid tinkering with taxes on cars and air travel confirms that green taxes do not work. Politicians will never have the political courage to raise green taxes as high as they need to be.

A much better alternative is a system of Personal Carbon Allowances (PCAs), which would be controlled by an independent body in much the same way that interest rates are controlled by the Bank of England. This frees politicians from the temptation to meddle.

Another advantage of PCAs is that, if the right number of allowances is issued, there will be at least as many winners as losers. With green taxes, we are all losers. For more information on the several advantages of PCAs, see www.mng.org.uk/gh/dtcrs.htm

Dr Gerry Wolff PhD CEng, by email

WATER WASTE

Laura Sevier's article 'Liquid blue gold' (March) states: 'Reverse-osmosis filters are the most effective and use a fine membrane to filter out water under pressure.' Considering the opener for this article – '...why we shouldn't be taking our water for granted, as well as offering some easy ways to avoid wasting it' – I find this recommendation very misleading.

Any cursory review of water filtration devices reveals reverse osmosis systems are incredibly wasteful devices. Generally, for every litre of filtered water produced, two to three litres will go right down the drain. While this may be acceptable with contaminated water sources, in terms of municipally treated water, simpler, much less wasteful filters exist that produce excellent-quality drinking water. A carbon filter will eliminate chlorine, lead and other contaminants without wasting any water at all, for example.

There were lots of great tips in this piece, but I think endorsing reverse osmosis as 'the most effective' system is misleading when it comes to preserving one of our most precious resources.

Scott Hills, by email

RENEWABLE ENERGY

CHIN UP, WIND

GOVERNMENT MINISTER TELLS RENEWABLES INDUSTRY TO CHEER UP

Westminster is continuing to show a devil-may-care attitude towards renewable energy generation, with further lobbying against EU renewable energy targets and calls by Energy Minister Malcolm Wicks for the industry to 'cheer up'.

Draft transcripts of evidence given in front of the Innovation, University and Skills Select Committee show Wicks being asked whether he could guarantee that the long-term energy supply contracts required by future nuclear power operators would not hamper the sale of renewable energy. He responded:

'The renewables industry have reasons to be cheerful. They are not the happiest bunnies I meet, I must admit; they need to cheer up a bit, because never before has there been a time when a government has been so committed to renewables.'

He added that the idea of 'some boxing match between nuclear in one corner and the renewables in another is ridiculous.'

But Wicks' comments came just days after the chief executive of EDF Energy, Carlo de Riva, said publicly that providing incentives



for renewable energy would reduce the incentives for nuclear power, by lowering the price of carbon.

The minister was asked whether the Government would act on EU recommendations that renewable energy technologies should have priority access to the national grid – a problem that has scuppered the development of some 9.3 gigawatts (GW) of wind energy in Scotland.

Wicks replied that the Government is 'reflecting on the issue', but is 'not convinced [by it]'.

He was also asked why the Government had chosen to continue with the current scheme for subsidising green energy – the Renewables Obligation – rather than adopt the highly successful German Feed-In Tariff system.

The minister told the Committee that 'you can deploy anything if you throw money at it,' and claimed that the German system had worked out more expensive than the UK scheme.

The EU's own figures directly contradict his claim, however, with a draft Directive stating that 'well-adapted feed-in tariff regimes are generally the most efficient as well as effective support schemes for promoting renewable electricity.'

Wicks' evidence was given as UK business minister, Lady Vadera tried to convince EU officials that the UK should be allowed to 'offset' its renewable energy obligations by investing in clean energy elsewhere in the world.

LOCAL FOOD

EAT, GROW, BE HAPPY

Local food production has been given a boost by a new manifesto released by five NGOs, including Garden Organic and the Women's Environmental Network.

The report, which is entitled 'From the Ground Up', argues that communities that grow, eat and distribute their own food are happier, healthier and greener. It calls for more land to be made easily accessible for community horticulture, and for better advice on sustainable techniques such as permaculture.

The manifesto aims to stop people becoming increasingly 'disconnected' from the natural world.

Meanwhile, Scottish environment secretary Richard Lochhead has called for the country's national food policy to use tourist venues as an ideal place to showcase local food and drink.

Lochhead spoke of a 'quiet revolution' taking place north of the border.

TRANSPORT

HYBRID PHYSICS

An expert on low-carbon vehicles has added to the debate over hybrid cars by questioning their effectiveness.

Speaking at a conference on advanced battery technology, Professor Neville Jackson, who advises both the Government's Low Carbon Vehicle Partnership and its Centre of Excellence for Low Carbon and Fuel Cell Technologies, said that there were 'much more cost effective ways of delivering vehicle CO₂ reductions' than using hybrid technology.

He said that in the US – one of the biggest markets for hybrid cars – 'ludicrous' fuel-efficiency figures were being quoted by people 'who clearly haven't understood the physics'. Jackson showed delegates graphs indicating that small diesel cars were often as or more efficient than hybrid cars for motorway or rapid town driving.

He conceded that there were applications – particularly in

vehicles that stop and start frequently – where hybrid technology did provide significant improvements in pollution.

ENERGY EFFICIENCY
HOME HELP?

The Government has responded to a cross-party committee of MPs and a report by WWF – both of which called for urgent energy-efficiency measures in existing buildings – by relaunching an advice line and committing just 20p per household a year to support green energy initiatives.

The supposedly new 'Act on CO₂' advice line, run by the Energy Saving Trust, has actually been available for several years and recommends householders to improve insulation and replace old boilers. But research by WWF says that uptake is low due to insufficient financial support, not a lack of awareness.

WWF's work also shows that, even if homes followed all the advice given through the helpline, household CO₂ emissions would be

GO FIGURE...

The UK Government now emits **22** per cent more CO₂ than it did in 1999. The number of Brits taking long-haul mini-breaks will increase by **one third** this year to **4.9 million**. **61** per cent of Londoners support the Mayor Ken Livingstone's decision to charge gas-guzzlers **£25** a day to enter the capital. **43** per cent of Germans think their employer is green, followed by Italy (**30** per cent), Spain (**28** per cent), the UK and US (**21** per cent) and France (**19** per cent). Nearly **two-thirds** of Europeans believe environmental protection must be given priority over economic competitiveness. Shell is to increase tar sand oil production from **155,000** barrels a day to **770,000**.

reduced by just 22 per cent, failing to meet the Government's own 2020 climate change targets.

Friends of the Earth described the financial incentives available as 'chronically underfunded', and WWF called for council tax and stamp duty rebates to encourage green home investments.

CONSERVATION MORAY FURY

A dolphin expert whose work was used to greenlight oil and gas exploration in Scotland's Moray Firth says that his evidence has been seriously misrepresented.

Business department BERR cited research by Professor Paul Thompson in a report claiming that 'we know enough about the dolphins at the Moray Firth to make sure that any oil and gas activity is carried out in a manner which minimises or even cancels adverse impacts'.

But Professor Thompson responded to the BERR's consultation in a detailed letter accusing it of not using the 'best available science' and of producing a report that 'would fail to stand up to expert review in the European Court'.

A Scottish Green Party spokesman said it was likely that any attempt to push ahead with the exploration plans would face a legal challenge.

GENETIC MODIFICATION NO WELSH GM

The Welsh Assembly Government has proposed reforms that will effectively make it impossible to plant any form of genetically modified crop in Wales.

The draft regulations make farmers who plant GM crops liable for 'genetic trespass', which means that they would be legally responsible for any transgenic

DNA discovered outside of test sites. Because of the ease with which genetically modified material spreads, no farmer would take the risk.

Following the Welsh lead, Scottish Green Party MSP Robin Harper has put forward a motion to welcome the move, which could lay the groundwork for a similar law in Scotland.

POLLUTION OUT IN THE WASH

A consultation has been launched on whether to phase out phosphates from our washing powders, and it's high time, according to research by conservation charity Plantlife.

A survey conducted on behalf of Plantlife by hundreds of volunteers has shown a sharp decline in the abundance of UK wildflowers. In at least a quarter of the 500 hillsides, meadows and hedgerows surveyed,

none of the 65 most common wild plants – including bluebells and cowslips – could be found.

The charity blames the decline on increased levels of nutrients such as

nitrogen and phosphates, found in fertilisers and washing powders, which mean wildflowers are crowded out by weeds.

Defra admits nearly two-thirds of English rivers risk failing the EU's water-quality requirements in 2015 if no action is taken to reduce phosphate pollution.

RURAL ECONOMIES WOOL-FUELLED

UK farmers are being forced to burn wool from their flocks rather than sell it at a loss, *The Daily Telegraph* has reported.

Rising feed and fuel prices, the foot-and-mouth crisis and chronic low wool prices mean that farmers are being forced to break

waste disposal laws because the cost of transport and processing exceeds the price paid by the British Wool Marketing Board.

Falling hill-farm subsidies – designed to prevent over-grazing – have driven farmers away from the industry.

GREEN PSYCHOLOGY FUN AFTER DARK

A power cut could be an excuse for a good time, according to research by sociologists at the University of Manchester.

In light of the possible instabilities renewable energy technologies might bring to the national grid, the scientists asked 62 people what their reactions would be to a power cut.

Although there was some concern over losing heating or lighting, the researchers were surprised by reports of 'collective acts of celebration, benevolence and enjoyment' prompted by a loss of electrical power.

The authors conclude that policymakers should feel less afraid of using technical systems – such as renewable energy – that challenge the social norm of ever-present electricity.

TIDAL POWER RIDING A WAVE

Marine energy has made a splash following the installation of the world's most powerful tidal stream energy generator.

Marine Current Turbine's Sea Gen system, which generates electricity by means of slowly rotating underwater turbines, was successfully installed in the Strangford Narrows, Northern Ireland, on 2 April. Once connected to the grid, the device will generate enough energy to power 1,000 homes.

MCT has pledged carefully to monitor marine life around the turbine to ensure that no damage is done to the tidal ecosystem.



DARN IT

An internet video showing people how to darn socks has become a bit hit on sharing website YouTube.

The film, which was posted by ethical clothing retailer Greenfibres, has been watched more than 5,000 times and has been enthusiastically endorsed by its viewers.

Greenfibres made the video as part of a 'make-do-and-mend' commitment, as well as in response to 'Sock City' – an area of eastern China that produces more than three billion pairs of sock each year from intensively farmed cotton.

To watch the video, visit www.tinyurl.com/6e5zwl

SHUT IT

A grassroots campaign calling on retailers to close their shop doors while their heating is on is gathering strength.

The 'Close the Door' campaign, which began in Cambridge, has achieved nationwide recognition and is looking for local campaigners to take its message to the shop floor.

Campaign organisers Margaret Mair, Jeannie Dawkins and Siân Reid argue that closing your door and placing the group's logo on the glass will not only save money and CO₂ emissions, but also demonstrate environmental awareness.

For more details, see www.closesthedoor.org.uk



CORPORATE LOBBYING

FAO CAVES IN TO BIOTECH

WHY DID THE FOOD AND AGRICULTURE ORGANIZATION SUDDENLY CHANGE ITS POSITION ON ORGANIC AGRICULTURE?

The UN Food and Agriculture Organization (FAO) made a U-turn in support of organic agriculture after lobbying by the biotechnology industry, according to documents seen by the *Ecologist*.

In May 2007, the FAO held a widely reported conference on organic agriculture and food security. The press release and conference materials clearly stated that 'new models suggest that organic agriculture has the potential to secure a global food supply, just as conventional agriculture is today, but with reduced environmental impact'.

The conference materials endorsed a new scientific study that showed a global organic agricultural system could provide as much as 132 per cent more food than current systems.

Within two months, the FAO had received an angry letter from CropLife International, a biotechnology lobby group that represents chemical giants Monsanto, Syngenta and Dupont, among others.

The letter – available at www.theecologist.org/croplife – was addressed to the FAO's director-general, Dr Jacques Diouf, and described the



FAO's pro-organic position as 'misleading' and contrary to the FAO's role in promoting 'improved pesticide management practices and products and new plant varieties'.

Its author, CropLife International chairman Christian Verschuere, called on the FAO to 'clarify its position on the role of organic agriculture, vis-à-vis the need for modern technologies and inputs.'

In December 2007, the FAO issued another press release, playing down its earlier statements.

'FAO has no reason to believe that organic agriculture can substitute for conventional farming systems in ensuring the world's food security,' it reads, calling repeatedly for 'judicious use' of 'chemical inputs'.

The release is a complete denial of material from the papers

presented at its conference. When asked why it had reneged on its published support for organic farming, the FAO told us:

'...the impression was erroneously created that FAO endorsed [organic agriculture] as a substitute for more conventional farming systems. FAO subsequently published a press communiqué to correct that mistaken impression and to reiterate its long-standing position that producing enough food to feed a growing world population requires the judicious use of fertilizers. These happen to be the views of eminent scientists such as the Nobel Prize-winner Norman Borlaug. But you may rest assured that the press communiqué was not published at his behest – nor at CropLife's.'

LOCAL WISDOM TRIBAL MEDICINE

Indigenous medical practices are receiving welcome recognition from the Ministry of Health and Family Welfare in India.

A programme worth more than £4 million has been launched to investigate the traditional health practices of over 130 minor tribes who live in small communities across central and north-eastern parts of the country.

These remedies are different to those that have gained wider credence, such as yoga and naturopathy, but are recognised as a valuable pool of knowledge that is under threat from mainstream health practices.

Sanjeev K Chadha, a director within the ministry, said: 'Because of folk medicine practices, tribals [sic] in India have a very good immune system... There must be something good about these practices.'

ECOLOGY THE WORLD FLIPS

If you think environmental changes happen gradually, think again, say researchers.

Scientists at McGill University, Canada, and the Stockholm Resilience Centre have warned that ecosystem pressures as a result of intensive farming and water use could lead to 'ecosystem flips', which they describe as 'surprising dramatic changes... which can be very difficult or even impossible to reverse.'

The ecologists point to recent toxic algal blooms in Canadian lakes and the Swedish Baltic Sea caused by fertiliser run-off. They say the build-up of artificially supplied nutrients in soils reaches a point where even stopping farming will not reduce the levels, and that these can produce dramatic environmental changes.

The research, published in *Trends in Ecology and Evolution*,

warns that some of the most vulnerable ecosystems are in heavily populated areas most at risk of the effects of climate change.

INDUSTRY ICELAND HOTS UP

US metal giant Century Aluminum has broken ground on a heavily contested aluminium smelter at Helguvirk, Iceland, despite a lack of environmental impact assessment for the plant's infrastructure – a port, power lines and geothermal drilling.

Campaigners also say that the Icelandic government is now lobbying for increased Kyoto greenhouse gas allowances on Century's behalf. Arni Finsson, of the Icelandic Nature Conservation Association, says the company 'may end up dictating Iceland's climate policy as if Iceland were a banana democracy'.

Direct action group Saving Iceland has announced plans to

hold a camp at the site of the Helguvirk smelter beginning 12 July to protest at the plant's environmental impact.

COMPOSTING ROTTEN BUSINESS

The falling cost of landfill is endangering the future of Ireland's fledgling composting industry, according to Cré, the Composting Association of Ireland. Several Irish composting businesses have been forced to close as their sustainable organic waste solutions are undercut by landfill operators.

Meanwhile James Lloyd, director of UK composting business HotRot, blames the tabloid-fuelled obsession with how and when our waste is collected for hampering the development of organic waste solutions. Lloyd points out that less than one per cent of municipal waste composted in the UK last year was kitchen waste collected from the kerbside.

CHEMICALS FLAWED APPROVAL

Bisphenol A – the chemical used to produce common polycarbonate plastic and which has been linked with cancer and diabetes – was rated as safe for the public on the basis of two industry-funded studies, US media have reported.

The Food and Drug Administration went against the advice both of government and academic studies showing health risks from the compound, and instead relied on research funded by the American Chemistry Council. One paper has never been published – and so was not peer-reviewed – and the other used lab rats thought to be insensitive to the chemical at low doses.

'The FDA is really going to have problems over this,' Frederick vom Saal, an expert on Bisphenol A, told the *Milwaukee Journal Sentinel*.

CAMPAIGNING RAINFOREST SAVED

People power has seen off developers in Malaysia from a public area on Penang Island, which had been earmarked for a development of 40 skyscrapers called Penang Global City Centre.

The site threatened untouched rainforest that could have been engulfed in the growing sprawl.

Last year the state's Chief Minister was deluged with emails

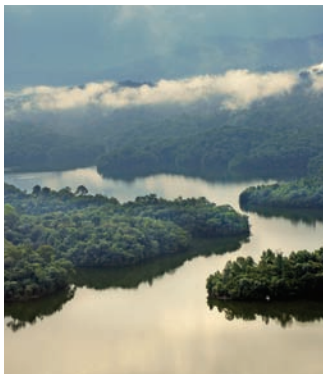
GREENWASH HO-HUM...

General Motors has been forced to withdraw an advert for the Hummer 4x4, which had claimed the monster car was 'built for UK roads', and 'smaller, fuel-efficient'.

Friends of the Earth, which alerted the Advertising Standards Agency to the claims, said describing the Hummer as fuel-efficient was 'laughable'.

NOW THAT'S... PROGRESS

- 1** The founder of the Weather Channel wants to sue Al Gore for global-warming 'alarmism'. John Coleman told a conference a lawsuit would 'put some light on the fraud of global warming'.
- 2** Texas University vets are developing a contraceptive pill to control populations of wild animals such as coyotes, wild pigs or cougars. The scientists foresee the pill being widely used.
- 3** A Norwegian pro-whaling group has promoted eating the cetaceans as a way of saving the planet. The High North Alliance says that eating whales is better than farming.
- 4** Plans for an EU-wide organic logo have stalled after the prototype logo looked too much like that of supermarket chain Aldi. The new version may not be ready until 2009.



and postcards from locals opposed to the proposed development on environmental and social grounds. He agreed to delay the plans until after March's General Election.

Malaysia's opposition party won the state during the election, however, and the development now looks to have been shelved.

SEA-LEVEL RISE DAM AND BLAST

Climate models have always suggested sea-levels should gradually be rising, but the data have seemed too erratic to support the idea.

Now Taiwanese scientists believe they have found a reason why the results don't show what's expected – dams.

Their research, published in the journal *Science*, suggests that dam-building in 20th century has trapped so much freshwater

inland that seas are now 30mm lower than they would have been if rivers were left to flow naturally. The findings mean that sea-levels would have risen 2.4mm a year since 1961, instead of the 1.8mm observed from satellite data.

The researchers conclude as a result that IPCC climate change predictions may well represent an underestimate of sea-level rises.

CLIMATE SCIENCE COSMIC RAYS GONE

The core beliefs of climate change sceptics are toppling thick and fast.

New research has cast serious doubt on the theory that a decrease in cosmic rays hitting the Earth over the past 100 years led to temperature increases, rather than man-made greenhouse gases.

Climate sceptics maintain that fewer cosmic rays would mean fewer low-level clouds, allowing more heat from the sun to warm the Earth's surface, but a team from Lancaster and Durham Universities has found no evidence to suggest changes in cloud cover were linked to levels of radiation – even when it was particularly intense.

The theory was a key argument in last year's discredited Channel 4 documentary *The Great Global Warming Swindle*.



BIKE BREAD

A team of three 22-year-old engineers in the US is developing a pedal-powered grain-crusher for use in the less industrialised world.

The students, at Rowan University, New Jersey, aim to make a device that can be connected to the rear wheel of any bicycle and transported from village to village to crush grain without the use of fossil fuels.

They hope the device will cost less than \$200.

POST-IT VOTE

EU Environment Commissioner Stavros Dimas has braved the biotechnology industry and supported an EU-wide ban on two types of genetically modified maize.

Now it's time to show him some support. Greenpeace International is calling on the public to send Dimas a postcard with a message of support for his stance against GM.

For information, visit <http://tinyurl.com/5b6kbb>

CAMPAIGN SITE

Campaigners, there are others like you out there! www.greenvoice.com is an inventory of groups fighting for a better world, and evidence that people can make a difference.

Horticultural capital

Could hydroponics grow a whole cityscape of gardens? **Mark Anslow** reports



On 2 May, a pair of greenhouses in New York will reopen to the public after a winter closure. Last year, they played host to 10,000 visitors, 105 school groups and 65 journalists – numbers of which most commercial nurseries can only dream.

What makes these greenhouses different is that, although they contain row upon row of healthy plants, they contain no soil whatsoever. Instead, the tomatoes, vines and lettuces are grown ‘hydroponically’ – by continuously circulating a nutrient-filled stream of water past the plant roots.

The greenhouses, constructed on a barge now moored in the Hudson river, are part of a pioneering sustainable agriculture experiment conducted by US-based New York Sun Works, known as the Science Barge. The barge is equipped with solar panels and a biodiesel generator for energy, rainwater-harvesting and desalination systems for providing water, and waste treatment equipment to make sure no excess nutrients are discharged into the river. Since it opened in May 2007, the Science Barge has successfully shown that it is possible to grow food sustainably, reliably and in an urban setting entirely without soil.

Hydroponics isn’t new. Some believe the technique was used by the Babylonians to give Nebuchadnezzar’s Hanging Gardens their spot on the Seven Wonders list, and Allied forces in the Second World War used the process to supply troops with year-round fruit and veg. As the Science Barge’s Benjamin Linsley explains, however, sustainability has rarely been high on its agenda.

‘Hydroponics is a pretty broad field, and there are some fairly dodgy practices around,’ he explains. ‘The biggest problem has always been energy – commercial growers have to heat the greenhouses and use powerful lamps to encourage rapid growth.’

To get around these problems, the Science

Barge team has devised ingenious solutions. Although the prototype was heated by burning biodiesel, future incarnations – planned for school and office roofs – will use waste heat from the buildings’ air conditioning systems.

‘It turns out that this low-grade heat, which is difficult to do anything useful with, is not only warm, but also quite rich in CO₂ – which makes it perfect for pumping into greenhouses full of plants,’ says Linsley.

As well as requiring heating in the spring and autumn, the plants require cooling in the summer – another significant energy demand. The cooling system on the Science Barge, however, uses an array of solar panels

to drive fans mounted in the side of

the greenhouses. These draw air through an array of water-soaked

corrugated cardboard strips, reducing the temperature in an energy-efficient process known as ‘evaporative cooling’. Solar power is a perfect source for this technology – the brighter the sun shines, the faster the fans spin.

Behind the high-tech wizardry lies a genuine desire to tackle key problems with food’s ecological footprint.

‘The key to the system is the way in which the food is produced – without pesticides – and where it is produced – locally to where it is eaten,’ says Linsley. The project includes plans to cut out supermarkets and carbon-intensive supply chains, and to sell the produce in farmers’ markets. Linsley even sees rooftop hydroponic greenhouses fulfilling a social role.

‘Our system can work as part of a Community Supported Agriculture scheme, run by – and providing food to – residents. Installing greenhouses on top of social housing would, in effect, create high-tech allotments, at a time when land in cities is at a premium.’

On paper, there’s little doubting either the project’s sustainability credentials (lifecycle analyses show it to be significantly less CO₂-intensive, as well as requiring 20 times less

land and 10 times less water, than conventional agriculture) or its ambition – the team has plans for greenhouses on top of schools, shops and even integrated into office glazing. Calculations show, in theory, that New York has enough spare flat roof space to meet the entire city’s vegetable requirements from hydroponic greenhouses.

Can a plant grown in a nutrient solution really be equivalent to one grown in organically managed soil, though? Ben Raskin, supply chain and technical team manager at the Soil Association, thinks not.

‘Soil contains billions of organisms – many of which we don’t even know about – which create complex sets of relationships,’ he says. ‘I suspect that if you tried to survive purely on hydroponically grown food, you’d quickly find your body wasn’t getting everything it needs.’

Linsley counters that the Science Barge team employs a plant biologist to make sure each plant receives the exact amount of nutrients it needs, and that, by growing plants comparatively slowly, the system produces great-tasting vegetables. But he admits that the team has not yet conducted a nutrient analysis on the food, which would help show whether it contains the levels of minerals and vitamins common in organic produce.

In addition to this, Raskin believes that there are further environmental complications with hydroponic systems.

‘The nutrients for the plants have to come from somewhere. Whatever you add – nitrogen, potassium, phosphorus, copper, boron – this stuff doesn’t just “appear”. It has to be produced or mined. It’s the wrong approach in terms of sustainability.’

Nor does Raskin buy the argument that hydroponics is a solution to our land crisis. The answer, he suggests, could be a balance of different systems.

‘There’s still a lot of land in our cities that could be used for growing food – gardens and communal green spaces. I have no problem with the hydroponic system as a supplement to organic agriculture, but it should not be seen as an alternative.’ **E**

Mark Anslow is the Ecologist’s senior reporter





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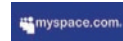
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TRANSPORT

A bad appraisal

Forget environmental considerations, money's in the driving seat when it comes to approving transport schemes. It's time to reappraise the appraisers, says **Rebekah Phillips**

The Department for Transport (DfT) has announced plans to let motorists drive on the motorway hard shoulder, a scheme that should keep traffic moving and reduce pollution. And yet ambitious new Government plans to use motorway hard shoulders to ease congestion and reduce emissions would never have been passed if the DfT had applied its own cost-benefit appraisal criteria for new schemes. How can that be?

Such a bright idea must have passed the department's mandatory transport appraisal scheme (NATA) with flying colours. Well, probably not actually. Rumour has it that the scheme was not formally appraised, and had it been, a proposal such as this, promoting efficient driving, would not have got the thumbs up. For a politically important decision such as this, NATA was ditched.

On the face of it, a transport appraisal scheme might seem rather dull and unimportant to focus on. NATA is powerful, however: it gave the go-ahead for the widening of the M1 and M25, and is the reason why we don't have more improved bus and rail services or better facilities for walkers and cyclists.

First introduced in 1998, NATA centres on cost-benefit analysis. Costs (such as how much a new road will cost to build) and benefits

(such as the time it will save drivers) are weighed up. If the overall impact of a transport scheme is assessed as financially positive, it gets the go-ahead.

The broad principle behind NATA is that 'winners' from a transport scheme indirectly pay 'losers' for their discomfort or loss. A good example is the London congestion charge, which prices some motorists out of their cars and on to public transport, walking or cycling. Remaining motorists pay to move around the city faster, and that income is used to support alternatives that indirectly benefit the ex-motorists now using them.

NATA was intended to align with Government objectives to improve safety, support economic activity, protect the built and natural environment, and improve access to everyday facilities for those without cars. It sounds good in theory, but hasn't quite worked out that way. In fact, the schemes that do best are those that keep people driving around in their cars, emitting greenhouse gases.

Absurd as it may seem, at a time when we need to reduce our emissions, an increase in

fuel use is regarded as a positive in NATA's analysis. This is because more fuel tax will be paid to the Treasury. Transport schemes that get people out of their cars or make driving more efficient ('greenwave' schemes, for example, which synchronise traffic lights) fare less well, and schemes that increase traffic, air pollution and carbon dioxide emissions (CO₂) get a big thumbs up.

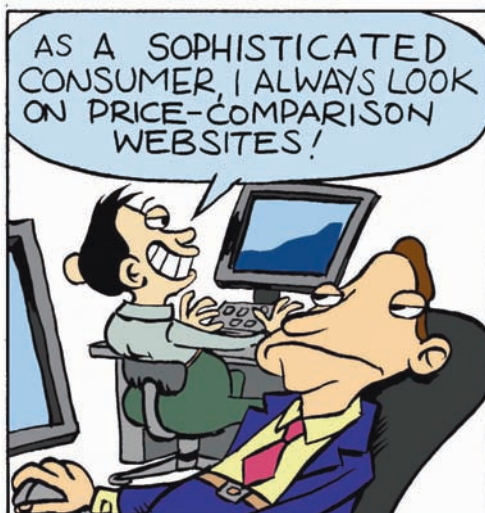
The value NATA puts on carbon emissions is 5-6p per litre (whereas Government income from fuel duty and VAT on fuel is around 55-60p per litre), so pollution impacts end up being relatively insignificant in the calculation. Increasing the use of public transport means less VAT income, as bus tickets are VAT-exempt, so this is viewed negatively. Cyclists might be surprised to hear they are not as valuable to society as car drivers. A cyclist's time is worth 28p a minute compared to 44p a minute for a car driver. This gives the Government little incentive to spend money on cycle schemes.

Small time-savings per motorist can multiply up to a significant and easily quantifiable benefit in the NATA analysis. This one factor can swing the decision to pass a scheme, regardless of its other impacts. Not everything can have a price-tag or should be traded against in a cost-benefit analysis, however. Can you put a value on a human life, a rare habitat or even a good night's sleep?

Green Alliance's recent research shows that some fundamental changes are needed to ensure the DfT promotes schemes that really benefit society.

First, when deciding transport schemes for the future, some things should not be traded off against each other through cost-benefit analysis – potentially dangerous climate change being one of these. Small time-savings for motorists will mean nothing if the road

Absurd as it may seem, at a time when we need to reduce our emissions, an increase in fuel use is regarded as a positive in NATA's analysis



they travel on ends up under water. Rather than relying on a number in a balance sheet, all schemes should be robustly assessed against a number of standards with simple pass or fail criteria. Schemes that lock-in CO₂ emissions, go over a given noise level, encroach on endangered habitats or increase local pollution above a set amount should fail.

Second, NATA should move away from the obsession with putting a monetary value on everything, thus obscuring the real impact of a scheme. A benefit-to-cost ratio figure of two may be a neat assessment, but it does not reveal that a new bypass will mean people living nearby can no longer easily hold a conversation in their back garden, or that the habitat of a rare orchid will be destroyed. It also doesn't show that the only winners will be 400 car drivers with reduced journey times of just one minute. It will hide the fact that a simple bus scheme could have reduced congestion in the town centre just as well.

The Government is currently reviewing how NATA works, but it seems to be heading in the wrong direction. Rather than create standards against which transport schemes are assessed, and making the impacts more explicit, DfT hopes to incorporate monetary values for even more aspects. It intends to put values on landscape, health, biodiversity and ecosystems, and even on the 'ambience' of a journey. Without giving NATA the thorough overhaul it needs, financial evaluation of more factors would be disastrous. It would enable the DfT to say it was considering all these elements in its decision-making while continuing to build yet more new roads.

Green Alliance is pushing to make sure climate change and the Government's environmental objectives are top priority in the NATA consultation, and that we don't end up trading ourselves out of the right solutions. On 19 February 2008, we launched a new report with the Campaign for Better Transport called 'Decision-making for sustainable transport', which identified several problems with the DfT's transport-assessment scheme.

We need a scheme that gives the right results every time, and backs up our decision-makers when they bring in sustainable transport solutions. In the meantime, until it is suitably repaired, let's consign NATA to the hard shoulder. **E**

Rebekah Phillips is a policy officer at Green Alliance, rphillips@green-alliance.org.uk
See www.green-alliance.org.uk

CURRENTS

Climate change politics

As an excuse to do nothing itself, this Labour Government has often hidden behind US intransigence on climate change, so it'll be interesting to see how Gordon Brown might respond to a US President more progressive than he on global warming. Author Mark Lynas recently wrote that unless Brown ditches plans for new runways, Britain will steal the US crown of number one climate villain. What is evident is that all three candidates for the White House hold policies of slashing emissions: Clinton and Obama have pledged 80 per cent cuts by 2050, while John McCain adopted a relatively strong position on climate change early on, at a potentially high political cost.

All of this is significant in that our Government claims an international leadership role on climate change and yet, despite its best rhetoric, Brown is already losing credibility. In the past year, the US has installed 12 times more wind capacity than Britain, and of 150 coal plants proposed, 59 have been blocked on environmental grounds. In California, in fact, tough carbon laws mean new, unabated coal-fired generation is banned altogether. In contrast, Gordon Brown is considering a whole new generation of these dirty power plants – beginning with Kingsnorth. The US elections will only highlight further the gap between Labour's rhetoric and reality.

As NASA climate scientist Dr James Hansen said recently, 'If the (British) Government cannot understand the elementary logic and urgency of the climate problem, it may be time for the public to find more astute leadership.' One of the world's most eminent climate scientists



calling for Brown's head if he doesn't block new coal? This is getting serious. When John Howard was kicked out, Australia's was widely dubbed 'the world's first climate change election'. Will Britain's be next?

You can see signs of the environment becoming more mainstream in British electoral politics very clearly with the battle to become Mayor of London. Ken Livingstone has published a comprehensive and impressive green manifesto, and all four candidates are united in their opposition to a third runway. Importantly, this Mayoral race is being seen as indicative of the wider situation throughout Britain.

With Gordon Brown anticipating the most highly contested election in decades, every seat will count as he attempts to hold on. With 20 seats on the line in West London and the Home Counties (many of them marginal constituencies), the main concern of the generations most likely to vote there can be crystallised in one word: Heathrow. Could the airport swing seriously see Brown and Labour destabilised? There is evidence this is becoming a real possibility. Arch-Brownite Ann Keen had to break Cabinet ranks to oppose the third runway. She knew it would be electoral suicide if she didn't. The situation has become a political hot potato. It's no wonder the Department for Transport is said to be 'wobbling' and ministers overwhelmed by the level of opposition to airport expansion.

“
The main concern of voters can be crystallised in one word: Heathrow. Could the airport swing see Labour destabilised?
”

With traditionally conservative papers like *The Sun* and *The Sunday Times* coming out against the third runway, it's not surprising they're scared. And so they should be. **E**

Joss Garman is an environmental campaigner and journalist

The battle to keep GMOs off the menu has now been all but lost. It has taken little more than a decade for GM food to mutate from the 'novel' to the mundane.

Despite significant consumer opposition and concerns over safety, today none but the most diligent of consumers can reasonably expect to avoid the routine consumption of genetically engineered material with their daily bread.

The naturally pervasive character of living organisms has ensured that more than half of the processed foods marketed within the EU will now contain (whether by accident or design) GM ingredients or residual traces of GM material at some level or another.

So much for the GM food controversy.

As we move towards the end of the first decade of the 21st century, it seems that the next stage in the corporate-led agricultural and food revolution is already upon us: we are moving from the era of the genetically engineered into the era of the atomically engineered. 'Nanotechnology' – loosely defined by Friends of the Earth as 'the manipulation of materials and the creation of structures and systems at the scale of atoms and molecules, the nanoscale' – is rapidly becoming the buzzword of the decade. By the end of the next decade it seems likely that nanofoods too will have become standard fare.

Enthusiasm for nanosciences and nanotechnologies (N&N) is currently running high, as is so often the case with new technologies. The corporate giants at the forefront of the life sciences industry and nations eager to reserve for themselves a generous slice of the profitable nanotech pie are energetically leaping on to this latest research and development (R&D) bandwagon. Understandably, however, institutional optimism at EU level is tempered somewhat by painful memories of the consumer backlash over GM and a desire to avoid a repeat of 'the European "paradox" witnessed for other technologies'.

According to Friends of the Earth, there are already more than 100 food-related nanoproducts available on the global market, and many more in the R&D pipeline. These are still very early days, however, and although such figures are rather alarming, as with GM foods, the delights of the nanofood industry are reaching US supermarkets first. According to the European Commission and industry

groups there is, as yet, hardly any use of nanotechnology in food production and processing in Europe. Here, for the moment, nanofood remains more science fiction than science fact for EU consumers.

Over the past few years, a number of NGOs have published reports lamenting the current dearth of nano-specific safety and labelling legislation. The tone of such publications tends to leave the reader with a rather disconcerting sense of déjà vu, for many of the assertions made in relation to nanotech products could so easily have been lifted straight from the pages of the biotech reports published by the same groups in the 1990s. For example, in a recent report, Friends of the Earth called for a moratorium on the commercial release of new



NANOTECH

Size really does matter

Nanofoods are the next big thing, but whatever happened to the precautionary principle? asks **Naomi Salmon**

nanofoods, asserting that products are entering the food chain 'in the absence of mandatory product labelling, public debate or laws to ensure their safety'. Can it be possible that the concerns expressed by this and other NGOs are justified?

The first important point is that the agro-food sector is of central importance to the European economy. The food and drink industry is worth more than €600 billion annually, accounting for around 15 per cent of total manufacturing output. Consequently, it should come as no surprise to find that the food supply chain has been subject to extensive regulatory control since the earliest years of the market integration project.

Moreover, in the wake of the series of high-profile food crises that have dogged the European food industry in recent years, a concerted effort has been made to 'remodel EU food policy into a proactive, dynamic, coherent

and comprehensive instrument to ensure a high level of human health and consumer protection' – as per the European Commission's 1999 White Paper on Food Safety.

Similarly to other, more conventional foods, nanofoods are subject to fairly extensive regulatory controls – simply by virtue of the fact that they are products intended for human consumption. Similarly to other types of foodstuffs, they will have to comply with the requirements of, for example, EC legislation relating to food hygiene, additives and flavourings. This is not the place to comment upon the efficacy of such measures, though. Here, it is more useful to consider safety in more general terms, with reference to the overarching principles and rules of food safety law set down in Regulation 178/2002, before turning briefly to the Commission's proposal to update the regulatory framework governing the entry of 'novel' foods on to the market.

Regulation 178/2002 now sits at the very heart of Community food law. In line with the 'high level' of consumer and public health protection prescribed by the EC Treaty, Article 14 of this core regulation firmly ascribes the status of core principle to the concept of 'safety': 'food shall not be placed on the market if it is unsafe'.

But what does this general prohibition mean in real terms? The concept of 'safety' is necessarily a qualified and inherently subjective one. At both personal and regulatory levels, the determination of safety must, in the end, be reduced to a determination of acceptable risk; a balancing exercise wherein the 'benefits' of particular foods are weighed (implicitly or explicitly) against the short and longer term, direct and indirect risks associated with their consumption.

This seems reasonable enough. However, within the context of the EU system, governance is underpinned by a free trade imperative, and thus a strong presumption in favour of the free movement of goods. By its very nature, Community law is driven to demand that trade-restrictive (and potentially protectionist) regulatory hurdles – such as food safety measures – are set no higher than is strictly necessary. This in turn leads to a rigorous policing of such measures against the legitimising benchmark of 'sound scientific' risk assessment. This is all very well in those cases where science is able to provide a reliable evaluation of a product's characteristics and potential toxicity, but in the absence of

overwhelming evidence supporting an outright prohibition on the marketing of a particular product (e.g. Sudan dyes), the question of risk management – ‘safety’ – tends to be reduced to an economically driven balancing of predicted harm/fatalities against the overall value of trade in the particular product in question.

In the case of nanofoods (similarly to GM foods) the issue of ‘safety’ or ‘acceptable risk’ is complicated somewhat by the fact that technological innovation has a tendency to outpace scientific understanding. As the EC commented last year, ‘while [nanosciences and nanotechnologies] offer a number of beneficial applications, the potential impact on the environment and human health of certain nanomaterials and nanoproducts is not yet fully understood.’

But what of the precautionary principle; the policy tool that dictates that where scientific uncertainty prevails, regulators should err on the side of caution? Article 7(1) of Regulation 178/2002 provides that: ‘In specific circumstances where, following an assessment of available information, the possibility of harmful effects on health is identified but scientific uncertainty persists, provisional risk management measures necessary to ensure the high level of health protection chosen in the Community may be adopted, pending further scientific information for a more comprehensive risk assessment.’ It might be assumed, then, that where ‘knowledge gaps’ prevent a full scientific evaluation of, for example, potential toxicity, trade restrictive measures will be lawful.

In line with the version of the principle entrenched in Article 174 of the EC Treaty, however, and in keeping with the underlying ethos of the EU, the exercise of precaution is subject to important limitations designed to minimise the potential for protectionist abuse. Under the second paragraph of Article 7 of Regulation 178/2002, these include the requirement that precautionary measures must be ‘proportionate’ – i.e. no more restrictive of trade than absolutely necessary – and an express requirement that regulators consider the technical and economic feasibility of precautionary measures. Thus, what might be termed ‘economic precaution’ prevails, as,

even in the face of scientific uncertainty, ‘acceptable risk’ falls to be determined against the legitimising benchmark of ‘sound science’ and cost/benefit analyses.

Finally, then, the Commission’s draft Novel Foods Regulation.

Is the revised and updated text likely to appease concerned NGOs? A couple of points are worthy of note. First, the draft legislation contains no direct reference to the precautionary principle.

Although this omission may not be significant in substantive terms, and certainly does not preclude the possibility of recourse to ‘economic precaution’ in appropriate circumstances (as per Article 7 of Regulation 178/2002) it is nonetheless interesting. If nothing else, it reflects the Commission’s natural desire to play down rather than highlight the extent of the uncertainties associated with ‘novelty’ in this highly sensitive context.

The second feature of the draft Regulation worth noting is the definition of ‘novel’ food. Although the relevant text has been revised and updated, in terms of substance very little has changed – other than the removal of references to GMOs (now governed by a separate framework). Unfamiliarity remains the baseline trigger for Community-level pre-market assessment and authorisation: any food that has ‘not been used for human consumption to a significant degree within the Community before 15 May 1997’ qualifies as ‘novel’. As under the current legislation, the label of ‘novelty’ is extended to foods produced using new processes (e.g. nanotechnologies), but only where that process ‘gives rise to significant changes in the composition or structure of the food which affect its nutritional value, metabolism or level of undesirable substances’. Importantly, these regulatory definitions take no account of the

inherent ‘novelty’ of nanofoods.

In particular, despite growing evidence that ‘size matters’ and (small) particle size plays a key role in bio-reactivity and toxicity of nanoparticles, no express reference to the nano-scale has been incorporated into the regulatory definition of novelty.

Despite the consumer-oriented rhetoric of European food safety policy, the reality is that the Community’s mandate and its ambitions of becoming a leading ‘knowledge-based economy’ effectively preclude the routine prioritisation of consumer safety. Yes, the precautionary principle does provide a safety net when technology outpaces scientific knowledge and risk assessment becomes something of a guessing game; from the consumer perspective, however, the value of regulatory precaution – ‘economic precaution’, that is – is somewhat compromised by the requirement of scientific evidence of risk, as well as the cost-benefit proviso built into it.

Despite the ample warnings of recent history, such as the emergence of BSE and CJD, or the widespread contamination of the food chain and the environment with GMOs, the fundamental premise of food law has not changed. The unfortunate truth is that within the free-trade arena, food-safety law must, inevitably, be primarily reactive – particularly insofar as it seeks to mitigate uncertain risks.

This being the case, a more robust approach to the regulation of highly profitable new technologies will only be brought to bear if, or when, scientific uncertainties recede in the face of sound scientific evidence of risk. Then politically and economically ‘risky’ precaution becomes legitimate prevention – or, perhaps more correctly, an exercise in damage limitation. A frightening thought indeed. **E**

Dr Naomi Salmon teaches law at the University of Wales Aberystwyth. Her research interests centre around the regulation of the European food market, focusing in particular on issues of risk analysis and consumer rights

The issue of ‘acceptable risk’ is complicated by the fact technological innovation tends to outpace scientific understanding





LAND

The constant gardener

Allotments are good for the soul and enjoying a resurgence in interest, says **Tony Baldry**, which is why local councils and developers should be required to grow their own

Exactly 100 years ago, Parliament passed a Bill that sought to ensure that every local council provided 'sufficient' allotments for its area. What Parliament didn't do, however, was to put in place any adequate mechanisms to measure sufficiency or to provide an accessible remedy to any local resident who felt that their local council was making insufficient allotment provision.

At the time the legislation was enacted, local councils were keen to make adequate provision of allotments, and Town And Country Planning Legislation of 1925 once again made provision for Local Authorities to consider providing allotments whenever they came up with a new town plan. Unfortunately, when at some later date this piece of planning legislation was overtaken by new planning provisions, the reference to allotments got lost.

Since the Second World War and until recently there has been relentless pressure on allotment land. In no small part this was because governments of successive political hues put pressure on Local Authorities to sell surplus assets or to provide matched funding for any capital projects, from sports centres to social housing – selling allotment land for development often looked like an easy way to raise cash for the local council.

Certain allotments have statutory protection. They can't be sold off without the permission of the Secretary of State, but that has often been achieved by the simple expedient of Local Authorities promising to make similar provision elsewhere.

Local councils, particularly inner city or urban authorities, are quite often put in a difficult situation. For example, when undertaking research on my Bill, I came across some much-loved allotments in Lambeth, but which are under pressure because Lambeth Borough Council is trying to find playing field space for the Nelson Mandela Secondary School. All too often, sadly, it seems it is the allotments that give way rather than land being found elsewhere.

Local councils seem to be able to get away with this continuing erosion of allotment provision, in part because allotment holders don't seem to have much of a constituency of support. Perhaps, like pigeon fanciers and whippet owners, they appeared to reflect a tendency and a pastime that was dying out – why grow one's own food when supermarkets are awash with plenty of produce from around the world, irrespective of season?

As with so many deep-rooted British traditions, however, in recent years the doom-mongers have been completely confounded, and there has been a phenomenal resurgence of interest in allotments. Councils around the country now have lengthy waiting lists and are often having to halve the size of plots to help meet the demand.

Young mothers, families and migrants keen to grow their own vegetables have brought new life to allotments. Much recent housing development has occurred with tiny gardens, and this has also resulted in anyone who seriously wants to grow their own flowers or vegetables looking for allotment space.

The difficulty is that many Local Authorities now have little, if any, land left on which to make new allotment provision, and such new provision that has come about in recent years has largely been made by Parish Councils.

Bicester, a town in my constituency, is a good example. Bicester is one of the fastest-growing towns in England.

The Town Council seeks to maximise the use of the allotments that they have, but they have no spare land to create new allotments; indeed, like many other councils, they have a further serious land issue in that the local cemetery will be full in a couple of years' time, and so they are also having to look for land for a cemetery extension, or new burial ground.

Some land on the edge of the town that had for a number of years been used as allotments but didn't have statutory allotment protections was recently sold off by the Church Commissioners for development. Indeed, the town is surrounded by some very substantial new housing developments, and it would make every sense for the local District Council to have had the power to require the developers to make allotment provision as part of those new large-scale housing developments.

Councils around the country have lengthy waiting lists and are often having to halve the size of plots to meet demand

House-builders won't necessarily relish having to make land available for allotments, of course, but when they are given planning permission over huge acreages of land they are given very substantial planning gain, and it does not seem unreasonable that the community should require that provision be made for amenities that are seen as being of benefit to the common good.

My Bill – which, as with so many 10-Minute Rule Bills, was destined by lack of Parliamentary time not to make significant progress – was intended to give the power to Local Authorities to insist that in new major housing developments, as part of the planning agreement, the developers made new allotment provision, either on that development or elsewhere.

During the summer, it is worth allotment holders' trying to persuade their own MPs to go and visit their local allotments, to experience for themselves something of the burgeoning interest in allotments that is taking place, as well as to enlist their MP's support for encouraging new allotments.

Every year, in the ballot of Private Members' Bills, as many as 20 Members of Parliament have an opportunity to be given sufficient Parliamentary time to have a real chance of getting a Bill on to the Statute book. Sooner

rather than later, hopefully, it may be possible that an MP will come forward to take up one of those slots as an allotment champion.

Local Authorities are already entitled to require developers to make provision for a range of social amenities in return for the very substantial planning gains that they receive when planning permission is granted, and this is entirely in-line with the wording of the 1908 legislation and in the spirit of subsequent legislation relating to allotments.

Interestingly, Members of Parliament from around the country had large numbers of constituents writing to them in support of my Bill. Ministers in the Department of Communities and Local Government have been asked to give a detailed response and I sense that there is a momentum for new allotments. In the future, with steady pressure, this may result in far more people once again having the opportunity to access allotments to grow their own, fruit, flowers and vegetables. **E**

Tony Baldry is Conservative MP for Banbury

Quote unquote

'If we use resources productively and take to heart the lessons learned from coping with the energy crisis, we face a future confronted only, as Pogo once said, by insurmountable opportunities. The many crises facing us should be seen, then, not as threats, but as chances to remake the future so it serves all beings.'

L Hunter Lovins and Amory B Lovins,
Utne Reader, November-December, 1989

POST-CARBON LIVING

What car do you drive?

The question arises soon after readers or lecture audiences first become acquainted with global oil depletion and climate change. I must be asked it at least once a week. Sometimes I reply by saying I didn't buy my first car until I was 40, later drove an old diesel Mercedes while belonging to a local biodiesel co-operative, scrapped that fume-belching heap of metal and replaced it with a Toyota Yaris to protest the Brontosaurian dimensions of the typical American SUV, and now often get around on an electric scooter. But that answer, while respecting the query's intent, fails to advance the conversation. The question presumes a continuation of car-centred culture, which is precisely what must be called into doubt.

In many parts of the world (especially the US), automobile ownership is a given. Throughout the last century, the petroleum, automotive and road-building industries amassed and exerted enormous political power, systematically foreclosing all other transport options through efforts either to starve rail and public transit infrastructure of funds, or to buy them up and dismantle them. Bucking the current, massive system of highways and personal dream machines requires courage, dedication and planning. Few individuals are sufficiently motivated.

Thus it's understandable that the first policy response to depleting petroleum reserves and the climate threat has been a rush toward biofuels and coal-to-liquid technologies.

Yet if either of these alternative fuels is expanded enough to replace oil, the car (rather than the atom bomb) may end up being the invention that destroys the world.

Our transition away from fossil fuels will require



a societal effort at a scale and speed never before seen; we can't afford to waste investment capital and precious years pursuing false solutions such as alternative fuels. Electric cars may be a better idea, but when comparing auto-based transport

systems with rail-based options even electric cars look like resource gluttons. We don't need alternative cars; we need alternatives to cars, starting with ways to reduce our need for travel in the first place.

Perhaps those of us who have arrived at this conclusion may be forgiven a less-than-joyous response to the recent unveiling of Tata Motor Company's £1,200 Nano, an auto being marketed to tens of millions of previously car-free Asians who can now afford a scaled-down version of the object that half-a-billion inhabitants of wealthier countries take for granted.

Doesn't everyone deserve the comfort and convenience we enjoy? It's an insidious question. Like the title of this essay, it presupposes a great deal. Only by unpacking and picking apart our assumptions about the future of transportation can we hope to overcome the sinister logic of universal car ownership, a logic that leads to universal destruction. Are biofuels a bad idea in every instance? Probably not. Should car owners be demonised? That's neither polite nor helpful. But until we collectively, through co-ordinated policies, reverse course and

stop both building roads and looking to alternative fuels for a solution, we're all on a highway to hell. **E**

“ We don't need alternative cars; we need alternatives to cars, starting with ways to reduce our need to travel in the first place **”**

Richard Heinberg is a Senior Fellow of the Post Carbon Institute, lectures widely on sane responses to fossil fuel depletion, and is the author of *The Party's Over and Peak Everything*

Sound Impact Awards 2007/2008

Two years ago the National Union of Students' established the Sound Impact Awards to help our member students' unions address common bad environmental practices such as inefficient lighting, not recycling recyclable waste and selling non-Fairtrade beverages.

The scheme has just celebrated its second year and continues to go from strength to strength with nearly a third of our member unions now taking part.

An accreditation scheme with an awards element

Sound Impact is an accreditation scheme with an Awards element.

Participating unions complete a workbook comprising 160 criteria, twenty-one of which are marked as Essential. If the union meets all twenty-one Essentials they will get the minimum of the Bronze standard. The

more bonus criteria they pick up the better their total score and the greater their chances of scooping a Silver or Gold award – tapping into the competitive nature of students' unions!

A focus on relevant practical action

The criteria are bespoke for students' unions making them relevant to the typical operations of a students'



union. Unlike many other accreditation schemes, our criteria relate to specific *practical actions* – actually changing light bulbs, installing recycling bins, selling Fairtrade. And because they cover all the main environmental impacts of a typical students' union the scheme effectively delivers a comprehensive prioritised action plan for becoming a greener organisation.

Audits and feedback

Participating unions are externally audited and each union receives confidential feedback showing how they compared to the average score for each assessment category. Each March Awards are presented at a glitzy awards ceremony at our Annual Convention to celebrate our collective achievements. Our showcase booklet, available in May 2008, will provide a benchmark for the sector and celebrate the innovative and exemplary environmental projects to be found in students' unions.

A greener union and a greener sector

It is really encouraging that many students' unions are now using their Sound Impact Score as a benchmark for becoming greener, setting strategic objectives for increasing their scores by gaining more criteria year on year.



In this, our second year, the average overall score has increased by 25% demonstrating that the scheme is delivering practical action across the students' union movement - a fantastic result for all involved!

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Could this work in your sector?

We think that our model of a practical environmental accreditation scheme with an awards element has great potential and the model could be developed for other sectors, for example sports clubs and schools. We have a team of trained volunteer students that are eager to help us roll our programme out in their local communities. If you would like to discuss our scheme further please contact us!

Awards and standards 2007-08

Well done to all those Students' Unions that took part this year. Special congratulations to our award winners...

Gold Award: Loughborough Students' Union (overall winner); Edinburgh University Students' Association; Leeds University Union.

Silver Award: University of Central Lancashire Students' Union; Sheffield Hallam Students' Union; Northumbria Students' Union; University of Sheffield Students' Union; Kent Union; York St John Students' Union.

Bronze Standard: 28 unions - see www.soundimpact.org.uk.

Working Towards Standard: 30 unions - see www.soundimpact.org.uk.

Co-operative Bank Most Improved Union award: Cardiff University Students' Union,

Office Depot Innovation award: The University of Manchester Students' Union.

The Ecologist Community Challenge award: University of Bradford Students' Union.

For more information about the Sound Impact Awards, including joining or sponsoring the 2008/09 Awards, please visit www.soundimpact.org.uk or email soundimpactawards@nussl.co.uk.

The Sound Impact Awards is run by NUS Services, the commercial arm of the NUS. It is run in partnership with NUS, People & Planet, EAUC, HEEPI and The Ecologist magazine. The main sponsors are Office Depot and The Co-operative Bank.

Photos credited counter clockwise from top left: 1 PET recycling project at Liverpool Guild of Students'. 2 GO GREEN week at University of Birmingham Guild of Students. 3 SWITCH IT OFF campaign sticker at Westminster Students' Union. 4 University of Bradford Students' Union, winners of Ecologist Magazine's Community Challenge Award. 5 The University of Manchester Students' Union, winners of Office Depot's Innovation Award. 6 Cardiff University Students' Union, winners of Co-operative Bank's most improved Union Award. 7 Loughborough Students Union, overall Gold Award winners of Sound Impact Awards 2007/08





Last post

With so many rural post offices in the UK threatened with closure, **Mark Anslow** visits two villages whose residents have taken it upon themselves to deliver the goods

Why don't you sell Mattessons sausages any more?' It's the kind of question you might expect in any village shop, only this one didn't come from the other side of the till – it came during the shop's Annual General Meeting, and the questioner was a significant shareholder in the business.

A month later, Mattessons sausages were on the shelves of the village shop and post office in West Meon, Hampshire. Community-owned and run as a mutual association, the shop operates for the benefit of its customers and ploughs any profits back into the village.

The origin of this retail revolution has its roots in a situation now faced by thousands of villages across the UK: the closure of the local post office. In the case of West Meon, the owners were ready to retire and sell up, but couldn't find anyone willing to run the business.

A group of villagers led by Rupert Younger decided the facility was too important for the community to lose, and set about an ambitious plan to finance, build and run a new one.

'I put an advert in the Parish News for a meeting in the village hall,' Younger recalls. 'I wasn't sure how many people would come, but was stunned when over 270 people turned up – they were hanging out of the doors!'

At the meeting, Younger and a group of supporters put forward plans to run the shop as a community enterprise. Arranged around the hall were tables filled with piles of share certificates, which, for £10, entitled the holder to a stake in the business, a say in the AGM and a vote on who would sit on the committee.

'We sold 400 shares that night, and it was extremely important in getting people on board,' says Younger. 'Once they felt they were involved, a real sense of goodwill towards the shop developed. We knew we wouldn't be able to compete on price with a supermarket, so we needed to feel confident that people would be prepared to spend 10 per cent more in the shop.'

Together with a bank loan, interest-free loans from the community, money from the Post Office and a ViRSA grant – the Village Retail Services Association – the shop and post office reopened in a new location in November 2006.



The mail must get through

Just down the road, in Ropley, a starkly similar situation was playing itself out. The village couldn't find a private buyer to take over the shop and post office when it came up for sale in 2001. The shop closed, and was eventually converted into residential accommodation.

As a temporary measure, a mobile post office service was set up in a communal building left to the village in perpetuity by a former resident. Part of this legacy included a nearby stable block, which was used for car parking and as an occasional meeting hall. Desperately in need of a permanent location for the post office and a replacement shop, the semi-derelict stable block set the villagers thinking.

'We had no money and no-one willing to take

on a shop as a private enterprise,' says Ropley resident David Hope-Mason. 'So we contacted ViRSA, who suggested we set up an association and start up a shop as a mutual concern.'

At a village hall meeting similar to that in West Meon, villagers bought 300 shares and voted in a committee to manage the association and oversee the construction of a new shop.

By October 2006 – after crucial grants from Defra, the local council, loans from residents, a carefully negotiated rent-free lease and the expertise of a highly skilled volunteer committee – the new Ropley village shop and post office opened its doors to an expectant public.

'Initially, there was a feeling of having accomplished something really special, and needing to nurture and support it,' recalls Hope-Mason, 'but soon people came to treat it as an ordinary, useful shop.'

Both stories could have ended there, but the sense of shared ownership and significant investment of time and money made by both communities meant the shops quickly became much more than originally intended.

Local sourcing is a priority: 25 per cent of

West Meon's stock is from local suppliers – including local cakes, bread, milk, flowers and even West Meon-branded coffee – and the committee hopes to increase it to 50 per cent. At Ropley, roughly 30 per cent of the produce is local and includes preserves, honey, wine from the village vineyard, fruit, vegetables and meat. Villagers have even begun to treat the shop as a marketplace, bringing in allotment and garden produce to be sold inside.

Both shops have quickly become community hubs, too, fulfilling roles somewhere between social venues and community care services.

'The shop is a meeting place for the local community, a place to talk and gossip,' explains Younger. 'One day, when one of our residents failed to collect her pension from the post office, the staff took it round to her house. They found she'd fallen down the stairs.'

Both Younger and Hope-Mason are quick to acknowledge the importance of volunteers. Although the managers are paid, most other staff give their time freely. Ropley has a roster of 35 adults and 40 children, and manager Lisa Murphy has turned the volunteer system into a

form of work experience, with children learning everything from ordering to working the till.

Thinking outside the postbox

It would be easy to dismiss these as happy but isolated stories, idiosyncratic relics of prewar, privet hedge middle England, but West Meon and Ropley are just two of 170 village shops that the ViRSA programme has helped to make the transition from failing private businesses to thriving community-owned enterprises.

And there's nothing old-fashioned about either establishment. Step through the West Meon shop and you find yourself in a soon-to-be-opened internet café, complete with coffee bar and garden terrace. By offering youngsters free internet use on Saturdays, the shop's committee intends to provide an IT training service for older customers. Younger hopes small-scale IT initiatives will also be fostered.

The Ropley post office thrives on the fact that it caters to the village's growing network of online businesses, which require not only parcel services but also business banking.

'We try to operate above and beyond what is required of us by the Post Office,' says Murphy. 'We open for longer than required to, take parcels out of hours and even deliver. I know 95 per cent of our customers by name.'

Neither Younger nor Hope-Mason pretend that setting up community-owned shops is easy. The Ropley shop had to contend with crippling health and safety compliance costs, and found it hard to strike a balance between pricier local produce and staple essentials such as baked beans and loo roll. In West Meon, the shop committee discovered true shareholder democracy brought its own problems.

'Some people thought we were too upmarket, others too downmarket,' Younger says. 'The concept of a community shop was also difficult to explain – people thought I was doing rather well out of it, until I explained I was actually out of pocket and wouldn't see that money back!'

The pride that both communities feel in the shops is self-evident to any visitor. Both clubbed together to prove that not only was a post office service financially viable, but also a fully fitted shop with spin-off facilities. With achievement comes modesty, however.

'It's nothing too grand, but we're proud of it,' says Younger. 'It's small but meaningful!'

For more information on community-owned shops, visit www.virsa.org

Mark Anslow is the *Ecologist's* senior reporter



Opposite page: Top, Lisa Murphy serves another happy customer; bottom, Ropley village shop. **This page:** Left, West Meon village shop also boasts an internet café; below, Sim is one of many residents who helps behind the till



The new coal age

The coal industry of last century is the prime reason Merthyr Tydfil has the worst health in the UK. Now, with more coal and cash to carve from one of Europe's largest opencast mines, developers and the local authority are back to finish the job.

Words and photographs by **Amy Scaife**

Wind turbines could have been standing here, turning in the strong winds streaming over the hills. But on the grounds of being noisy and unsightly, Merthyr Tydfil council overturned a planning application for a wind farm on the site of what is to be one of the largest opencast coalmines in Europe. Explosives blasting twice a day, massive machinery will then dig and scrape out an estimated 150 million tonnes of rock to reach the 10.8 million tonnes of coal buried here. With the nearest homes a mere 36m away and four schools within 600m, Merthyr's residents must wonder how their council defines 'noisy' and 'unsightly'. The £1 per tonne of coal (£10.8 million in total) the council will earn in royalties makes it quite clear where its motivation lies.

The site of the coal mine stretches over 1,000 acres, with the hole eventually reaching 200m down. But according to the council and Miller Argent, the consortium behind this great hole in the ground, it isn't actually an opencast coalmine – it is the 'Ffos-y-Fran Land Reclamation Scheme', which will 'restore 367 ha of derelict land' and 'go a long way towards creating a better and safer environment for the local community'. While some of the land was derelict, with spoil heaps and disused mineshafts being used as waste dumps, most was rough pasture and moorland, an open common where people walked and animals grazed and a much-needed habitat for lapwings, curlews and the protected great crested newt. The derelict land could have been cleaned up within three

years and paid for by European Objective One funding.

Calling this a land reclamation scheme overturns any rules stipulated by the MTAN – Minerals Technical Advice Note for Coal. An opencast coalmine anywhere else in the UK needs a minimum buffer zone of 500m between it and the nearest home. Had this rule been enforced, this mine would not have gone ahead.

Merthyr Tydfil has the poorest health in the UK, with nearly half the population suffering from a chronic disease. Residents collected 10,000 signatures opposing the mine and mounted a legal challenge that won a short-lived victory in the High Court. Pensioner Elizabeth Condron, who was eligible for legal aid, led the challenge. Since then she has endured anonymous death threats, bottles smashed against her home and the shooting of her beloved dog, and has now installed CCTV to protect herself. 'People in this town say I am either very brave or very stupid,' she says. 'I pretend I am brave.' The council, while allowing Miller Argent to recoup its legal costs from royalties due to the council, has since applied to have Elizabeth's legal aid stopped.

While local and national government loudly proclaim a commitment to reducing emissions, they aid and abet corporations in the short-sighted pursuit of profit. It's a profit paid for by the health and quality of life of the local community, the destruction of the surrounding environment and by wider society due to the climate-changing impact of an estimated 30 million tonnes of carbon dioxide released into the atmosphere. And to think, this could have been a wind farm. **E**



Only months in and 40ft down since the first bucket of earth was hauled away, the 'land reclamation' at Ffos-y-Fran pauses on a Sunday afternoon

Ffos-y-Fran mine



After death threats, broken bottles and the shooting of her dog, screens in the home of pensioner Elizabeth Condron (below) show and record what is happening outside, 24 hours a day



Banners and placards from the protest of early December 2007. Author George Monbiot and other protesters dressed up as polar bears and clowns and occupied machinery at the site, stopping work for a day and bringing the mine to the attention of the national media





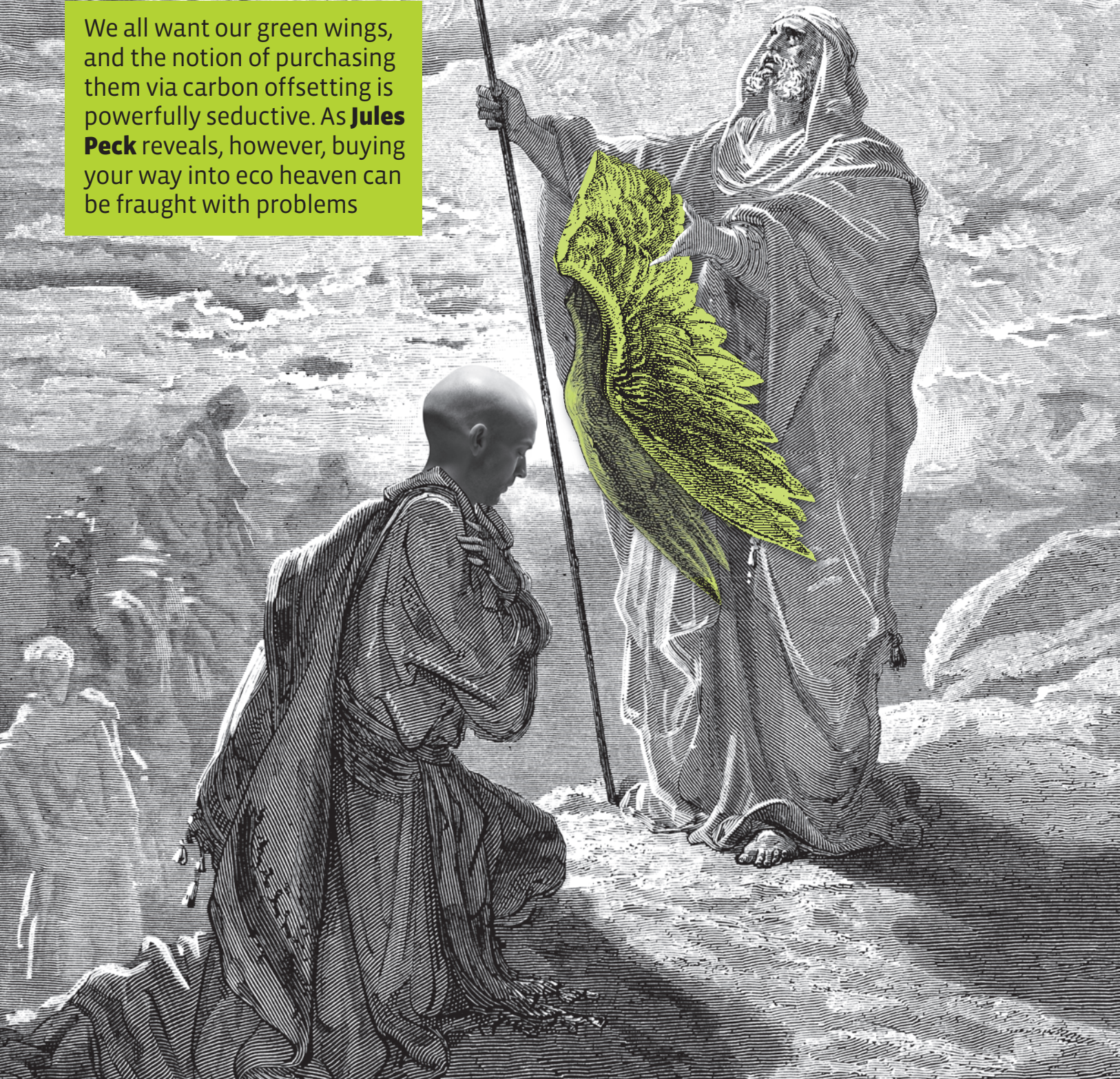
The view from Merthyr residents Pam and Terry's window is not one of rolling Welsh hills, but of the raised rim of the opencast mine, just 36m away. 'It's no life, the noise is unbearable,' they say

Roy Thomas's farm sits beside what is known as the 'land reclamation zone', seen in the background. It was once common land where his Welsh Highland ponies would roam and graze. The black mound to the right is highly contaminated rubble and situated above a watercourse that feeds through Ray's property



Forgive my carbon sin

We all want our green wings, and the notion of purchasing them via carbon offsetting is powerfully seductive. As **Jules Peck** reveals, however, buying your way into eco heaven can be fraught with problems



IF and when a universal cap on greenhouse gases is ratified, all emissions will be controlled by law. In the absence of such an agreement some say that carbon offsetting – a voluntary scheme that companies and individuals alike can participate in – has a role to play, and that it offers a simple way for anyone to neutralise their Brontosaurian emissions.

Put simply, offsetting entails paying for activities that prevent emissions from other sources, or those that attempt to remove CO₂ from the atmosphere, rather than reducing or avoiding your own CO₂ emissions. So instead of not taking a flight you purchase an offset certificate, the money for which might go towards building a wind turbine in India or planting a tree in Indonesia.

Offsetting is a divisive issue that fast brings to the surface discussions of political ideology, economic efficiency, moral and scientific dilemmas, and a host of other issues. Many of those who buy offsets are well-meaning and trying to 'do their bit'. Nevertheless, there are concerns that much offsetting is little more than greenwash.

The companies that broker offsets are themselves split on the details of offsetting. Many call each other 'cowboys', and there is no agreement on standards.

The corporate world is also split on the issue. The sectors most keen on offsetting seem to be travel, media and financial services, thus companies such as HSBC, BP, Sky, Dell and Co-op have all opted to offset.

Only companies with relatively small direct corporate carbon footprints, such as banks, offset their own direct emissions. Companies such as BA or BP, for example, would find it very expensive to do that, let alone to offset the emissions of their products, and so encourage their customers to offset instead.

Other companies, such as BT, Easyjet, TNT and Orange, have now decided against offsetting. BT has reduced its carbon emissions by 60 per cent by switching to a green fleet and green energy provision, and has committed to 80 per cent reductions by 2016. It is also investing £250 million in setting up wind farms to produce the power that its business uses, making it the UK's largest non-energy sector windfarmer.

Easyjet backed out of offsetting, saying

'there are too many snake-oil salesmen in the business'. TNT chief executive Peter Bakker says, 'we concentrate on reducing CO₂ emissions from our day-to-day activities, rather than shirking our responsibilities by purchasing "carbon credits".'

Sustainability consultancy Good Business is 'not convinced by the case for offset certificates and do not believe they have a valid place in genuine carbon reduction strategies'. A March 2008 report by *Which?* found that 'schemes which help you offset your "carbon footprint" are often inconsistent and confusing for consumers'. A recent Tufts Climate Initiative study was more direct, describing the voluntary market as 'the wild west'.

Parts of the media, such as the *Independent* newspaper, are likewise sceptical of offsetting, while just days after the Live Earth event Channel 4's *Dispatches* programme came out very much against it, with negative portrayals of both Climate Care and The Carbon Neutral Company. The Advertising Standards Authority has even forced Scottish

'There are real fears that offsetting diverts the attention from strategies to reduce carbon footprints'

and Southern Energy to stop making claims about carbon neutrality in adverts.

Some NGOs are against carbon offsetting on principle, preferring regulatory approaches. WWF says 'offsetting in itself is not a long-term solution to climate change and is rapidly becoming a distraction from the actions that need to be taken by governments, business and individuals to put the UK on a low carbon trajectory'. Kevin Anderson of the Tyndall Centre for Climate Change Research has described offsetting as 'a dangerous delaying tactic' and *Ethical Consumer* magazine described offsets as 'an imaginary commodity created by deducting what you hope happens from what you guess would have happened'.

These very public debates aside, key questions still need answering. Does offsetting help us to contract emissions in developed countries and to support the developing world to follow a low-carbon development path? For instance, does

offsetting reduce the likelihood that governments, companies and individuals will alter their own behaviour to lead to absolute reductions in their carbon footprints? In any case, do offsetting projects actually lead to real, absolute reductions of CO₂? And does offsetting help to wean the global economy off its dangerous addiction to fossil fuels?

Help or hindrance?

Even if offsetting can be shown to lead to real carbon reductions in poorer countries, we still need to make huge reductions in emissions in the industrialised world as well. It's not a question either of helping developing countries to reduce their carbon or reducing our own – it has to be both. And yet many consumers and companies are assuming they can simply offset their way to the kinds of 80 per cent plus carbon emissions reductions needed to tackle climate change. The Government is also hoping it can buy emissions reductions from developing countries and keep building airport runways and motorways.

There are real fears that offsetting diverts the attention of governments, companies and consumers from strategies to reduce their own carbon footprints, does little to prepare developed economies for a carbon-constrained future and creates a dangerous illusion that something meaningful is happening.

Corporate shifts to low-carbon strategies, investment in new low-carbon technologies and weaning our infrastructure off insecure supplies of fossil fuels are not necessarily supported by offsetting. Indeed, offsetting is now used as an excuse to build new high-carbon plants. In Texas, offsetting is being used to sell a new coal plant to the public as a 'green' project; in Norway, a gas plant that recently won public support because of its plans for built-in carbon capture is now merely going to offset.

Some argue that the language around offsetting engenders a 'calculate, pay, forget' attitude, with little resulting change. If you give someone an easy way out they are bound to take it, is the implication – it's human nature. There are also concerns that commoditising to the click of a mouse people's desires to do something good is simply another form of consumerism.

Offsetting individualises responsibility for carbon emissions at a time when what is most needed is collective pressure from society to push governments to act. By individualising

Carbon offsetting

carbon responsibility, offsetting militates against the emergence of a sense of collective responsibility, thus undermining the likelihood both of pressure on governments to act and of collective grassroots change from communities. Under such circumstances the future looks particularly bleak. Governments could then continue to avoid delivering effective regulation that enforces low-carbon strategies in developed countries

If countries such as the UK choose to rely on offsetting, then international leadership will be lacking in showing other nations that it is possible to shift to low-carbon economic development, with the result that countries such as China and India will be unlikely to take the need for reduced CO₂ emissions seriously.

Can offsetting deliver?

Under the Kyoto Protocol, countries in the developed world have targets to reduce their own emissions and/or trade by buying carbon credits from other protocol signatories. They can also trade in offsets in the Clean Development Mechanism (CDM) by investing

in emissions cuts in developing countries currently not included in Kyoto, thereby gaining a Certified Emissions Reduction (CER).

Individuals and companies not bound by Kyoto can work in a similar way through carbon offsetting, which caters for those not legally required to reduce emissions but wishing voluntarily to buy offsets instead

'The offsetting market includes little either to help wean countries off fossil fuels or to develop alternatives'

of reducing their own emissions. These can be bought from the compliance market or from an alternative Voluntary Emissions Reductions (VER) market.

The CDM, and in many cases the voluntary market, includes little either to help wean countries off fossil fuels or to develop alternatives, and only includes two per cent

renewable energy projects. In 2007, 53 per cent of all CERs came from just six huge hydrofluorocarbon (HFC) avoidance projects in India, China and South Korea. Concerns have even been raised that companies actually produce HFCs deliberately, in order to profit from their 'destruction'. In any case, avoiding HFCs in industrial processes does nothing to shift economies away from fossil-fuel energy.

As well as doing little to help global economies shift to low carbon, the history of offsetting is beset with stories of a lack of delivery of emissions reductions in the developing world. WWF recently reported that at least 20 per cent of the CDM had not led to any real reductions; others say it could be as much as 60 per cent. If this is the case in the compliance market, how much worse might it be in the unregulated voluntary one, lacking as it does standards and transparency?

Several factors need to be considered.

Baseline estimates of how much carbon has been emitted in the activity to be offset are crucial, and yet such estimates vary enormously between offsetters. The

Alternatives to offsetting

There are a number of alternatives that a company or individual can choose in the absence of any clarity as to whether offsetting as it currently exists can be a major part of the solution to climate change. Many of these will have the same desired effect as offsetting or supporting developing countries shift to low-carbon development and protect forests, but should be done as well as reducing your own or your company's footprint.

AdMit is led by the Institute for International Development and New Economics Foundation, both of which are anti-offsetting. The concept is about adaptation to climate change rather than mitigation, and identifies projects to invest in that will help adaptation to the effects of emissions. People and companies can then invest in projects that help people adapt to the effect of their emissions on the vulnerable. It is not about charity but taking responsibility for one's actions and their effects. Email saleem.huq@iied.org



Border Green Energy Team provides hands-on renewable energy technology training and financial support

to village innovators in the developing world. This supports communities in shifting to appropriate low carbon technology. See www.bget.org



Trees for Life is an NGO that encourages

people to donate to tree-planting, but states this is in no way offsetting or carbon neutrality, which they feel is not a valid term. See www.treesforlife.org.uk



Arkism prepares organisations not only to survive but thrive in a very different world, where climate change, peak oil, scarce raw materials, capital market meltdown, super storms and ethical consumer and political challenges mean the context and economy in which they do business could change beyond recognition. See www.arkism.com



CarbonSense believes there

are a wealth of opportunities for businesses if they make the creative step to move beyond carbon neutrality and into the space they call 'carbon positive'. It says that by understanding one's 'sphere of influence' (for instance on supply chain), major emissions reductions can be

incentivised and new low-carbon business models and opportunities developed. See www.carbonsense.com



Good Business is developing

Stakeholder Emissions Reductions (SERs) as it is not in favour of offsetting. SERs allow a company to calculate the emissions reductions associated with helping its stakeholders (customers, supply chain and so on) reduce their own emissions. It claims this process helps companies understand emissions reductions possibilities within its company 'universe', bringing goodwill from stakeholders, good PR and making more business sense than sinking costs into offsetting. See www.goodbusiness.co.uk



Converging World is a charity that

generates clean energy in developing countries and ploughs the profits back into renewable energy and community development in those nations and the UK. Its CERs are held in trust, so purchasers cannot sell on any surplus. Though still a form of offsetting, it is one Converging World would argue represents improvements on offsetting 1.0. See www.theconvergingworld.org

Intergovernmental Panel on Climate Change (IPCC) has found a margin of error of 10 per cent when measuring emissions from cement manufacture, 60 per cent with oil, gas and coal, and 100 per cent with some agricultural processes. Offsetting companies themselves cannot agree: the Carbon Neutral Company states that a return flight from London to Bangkok produces 2.1 tonnes of CO₂ per passenger; Myclimate says 3.6 tonnes and Atmosfair 6.9 tonnes.

Additionality – how an offset project shows it is actually adding reductions beyond business-as-usual (BAU) – is also a key factor. For example, if a project is due to begin anyway, as a result of regulation or because it is already profitable, then it does not need offsetting finance support, as it is no more than BAU. This is a highly contentious and problematic area, with diverse standards and quality, and The Royal Institute for International Affairs has been quoted as acknowledging the ‘impossibility of measuring and defining savings that are additional to those that would have occurred in the absence of emissions credits’.

Reports into offsetting activities are full of well-documented examples of projects that are little better – and occasionally worse – than BAU. For example, Climate Care sold offsets for supposed additional-to-BAU emissions reductions from 10,000 energy-efficient lightbulbs distributed in South Africa, only to find that the Government was already providing these free of charge anyway.

Timing of offset carbon reductions is also problematic. The method of ‘future cost accounting’ means that offsetters in the voluntary retail market are usually selling future offsets long before real reductions in emissions are supposed to happen – especially in the case of forest offsets. For instance, according to calculations in Carbon Trade Watch in 2007, under future cost accounting a flight to New York in 2008 that emits 0.77 tonnes of CO₂ per person, costing £5.77 to offset, would be 80 per cent offset by 2020. Not until 2108 would 100 per cent of the flight be offset.

Prices of offsets vary hugely, which makes one wonder what is the ‘right’ cost for true reductions. The Tufts Climate Initiative study found offsets between \$5.50 and \$18 per tonne, depending on offsetter. A report by Clean Air-Cool Planet found prices between \$5 and \$25, and stated ‘there probably is a general correlation between price and quality

in the retail offset market’. At a Carbon Disclosure Project launch, Adair Turner, now chair of the UK Climate Change Committee, commented that offsetting does not stack up, and that if companies had to pay the full costs of carbon in offsetting then none would continue to offset. This seems to be a point well made, as Stern calculated the full social cost of carbon to be at least \$85 per tonne – more than 10 times higher than many current offsets.

Verification of offset project reductions by an accredited third party is often not undertaken. How, for instance, can one know if every individual fire built by households in South Africa’s Basa Magogo offset scheme really is now built with coal on the bottom of the fire only (thus emitting less)? Whole offset schemes are based on the idea that such changes in practice will actually be implemented continually in every case.

Then there is the issue of *double-counting* – either by mistake or deliberate reselling. This can be avoided with strict credit registers and audit trails, but this is not common in the voluntary market. There are also serious issues of lack of transparency in the voluntary offset market. For instance, TerraPass is very secretive about its revenue, profits or even

‘Price of offsets vary hugely, which makes one wonder what is the “right” cost for true reductions’

how much it has invested so far in carbon offset projects, which means that no one using TerraPass has any clue how much of their money goes to carbon offsets.

A further concern is *permanence*, especially in forest offsets where trees may be cut down or burned way before the emissions attributed to them might have been sequestered. Mike Mason, founder of Climate Care, told the UK Parliamentary Environmental Audit Committee in 2007: ‘I think planting trees is mostly a waste of time and energy’ – even though his company still sells as much as 20 per cent of its offsets from forest projects. Non-forestry project failure is also well documented by groups such as Carbon Trade Watch, WDM and Cornerhouse.

There is no agreed standard for voluntary offsets, which are bought from projects and

The ‘carbon neutral’ myth

Several companies are promoting their offsetting activities and using the term ‘carbon neutral’. There is criticism of this claim, however, and leading offsetting provider The Carbon Neutral Company has twice had its offices occupied by climate change activists protesting that the company is ‘conning’ the public.

The hierarchy used by organisations such as Forum For the Future, which does endorse some sort of offsetting, when advising companies is: **avoid**, **reduce** (energy efficiency), **replace** (purchasing green energy) and then **offset**. Often the first thing companies think of is offsetting, though, with little thought for real reductions or building towards a low-carbon business model.

A whole economy might become zero-carbon in theory, but the idea that a company can magically become ‘carbon neutral’ by purchasing offsets has lost credibility. Consultancies such as Carbon Sense, Arkism and Good Business are anti-offsetting, and encourage companies to think about carbon positivity over ‘neutrality’. They are concerned that, by offsetting, companies are diverting valuable management thinking from innovating on real emissions reductions.

In addition to offsetting HSBC, for instance, has made efforts to look at the carbon weight of its lending. BSkyB recognises that, while it does offset, the most important thing it can do is increase the carbon literacy of its viewers.

There is a high level of cynicism from some quarters about companies ‘going carbon neutral’, however. The EAC submission from World Development Movement states that, despite HSBC’s claim to be ‘carbon neutral’, its overall emissions actually rose between 2004 and 2005. Many also ask if oil company adverts about offsetting are anything more than greenwash.

For companies, the key message seems to be one of caution. Claims of ‘carbon neutrality’ through offsetting could hit a company’s reputation as well as divert it from future-proofing its business model.

Avoided deforestation

Deforestation – largely in the tropics – accounts for approximately 20 per cent of global carbon emissions, so we need to protect existing forests. Recent land-use change, deforestation and huge forest fires have made Indonesia the world's third-largest emitter.

Due to the complexities involved in verifying real reductions through forest offsetting and the scale needed, however, many feel avoided deforestation should remain the job of state-to-state action rather than voluntary market offsetting.

'Once you get big carbon money going to the world's forests you get questions about who really owns them. Is it the people who give the money to save them, or the communities?' says Dr Tom Griffiths of the Forest People's Programme. Griffiths fears this will fast lead to guns and fences and forced relocation of forest communities.

The forests we most need to keep intact are also those in the tropics, often in countries with either less than perfect governance and land rights or serious lack of resources for implementing any real kind of protection. Can one really say for sure that a tree acting as a carbon lock-in in the tropics will still be there tomorrow, let alone in 100 or 50 years?

Due to predictions of huge emissions increases, we need both to reduce our emissions and protect existing forests – bringing avoided deforestation into offsetting would mean only the latter happening. So give money to protect forests by all means, but don't confuse that with the need also to reduce one's own emissions.

sold direct to customers by offsetters. In its 2007 consultation on a voluntary code of best practice for offsetting, the Government decided to exclude all voluntary offsets as it felt they were of dubious quality, but in February 2008 it changed its mind and agreed VESs could be part of a standard.

The Voluntary Carbon Standard (VCS) has been launched by UK NGO The Climate Group to be an entry-level standard that calls for reductions to be additional to business-as-usual, but not extra social and

environmental benefits. However, WWF has called the additionality requirements in the VCS 'completely inadequate' and refuses to recommend VCS, calling it 'bottom of the barrel'.

There is also a rebound effect, which means that money saved through energy efficiency improvements may simply be spent elsewhere leading to increased emissions or no reduction overall. There is good evidence that energy-efficiency leads to more not less energy-profligacy, so for instance TVs may use less power today than 10 years ago, but most homes have twice as many TVs.

Carbon colonialism

Many see carbon trading and offsetting merely as an extension of colonialist profiteering from poor countries. Indeed, as Oxford academic Adam Bumpus said in a recent paper delivered to the Royal Geographic Society, 'carbon offsets are premised on North-South inequity. You have to have a developing world if you're going to get your cheap carbon offsets'.

'You have to have a developing world if you're going to get your cheap carbon-offsets'

One of the more perverse effects of offsetting might be to exacerbate the divide between north and south, rich and poor. Logically, to get emissions reductions in China and India you would start with the urban rich who are accounting for large amounts of avoidable emissions, and yet offsetting projects mostly target the activities of the poor, whose emissions are from daily necessity and who are never likely to get much chance to emit in any case. There is also evidence of a lack of consultation with communities and accusations that offset projects – solar power projects in Sri Lanka, for instance – are merely perpetuating semi-slavery, bonded-labour practices in tea plantations. A knock-on effect of forests being 'protected' can be forced removal of indigenous people.

Offsetting's ability to alleviate poverty must also be questioned. In 2000, the US Congress's Meltzer Commission found that

65-70 per cent of World Bank development projects in the world's poorest countries had failed to make any difference to poverty. Try mixing the profit motive with that of development, as offsetting does, and one can only assume effective delivery of equity and poverty alleviation becomes even harder. Successful investment in the developing world is more likely to result from improvements to governance, and that is best delivered through government and multi-lateral institution channels supported by the NGO community.

Changing behaviour?

Even if we assume that all the problems associated with offsetting highlighted so far can be dealt with – and that seems a huge 'if' – is there evidence that offsetting can also help the public be more carbon-literate and to change the way people consume?

It is clearly beholden upon the offsetting sector to prove a causal link between offsetting and other carbon-reduction activities. Climate Care says it has evidence that a significant proportion of its customers state they have, as well as offset, engaged in energy efficiency. And yet Mike Mason of Climate Care is nevertheless proud to say, 'I would rather 100 per cent of people offset their emissions from flights than 50 per cent of those people not fly at all', suggesting he sees offsetting as the only real objective rather than reductions in people's footprints.

There is also a concern that offsetting sets up a confusing cognitive dissonance in people's minds – they are told both that 'climate change is serious and huge and scary' and 'don't worry you can continue as normal and just pay a few quid'.

BP and Forum For the Future (FFF) encourage drivers to offset through Target Neutral, saying 'we all contribute to CO₂ emissions when we drive. We can all do something about it. It's simple and doesn't cost the Earth. On average it's just £20 a year' – but the cost of this offset is so low that this surely simply encourages people to keep driving. What evidence BP and FFF have of any more positive change in behaviour is unknown. WWF has said of this scheme that BP is 'completely misleading as they imply that it is fine to continue with business as usual as long as you purchase offsets'.

The Parliamentary Environmental Audit Committee (EAC) concluded, 'there is at the moment very little evidence as to the effect

of offsets upon the behaviour of those who purchase them'. Carbon Clear told the EAC that only one to two per cent of consumers currently buy offsets, and the Energy Savings Trust suggested these were people either concerned with green issues already and/or affluent. According to consultancy Energy for Sustainable Development (ESD), there is a paucity of evidence about whether the people offsetting are the same as those reducing carbon.

An industry in crisis

These days, offsetting is facing a serious crisis of legitimacy. First, there are real concerns that a knock-on effect of offsetting is that it sanctions and perpetuates the heavy emissions behaviour that we so urgently need to change. For instance, many people consider that one of the major contributions to future carbon footprints will come from flying. Some 85 per cent of Climate Care's tenfold increase in sales during 2006 came from the online offsetting of flights.

Assuming that we aim for 80 per cent carbon reduction across the economy and yet have no decline in the expected growth of UK flights and no intervention from government, by 2050 aviation would account for 135 per

cent of our emissions. We need both political leadership to provide alternatives and disincentives to increased flying. We need a real culture change away from the Prague stag weekend and Newquay surf-flights.

Second, offsetting may delay rather than promote reduced dependence on fossil fuels. Third, the evidence is scant that it leads to absolute emissions reductions.

Fourth, there is real danger of exacerbating

'Some companies make efforts to assess and radically reduce their emissions as well as offset, but that is rare'

inequity, as the funds from offset schemes are largely benefiting the rich and corporate in the developing world rather than those most in need. Instead of targeting the poor we urgently need to invest in new technologies that are scalable and transferable to developing economies, in order to provide large amounts of sustainable, low-carbon energy and to wean economies off a

dangerous diet of fossil fuels.

Finally, it is questionable whether offsetting fits with broader sustainability concerns related to social issues, unsustainable resource use and the Millennium Development Goals.

Do the concerns about offsetting highlighted here sound the death knell for offsetting? Is there perhaps 'less bad' offsetting activity? Some companies now bypass the offset sellers and access projects directly, thus gaining more control over real reductions. Some companies do make real efforts to assess and radically reduce their emissions as well as offset, but that is rare. As ever, the worst drags down the overall level of the playing field, and there is a real need to blow away the fog from the offsetting market to assess whether it can be any part of tackling climate change.

It is absolutely beholden upon the offsetting community to prove that it can deal with these concerns before offsetting can be given anything like a green light. **E**

Jules Peck is a director of Arkism (www.arkism.com), which works with companies and NGOs on sustainability issues. He is also a director of the Conservative Party Quality of Life Review

**Avoid
Reduce
Replace
Then Offset**



Ecovillages: A model life?

More people are turning to eco communities as a viable alternative to urban life.
Laura Sevier reports. Additional contributions **Mike Henderson** and **Nritijuna Naidu**



Pictured: Community hub model for Lammas, a proposed low-impact eco-village near Glandwr, Pembrokeshire, in Wales

Are you nature-starved, lonely, and fed up with the materialism, stress, waste and pollution of modern urban life? If so, rest assured that the craving to live a greener life in a community, more connected to each other – and to the Earth – is entirely natural. It has a primal appeal.

We are becoming an urban species. In 1800, only three per cent of the world's population lived in cities; these days it's more than 50 per cent. And yet this is not necessarily how we are meant to live.

'We humans evolved in small hunter-gatherer bands,' says Richard Heinberg in his foreword to Diane Leafe Christian's *Finding Community*, 'thus roughly 99 per cent of our history as a species has been spent in groups of 15 to 50 individuals where each knew all the others, and where resources were shared in a 'gift economy'. Even in recent centuries, the vast majority of people lived in villages or small towns. Little in our evolutionary past has prepared us for anonymous life in mass urban centres, suburbs and exurbs. Therefore the goal of living in an intentional community with friends of like mind carries a deep and perennial psychic resonance.'

The desire to live in a community is one of the main forces behind the growing movement to create ecovillages – communities where people value both a supportive social network and a low-impact, ecologically sustainable life. They can include both traditional indigenous villages, whose members focus on ecological and social sustainability, and intentional communities formed when people choose to live close enough to each other to carry out a shared and sustainable lifestyle.

Jonathan Dawson, president of the Global Ecovillage Network (GEN), says ecovillages in the developed (Europe, Australia, North America) and developing world (Africa and South America) have a similar motivation. In the former they are often characterised by a reaction against alienation and materialism of industrialised society; in the latter by a desire to throw off the influence of industrialised nations and return to the values and practices of traditional cultures.

Today, he estimates there are around 1,500 ecovillages worldwide, though no-one knows the exact number. This is partly because many villages and communities in the South use less energy and natural resources than their Northern counterparts, but are not registered or labelled as 'ecovillages'.

What makes an ecovillage?

For millennia people have lived simply in communities close to nature, and yet the 'ecovillage' is a relatively new concept. It first appeared on the scene in 1991 in a sustainability report commissioned by the Gaia Trust. By the mid-90s, many intentional communities had begun to call themselves 'ecovillages', and since then the movement has flourished and spread. The GEN, set up in 1995, has played a crucial role in linking the highly diverse collection of autonomous ecovillages and related projects.

There is no such thing as a typical ecovillage – each has its own look and character, according to location, climates and culture, and varies in size from a cluster of houses to a community of hundreds. They do, says Jonathan Dawson, have certain attributes that distinguish them from other urban or rural eco-regeneration initiatives, though, such as:

- Community is of central importance
- Shared values and the sharing of resources and facilities are the norm
- Ecovillagers are seeking to win back some measure of control over their resources (food, energy, livelihoods, houses)
- They are built by groups of people (rather than traditional developers or other official bodies) and are more or less entirely reliant on the resources, imagination and vision of the community members themselves
- Many act as centres of research, demonstration and, in most cases, training.

At the heart of their rationale is the desire to construct human settlements that tread less heavily on the Earth. They promote a

'At the heart of their rationale is the desire for settlements that tread less heavily on the Earth'

greener way of life, with a strong impulse towards greater communal self-sufficiency. Most attempt to reduce the need for fossil fuels, grow their own food, compost, use carpools, build from local or green materials and often make use of highly efficient ecological technologies for heating, electrical and water systems. Sharing cookers, cars, tools and common heating systems reduces environmental impact and saves money. As a way of life it embraces the conscious decision to live more simply, thereby consuming less.

Several ecovillages have found ways of measuring their ecological impact. According to a 2005 study, for instance, the 450

members of the Findhorn Foundation, in northern Scotland, have a 40 per cent smaller 'ecological footprint' than the UK average.

Foundation of a new culture

Ecovillages are in service of a wider goal that goes far beyond a reduction in the use of natural resources, however. Above all, they encourage a sense of connection and responsibility to the natural world. As Helena Norberg-Hodge, founder and director of the International Society for Ecology and Culture, wrote in the *Ecologist* in February 2002: 'They represent an altogether new development vision with different economic underpinnings, energy uses, social structures and values to those of industrial society. Ecovillages provide models for living close to the land and in community with one another.'

So could they be a solution to the Earth's woes – and our own? They can certainly be a salvation for those in search of a greener, more communal way of life, and in an uncertain future of climate change, peak oil, food insecurity and the unstable global economy, ecovillages, with their strong self-help ethic and more local, sustainable way of life, show a workable way forward.

In *Ecovillages: New Frontiers of Sustainability*, Dawson writes 'The types of applied research, demonstration and training that ecovillages are engaged in are precisely those that will be needed to navigate rough waters ahead.'

While some new ecovillages are forming, the problem is that difficulties in finding affordable land and winning planning permission mean it is an uphill struggle to start them up. With only a small number

of ecovillages per country, the movement is still in its embryonic stage and the ideal, fully sustainable ecovillage does not yet exist. What do exist are myriad partial solutions applied by different societies, but under the same general theme. Ecovillages are confronting the problem head-on, establishing the foundation of a new culture that, although marginal, may one day be applied by the mainstream. Many of them also lead the way in 'best practice' living that could become the norm in the future. **E**

Laura Sevier is the *Ecologist's* Deputy Green Pages Editor

Findhorn, Scotland

Findhorn Ecovillage, in northern Scotland, has grown over a quarter of a century from an 'intentional community' in a caravan park to one of the most pioneering and celebrated exponents of sustainable living best practice. In 1982, the Findhorn Foundation hosted 'Building a Planetary Village' and marked the beginning of serious attempts to demonstrate that settlements could be truly sustainable – environmentally, socially and economically.

Initially, focus was on the construction of a 75kw wind turbine and the construction of 'eco-friendly' buildings. Over the years, however, these early successes have been dramatically superseded. The project now draws energy from four 225kw wind turbines, while the caravans that were here initially are gradually being phased out in favour of ecologically sound buildings that incorporate breathing walls and triple-glazed, gas-filled windows. The community also established a biological sewage treatment system, known as the Living Machine, numerous solar water-heating systems and is now looking into geothermal heating.

Findhorn supports traditional organic and biodynamic farming

practices and 70 per cent of its fresh food requirements is supplied by the Findhorn community-supported agriculture scheme, established in 1994 – the oldest and largest of its kind in the UK.

In 1998, it was awarded a United Nations Habitat Best Practice Designation. The success of the ecovillage has made it a great source of inspiration, attracting some 14,000 visitors a year. The knowledge and experience of Findhorn is also disseminated through a UNITAR Associated Training Centre and numerous publications, including the UK's first technical guide to ecological housing.

The Findhorn ecovillage also supports a community far wider than the project itself. Numerous businesses, charities, community bodies and sister communities have sprung up in the surrounding area that are not directly involved with but are attributable to the initial project. In addition to the 300 jobs it has generated, it is estimated that the ecovillage and associated activities contribute in excess of £5 million to the economy of the Findhorn/Forres area of the Highlands. www.findhorn.org



Urban and Suburban

Can an ecovillage exist in the city or suburbs? Urban 'ecovillages' are more likely to be developer-led eco communities rather than designed and built by the ecovillagers themselves. BedZED (Beddington Zero-Energy Development), in south London, is a well-known example of a developer-led eco community, although it goes by many names, including ecovillage, eco-estate and sustainable community.

The unifying factor for any ecovillage is lifestyle, so while it is still possible to create a more grassroots-style of ecovillage in a city, it would mean living close enough to the rest of the 'community' to share facilities and allotments, having access to public transport, a market within walking distance and retrofitting houses in order to make them more energy-efficient.

Co-housing is one way of enjoying the benefits of community living and shared facilities in an urban setting while still

maintaining some independence: you can choose how much interaction with the wider group you want.

A co-housing group can live more ecologically than a single household, through carpooling, shared shopping and shared energy systems. Alongside this are shared facilities where people can eat together, and often also a shared sitting room and washing machines. Sharing transport, childcare, food purchasing and production also help reduce living costs.

Ecovillage at Ithaca, USA

One of North America's most high-profile ecovillages, the Ecovillage at Ithaca (EVI), in New York state, is a growing suburban ecovillage on the edge of a small college town. Consisting of 60 one- to four-bedroom houses spread over 70ha and two neighbourhoods, the 160 residents aim to demonstrate a more sustainable way of living for Americans by reaching mainstream culture through education programmes and media coverage.

Initially conceived in 1991, it took five years for the first homes to be completed and the residents to move in. All buildings are passive solar, super-insulated duplexes and some of them have solar electric, grid-integrated systems (14 out of 60 homes). Four also have solar panels for hot water, five have composting toilets and two are straw-bale. The remaining area of the site, some 90 per cent, is preserved as green space, consisting of meadow, woods, streams and ponds, to create a variety of areas for wildlife and natural recreation. There are also two organic community-supported agriculture schemes, which feed about 1,400 local people during the growing season.

Although everyone contributes a few hours a week to keep the community autonomous – including outdoor maintenance, governance, finances and future projects – being located close to a larger centre means that most people at EVI can access paid work. The community has forged links with Ithaca College, Cornell University and Wells College, where residents offer their village as a working model for study and can build a wider platform to communicate their experiences. www.ecovillage.ithaca.ny.us



Mbam, Senegal, Africa



Located in the Siné-Saloum delta, at the confluence of two of Senegal's largest rivers, Mbam is home to some 3,000 people. Central to the sensitive ecosystem of the delta are the mangrove forests. These came under considerable pressure during the mid-1980s, when a harsh drought not

only damaged the plants, but also led to an influx of migrants from surrounding countries, whose arrival resulted in much greater quantities of mangrove wood being extracted to smoke and cook fish. It didn't take long for the mangroves to die back, opening up the paddy fields to the sea.

With salinisation of waterways and soil erosion impacting on their livelihoods, a core group of citizens recognised the need for more sustainable development and approached the Senegalese national branch of the Global Ecovillage Network (GEN). With the villagers' input into all aspects of design and delivery of projects, GEN has helped the community realise several achievements. In addition to

establishing more sustainable farming techniques and installing solar ovens, the community has been particularly successful in mangrove restoration and management. Mbam has become a centre of excellence, with villagers now teaching parties from the surrounding area in sustainable mangrove restoration. Aided by GEN, the village is also embarking on a biogas development sponsored by the Global Environment Fund.

The Senegalese national branch of GEN is the first network of its kind in Africa. This UN ECOSOC NGO works with 45 member villages to promote sustainable approaches to meet the Millennium Development Goals. www.gensenegal.org

Ecotowns vs Transition Towns

Grassroots they are not. The Government's 10 'zero-carbon' ecotowns proposed for locations around the UK will be 10-100 times the size of most ecovillages, with as many as 5000 to 20,000 homes per town. If all goes to plan there will be five ecotowns by 2016 and 10 by 2020. Although they will be designed to a strict set of environmental criteria – such as anti-car measures and bigger cycle lanes – dropping a newly built town on a green space is not particularly green or, it seems, popular.

The plans have sparked nationwide protests, particularly from residents in several towns and villages close to the proposed locations. As for 'zero-carbon,' ecotowns must be built from scratch. The Empty Homes Agency says that building new houses emits 4.5 times more carbon than rehabilitating old ones.

There are alternatives. Existing towns can be adapted by growing food in greenhouses fitted beside apartment blocks or on the roofs of high-rises, co-ordinating community-supported agriculture projects

with farmers and introducing energy-saving appliances and structures.

This is already happening in areas such as Totnes, one of more than 40 Transition Towns in the UK aiming to reduce the carbon footprint of an entire community in response to the threat of peak oil. A community-led initiative, it began with just one town and is now an evolving network. The initiative can be applied to villages, cities, islands and forests.

www.transitiontowns.org

BedZED, UK

Completed more than six years ago, BedZED remains the only real notable development of its kind. More a developer-led eco community than an ecovillage, it's the first attempt at a large-scale carbon-neutral housing development in the UK. Developed by the Peabody Trust in partnership with Bill Dunster Architects and environmental consultants BioRegional Development Group, the aim was to develop an area of reclaimed land in the London Borough of Sutton as an innovative solution to environmental, social and economic needs.

The 96 residential properties at BedZED consist of 48 units for outright sale, 23 for shared ownership, 10 for key workers and 15 at affordable rent for social housing, thereby catering for a range of tenants. Driven by the desire to be a net 'zero fossil energy development' – one that will produce at least as much as it consumes – the design incorporates a range of surprisingly low-tech features to reduce energy demands and generate energy from renewable sources. This includes using reclaimed materials, efficient insulation and glazing, solar panels and natural ventilation. In addition to the energy-efficient design features of the building, BedZED has a green transport plan that promotes cycling, walking and car-share.

Two key features of the development have been less successful,

however. Combined heat and power from underground woodchip burners has had to be put on hold as filters get clogged, increasing management costs. Costs have also restricted the use of the reed-bed sewage filtration system. The failings of BedZED have drawn criticism, often disproportionately overshadowing its successes. What should be applauded is that 'eco-friendly' housing has been taken out of the niche of the bespoke house builder and tackled by a large housing association. If the Government's 2016 target for all new houses to be carbon-neutral is to be achieved then the positive aspects of BedZED need to be built upon by other large-scale developers.

www.bioregional.com



Crystal Waters Permaculture Village, Australia



Nestled in the hills of sub-tropical Queensland, 100km north of Brisbane, is Crystal Waters Permaculture Village. Covering an area of 259ha (640 acres), the ecovillage is home to some 200 permanent residents living on 83 freehold plots and running a multitude of environment-orientated businesses. The settlement was formally established in 1986, amid a backdrop of economic and ecological deprivation as local forestry and dairy industries declined. A small 'alternative'

community had been squatting on the site for some time, but rather than fight the occupation, landowner Bob Sample recognised an opportunity for social, economic and environmental revitalisation.

From the outset, planning and design of the environment were based on 'permaculture' principles. This 'true blue' Aussie philosophy (the term was first coined by Australians Dr Bill Mollison and David Holmgren) was originally developed as a designed approach to agriculture that



takes into consideration natural processes to make the most efficient use of land.

At Crystal Waters, 20 per cent of the land is occupied by residential and commercial lots; the remaining 80 per cent is the best land and is owned in common. It can be licensed for sustainable agriculture, forestry, recreation and habitat projects.

Land productivity continues to improve today, waterways are clean and community businesses are thriving. It received the 1996 United Nations World Habitat Award for its 'pioneering work in demonstrating new ways of low-impact, sustainable living' and is listed in the Top 40 of the UN's Best Practices database. www.ecologicalsolutions.com.au/crystalwaters

Sieben Linden, Germany

Sieben Linden near Altmark, Germany, describes itself as a community of communities. Its residents recognise and celebrate differences as well as common ground in working towards their collective aim of providing 'a model for living responsibly with nature' by dividing their ecovillage into neighbourhoods, each with their own way of life. The contrast between the two largest neighbourhoods highlights this point: one, the 99club, is more radical, being a completely vegan co-operative that does not use machinery, whereas the other came together because its residents' children were roughly the same age. The community has experimented with a range of different governance models such as forums, supervisions and talking sticks.

In July 2007, the community celebrated its 10th anniversary, and has recently grown to more than 100 residents, with 80 adults and 35 children. The site is also growing, with the latest land purchase taking the total area of Sieben to 77ha. This consists mainly of

forest and farmland, with approximately 6ha set aside for housing.

Although many residents still live in caravans, there are two modern low-energy houses and one of the first straw-bale houses with planning permission in Germany. Since then, two further straw houses have been built (including the biggest in Europe, with more than 500 square metres of living space) and another two are under construction – Sieben Linden has been lobbying hard for a change in the building regulations in Germany to make it easier and cheaper to build with straw bales. The settlement also has its own water supply, waste disposal and solar heating.

There are currently a number of small enterprises – a jewellery shop and a small publisher, as well as artists, consultants and tradespeople, including an organic vegetable-grower and joiner. It is hoped that more self employed craftsmen, artists, architects and body therapists will soon be able to find ways to earn a living at Sieben Linden. www.siebenlinden.de



Websites

Global Ecovillage Network (GEN) www.ecovillage.org
Intentional Communities www.ic.org
Ecovillage Network UK www.evnuk.org.uk

Courses

Ecovillage courses at Findhorn www.findhorn.org
 • **Ecovillage Experience Week** 28 Jun, 26 Jul, 4 Oct 2008
 • **Ecovillage Design Education: Training of Trainers** – 11 Oct 2008
 • **Ecovillage Training** 14 Feb-13 Mar 2009

Books

Ecovillages: New Frontiers for Sustainability Jonathan Dawson (Green Books, 2006)
Finding Community: How to join an Ecovillage or Intentional Community Diane Leaf Christian (New Society, 2007)
Growing Eco-communities: Practical ways to create sustainability Jan Martin Bang (Floris Books, 2007)



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- An experienced **Vegetarian Chef** to cook for 100 people daily with a team of 5 staff. Your duties will include cooking the main meal and supervising the preparation of breakfast and supper; all kitchen orders, staff training, menu planning and general upkeep of the kitchen.
- An experienced **Gardener** to help with the upkeep and planning of 37 acres of grounds and a 1 acre walled garden

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Brockwood Park School Bramdean, Hampshire
SO24 0LQ United Kingdom
admin@brockwood.org.uk Website: www.brockwood.org.uk



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Washington (Dulles).....	Heathrow return from	£299
Hong Kong.....	Heathrow return from	£399

HOP ONTO YOUR SKIS

Zurich.....	Gatwick one-way from	£35
Montreal (Trudeau).....	Heathrow return from	£299

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Barcelona (incl).....	Heathrow one-way from	£46
Budapest.....	Heathrow one-way from	£55

 **ba.com** Book by 18 March

Your return flight from London to Cape Town contributes to climate change as much as one-and-a-half years of driving.
Think before you fly

Think before you fly

No one believed Big Tobacco could ever be snuffed out – until health warning stickers were made law. If the same principle of science, information and activism were applied to the aviation industry, argues **Mark Anslow**, the air we breathe could get cleaner yet

In 2006, slightly more than two billion passengers were carried by plane worldwide. The aviation industry is growing at five per cent every year and, once the effect of releasing greenhouse gases at high altitudes is taken into account, is already responsible for close to 10 per cent of global greenhouse gas emissions. Even with more efficient engines, the climate change impact of aviation is set to double within 30 years, and if we aim for an 80 per cent cut in CO₂ emissions by 2050, air travel will be responsible for 135 per cent of that allowance by mid-century.

The industry is inherently unsustainable, but also immensely popular, with the economics of cheap flights now so favourably skewed that, in April, budget operator Flybe could afford to pay actors to fill its planes in

order to avoid a £280,000 penalty for flying with too few passengers.

Faced with a problem of such scale, it is worth remembering that recent history has seen a comparable problem with an industry now so heavily regulated that it seems only a matter of time before its product loses all credibility. That industry is tobacco.

No smoke without fire...

Christmas 2002 can't have held much cheer for tobacco manufacturers. Where once they had looked upon their product packaging as prime marketing real estate marred only by small, tired NHS warnings, they suddenly faced a law requiring them to print over 30-40 per cent of the box huge, indelible warnings of painful death and loss of virility.

It worked. Within four months of the new

warning labels appearing, the NHS Smoking Helpline had logged a 12 per cent increase in calls from smokers anxious to quit, 10,000 of whom said the new labels had encouraged them to pick up the phone. Come 2005, as many as 4,000 people a month were calling the helpline out of concern caused by the labels. Research in the Netherlands on an identical scheme showed that 13 per cent of smokers were less likely to buy cigarettes on account of the warnings.

It is breathtaking to think such warnings ever became a condition of sale for a product that was once one of the most lucrative in the world, grown and distributed by some of the most powerful corporations ever seen. At the peak of its popularity in 1948, some 82 per cent of British men smoked some form of tobacco, at a rate of 12 cigarettes per man, per day.

Flight warning

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HURRY, sale ends midnight Tuesday

Your return flight from London to Malaga contributes to climate change as much as nine-and-a-half years of average TV viewing.

Think before you fly

So what changed? The first ingredient was sound science. In 1950, Sir Richard Doll and Sir Austin Bradford Hill famously began to publish research that suggested an incontrovertible link between smoking and lung cancer. The size and accuracy of their sample made the results very difficult to challenge, and Doll's statistical rigour saw off the regular attempts by the industry to discredit his research.

The second ingredient was public opinion. Despite smoking's popularity and cultural resonance, the public was quick to absorb the implications of Doll's research. *Reader's Digest* was active in publishing anti-smoking articles as early as 1954, and within 20 years of the first evidence appearing a fiercely active pressure group, Action on Smoking and Health (ASH), had begun a carefully co-

ordinated campaign of science-based activism and use of the media. ASH was staffed by professionals and activists – a potent combination of talent.

These factors catalysed a series of progressive actions by government. In 1965, cigarette adverts were banned from television screens and, by 1971, the first official health warnings were introduced on cigarettes packs, to be further enlarged in 1986. Although much lobbying took place in the intervening years, the tide had turned against a ubiquitous habit.

Son of cigarettes

Although booking a flight is nowadays almost as easy as lighting up a cigarette, it is almost certainly the biggest single annual greenhouse gas contribution an individual will make in a year, and your biggest single easily avoidable source of emissions. So what chance is there that the flight will go the way of the fag?

The science of the environmental effect of aviation was effectively settled in 1999, when the Intergovernmental Panel on Climate Change (IPCC) released its landmark report 'Aviation and the Global Atmosphere'. The IPCC confirmed that emissions at altitude were between one and four times more damaging than the same gases produced at ground level. The aviation industry has been quick to focus on the degree of uncertainty in the IPCC's predictions – just as the tobacco industry was in the 1950s – but nearly all leading climate research institutes accept that the impact of flying is greater than just the total CO₂ emissions from kerosene fuel.

Group action against the industry was given a significant boost by the Camp for Climate Action at Heathrow last August, as well as continued action by innovative pressure group Plane Stupid. Recent protests, such as the dropping of a banner reading 'BAA HQ' from the roof of the House of Commons, has helped catapult the issue of aviation growth into public consciousness.

Quiet inroads have even been made in Westminster itself. A little-reported House of Commons Treasury Committee document released in January 2008 called on airlines to make information on carbon emissions and the fuel-efficiency of aircraft readily available to the public, and reprimanded the industry for 'dragging its feet' in co-operating on environmental schemes. It recommended the Government introduce a labelling scheme 'at the earliest opportunity'.

Finally, and critically, it seems as though public opinion towards aviation is beginning to shift. While still a wildly popular mode of travel, MORI research shows that 56 per cent

of the public would be willing to change their behaviour to 'help limit climate change', and 44 per cent realise that flying to Edinburgh is the most damaging way to reach the city.

Interestingly, although Government research in 2006 found 90 per cent of people thought they should be free to fly as much as they wanted, the number dropped to just over 40 per cent when the phrase 'even if this harms the environment' was added to the question. This may have prompted aviation campaigner Jeff Gazzard, interviewed in Leo Hickman's *The Final Call*, to claim: 'I think within a few years we will start seeing health warnings on adverts for flights akin to cigarettes.'

As if to mark his words, campaign group Enough's Enough launched a website – www.flyingsthenewsmoking.com – mocking up smoking warnings to refer to flights, and a petition on the Number 10 website is calling for a total ban on flight advertising. The parallels between the fight against tobacco and the fight against aviation are now simply too stark to ignore.

Arranged across these pages are a series of illustrative flight adverts, with comparative warnings calculated and added by the *Ecologist*. We sent these adverts to a number

of groups (see panel below). The spread of support seems broad.

We are asking *Ecologist* readers to let us know what you think. Would these warnings make you think twice before booking a flight? Should the wording become more stark? More general or precise?

By showing a groundswell of support for the proposals, it's just possible the critical mass that catalysed the beginnings of the anti-smoking movement can be brought to bear on an industry that is peddling a product far more dangerous for global health than the most addicted smoker ever could be. **E**

Email us at flightadverts@theecologist.org, or write to the usual address

Methodology for the warning text is available at www.theecologist.org/flightads

Mark Anslow is the *Ecologist's* senior reporter

What they thought...

'Flying is one of the most polluting activities an individual can choose to take part in. These adverts provide a stark, clear and easy to understand illustration of this' – **Friends of the Earth**

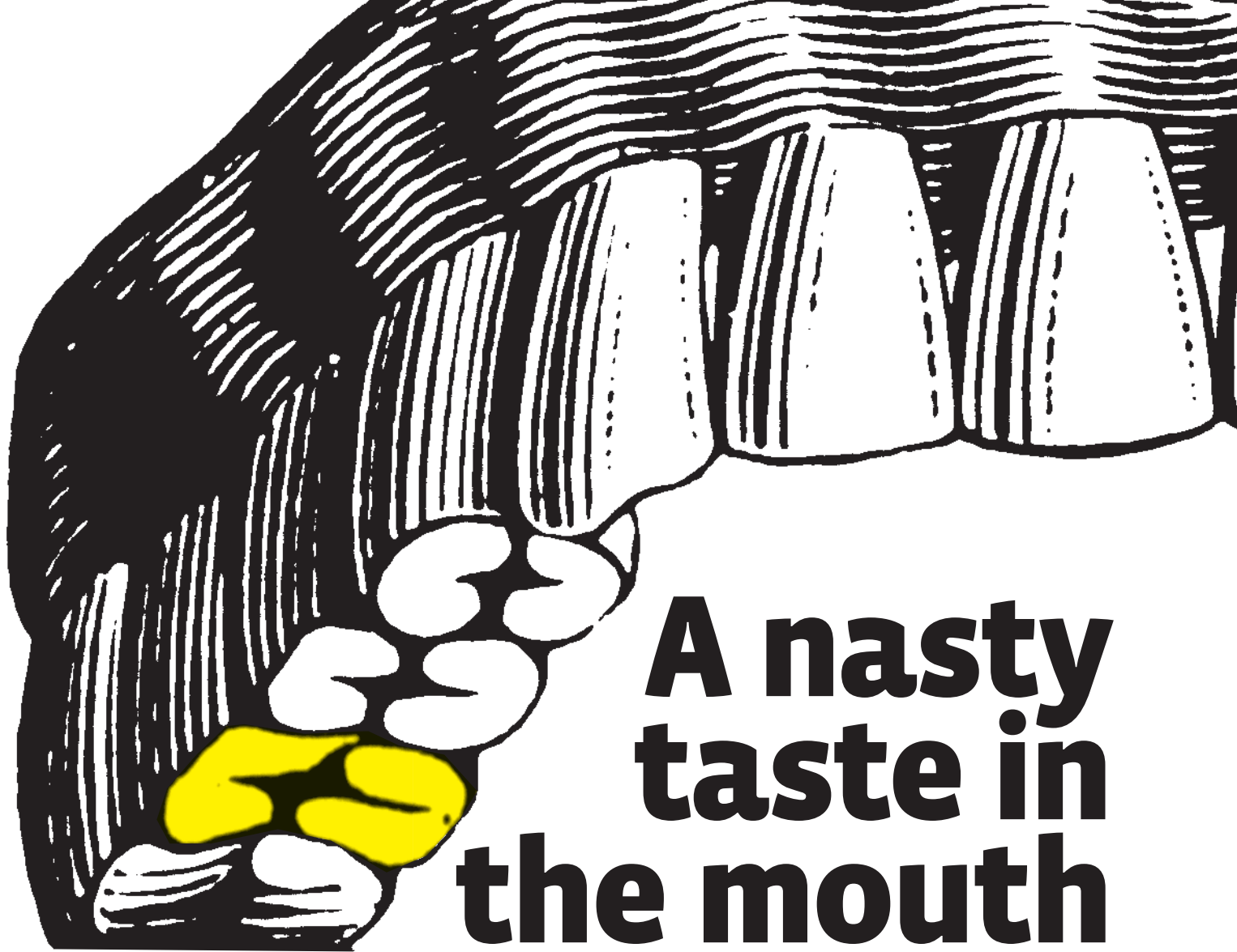
'People need to understand the impact of their actions so they can make an informed decision about how to act. For that reason, we would endorse advertisements like these being proposed by the *Ecologist*' – **Campaign for Better Transport**

'Advertising by airlines has done a very good job of enticing people to take more holidays abroad. With global greenhouse gas emissions continuing to rise, it's time to redress the balance, and for that reason we'd fully support the kind of emissions warnings for airline adverts that the *Ecologist* is proposing' – **Aviation Environment Federation**

'The cigarette packet warning is a nice idea, but this needs some tweaking. The warning on cigarette packets is starker and more clearly delineated from the rest of the packaging' – **Greenpeace**

'The Government recognises that there is a need for clear information being available to the public about the climate change impact of their travel. Last year, the Government launched the Act on CO₂ campaign, which [includes] a web-based carbon calculator that enables people reliably to calculate their carbon footprint from flying and makes personalised recommendations on reducing that footprint' – **Department for Transport**

Destination	Return Price
Istanbul	£131
North Cyprus	£214
Antalya	£213
Dalaman	£213
Bodrum	£213



A nasty taste in the mouth

Mercury is the second most toxic metal in the world, and yet it's still being used to make fillings. **Nick Kettles** wonders if the dental establishment is away with the tooth fairies

It's official: it's safe to put hazardous waste in your mouth – and not just any run-of-the-mill hazardous waste, either. According to the European Waste Catalogue (entry 18 01 10), this particular hazardous waste possesses the hazardous property H6, meaning that it is toxic if inhaled or ingested, and may result in serious, acute or chronic health risks – even in death. Is this claim for safety being made by magician David Blaine? Or mystic yogis demonstrating their mastery over the mind-body continuum? No, this spectacular claim is the direct implication of separate advice given by the Department of Health (DoH) and Department of Environment, Food and Rural Affairs (DEFRA) on dental amalgam.

Clearly not everybody knows that dental amalgam – the 'silver' fillings in their mouths – contains 50 per cent mercury, the second most toxic metal on the planet after

plutonium, or the reason why it's considered a hazardous waste in the first place.

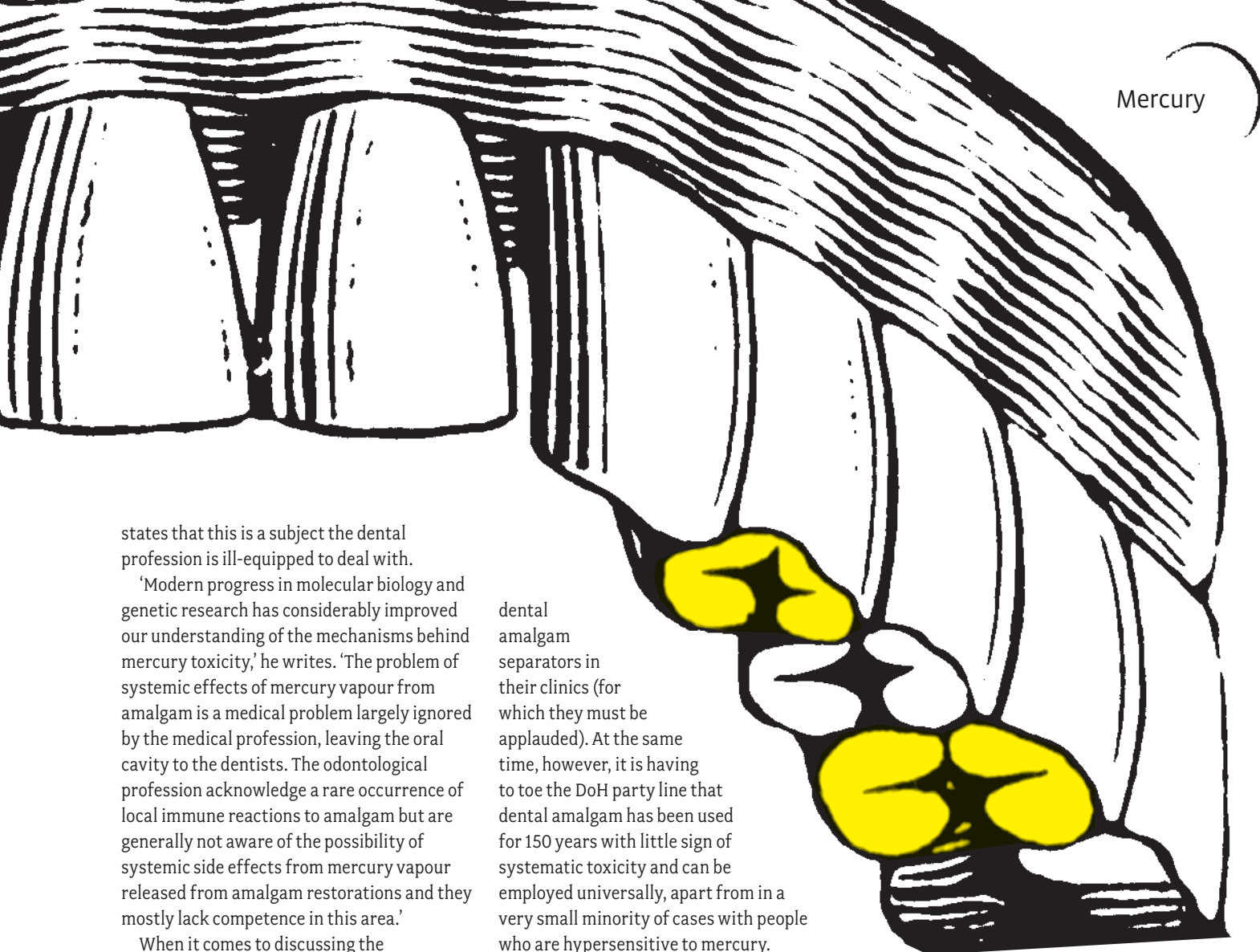
According to DEFRA's guidance for dentists – published in December 2005 and based on England and Wales Hazardous Waste Regulations, which in turn adhere to EU Waste Directives – in addition to being a H6 hazardous waste, dental amalgam also has a H14 classification. H14 means it is 'ecotoxic' and presents, or may present, immediate or delayed risks to the environment, and so must be disposed of responsibly in order to prevent it getting into the food chain (see box page 48).

DEFRA's definition of waste amalgam includes old fillings, grindings, unused, surplus amalgam, residues containing amalgam and removed teeth containing fillings. These teeth were presumably removed from the mouths of people whom the DoH's Committee on Toxicity was happy to advise that dental amalgam was a safe and effective restorative material.

These are presumably the same people whose amalgam fillings, should they stipulate in their last will and testament a wish to be cremated, will be vaporised in the furnace, releasing mercury into the environment, where, as it's understood today, it can stay long enough to travel around the world.

Did anyone notice this lack of joined-up thinking? If DEFRA considers filled teeth a H14 and a H6 hazardous waste, a risk both to the environment and indirectly to people's health, then why doesn't the DoH also consider dental amalgam a H6 hazardous waste and a direct risk to people's health? Does some strange protective alchemy occur when dentists place hazardous waste into children's and adult's teeth?

Writing about mercury in *The Handbook on the Toxicology of Metals*, a must-have reference handbook for toxicologists and regulatory scientists, contributing author Dr M Berlin



states that this is a subject the dental profession is ill-equipped to deal with.

'Modern progress in molecular biology and genetic research has considerably improved our understanding of the mechanisms behind mercury toxicity,' he writes. 'The problem of systemic effects of mercury vapour from amalgam is a medical problem largely ignored by the medical profession, leaving the oral cavity to the dentists. The odontological profession acknowledge a rare occurrence of local immune reactions to amalgam but are generally not aware of the possibility of systemic side effects from mercury vapour released from amalgam restorations and they mostly lack competence in this area.'

When it comes to discussing the contribution of crematoria to the level of mercury pollution in the UK, the argument is quite lucid. In response to DEFRA's commitment to have filters installed in the UK's 600-plus crematoria by 2012, the Federation of Burial and Cremation Authorities says, 'Mercury is toxic, accumulates in the air and water, and can harm the brain, kidneys, nervous system and unborn children. Due to the number of fillings in teeth, up to 16 per cent of all mercury emitted in the UK comes from crematoria. This figure is expected to increase to 25 per cent by 2020 without action.'

When the focus turns to the health risks of dental amalgam fillings being placed in the teeth of people who are alive and kicking, however, the discussion becomes suddenly vague. It's left to the unfortunate British Dental Authority (BDA) to spin the DoH and DEFRA's spectacular oxymoron ('safe and effective hazardous waste') to the public.

The BDA has implemented a rigorous communication campaign to inform dentists of the statutory requirement to install waste

dental amalgam separators in their clinics (for which they must be applauded). At the same time, however, it is having to toe the DoH party line that dental amalgam has been used for 150 years with little sign of systematic toxicity and can be employed universally, apart from in a very small minority of cases with people who are hypersensitive to mercury.

Carefully selected studies

The truth is that this is a well-ploughed field. An intense debate has been raging for many years about the risks of dental amalgam fillings. It is a story of claim and counter-claim. On the one hand scientists, campaigners and dentists who work in 'mercury-free' practices admit that amalgam is easy to use but express concern over the lack of conclusive proof about its safety. Many mercury-free dentists also point to the thousands of case studies of people claiming improvements to their health and wellbeing after having amalgam fillings replaced with alternatives.

On the other side of the fence are the pro-dental amalgam lobby, including the majority of dentists, Government health departments, and dental authorities, all insisting that it is both safe and effective, and pointing to the lack of conclusive proof about its dangers. Most admit that some mercury escapes during amalgam restorations, but question how much is released, inhaled and absorbed into the bloodstream, and whether that amount

poses any kind of risk.

The most recent round in this protracted debate is currently unfolding. In November 2007, two 'independent' EU Scientific Committees on Emerging and Newly Identified Health Risks (SCENIHR) and, Health and Environmental Risks (SCHER) issued preliminary reports that reached similar conclusions: that with the exception of a few local adverse effects, dental amalgam does not pose any direct or indirect (via the environment) health risks, and that it remains a safe and effective restorative material.

As if that didn't already rub salt into the wound of campaigners, the SCENIHR report, which uses the words 'no evidence' 27 times, claims there is no justification for removing clinically satisfactory amalgam restorations, except in patients allergic to amalgam constituents, because the main exposure to mercury in individuals occurs during the placement or removal of fillings. They also cast just a soupçon of doubt on the toxicology of alternatives, and say there isn't enough

data to conduct proper comparative assessments of amalgam and its alternatives.

We have nothing to worry about, it seems. Indeed, at the time of writing, although both preliminary reports are currently in consultation, the BDA and the DoH are already citing them as the most up-to-date 'peer-reviewed, scientific' opinion on the subject.

Campaigners say this is simply another attempt to quash dissent and preserve the status quo. Not only are they concerned that neuro-developmental toxicologists and epidemiologists are poorly represented on these committees, but also about the strength of some of the evidence.

For example, the SCENIHR report cites two randomised clinical trials conducted in 2006 by Bellinger and DeRouen, which analysed urine samples from children with either amalgam or composite resin fillings, as evidence that dental amalgam doesn't affect kidney function or psychological development.

But Dr Herbert Needleman, whose research into the toxicity of lead played a key role in securing a fivefold reduction in the prevalence of lead poisoning among American children, thinks the conclusions of the studies are constrained by several factors that make them statistically inadequate.



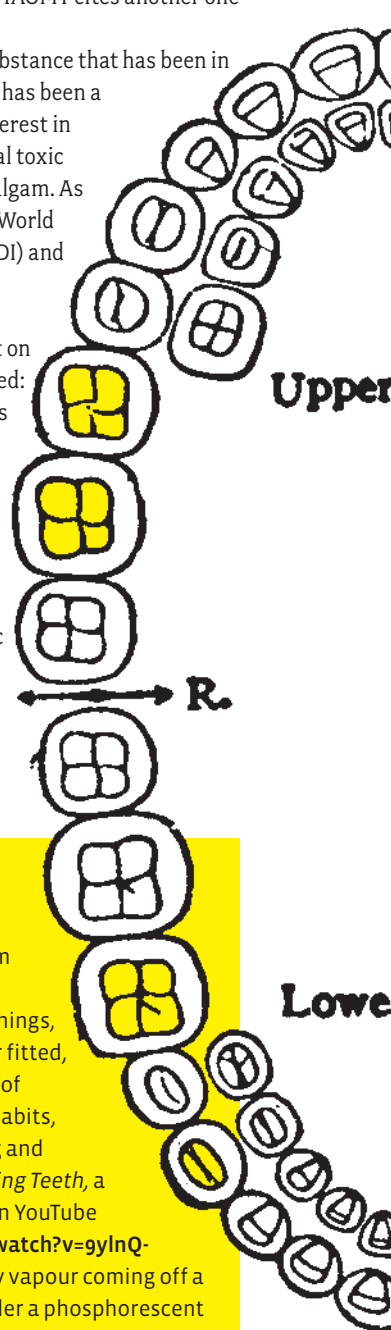
Writing in the August 2007 *Journal of The American Medical Association*, he says: 'These studies represent thoughtful and important contributions to understanding the question of dental amalgam risks in children, but the question of more subtle effects remains open. Given the numbers of children exposed to dental amalgam, it is critical that further rigorous studies examine the molecular effects of the toxicant at appropriate doses, measure exposure as precisely as possible, and explore the important question of vulnerability factors.'

He then adds: 'It's predictable that some outside interests will expand the modest conclusions of these studies to assert that use of mercury amalgam in dentistry is risk-free. This conclusion would be unfortunate and unscientific.'

Needleman isn't the only one to point up the equivocal nature of the data. The International Academy of Oral Medicine and Toxicology (IAOMT) points to a 2007 study in the journal *Environmental Health Perspectives*, which followed up the Bellinger and DeRouen studies, and suggested that urine is an unreliable reference for exposure or daily dose of mercury released from dental amalgam.

Similarly, the SCENIHR study references an American Dental Association (ADA) study to claim that there was no kidney dysfunction on the part of the dental personnel exposed to dental amalgam. The IAOMT cites another one that shows there is.

Amazingly for a substance that has been in use for so long, there has been a deplorable lack of interest in studying the potential toxic effects of dental amalgam. As recently as 1997, the World Dental Federation (FDI) and the World Health Organization joint consensus statement on dental amalgam stated: 'No controlled studies have been published demonstrating systemic adverse effects from amalgam restorations.' In the language of scientific obfuscation that doesn't mean it's safe; it simply means the studies have not been done.



Mercury 101

Mercury is a highly reactive metal that exists in a liquid state, evaporates at room temperature and has neurotoxic properties at high doses, including paresthesias, loss of muscle co-ordination and motor speech disorders, as well as deteriorating vision. It is a cumulative poison that is quick to enter the body and slow to be eliminated, thus even small, chronic exposure can cause an accumulation in body tissues over time. Since the 1970s, environmental concern has resulted in the reduction and/or removal of mercury from many industrial processes and commercial products.

Mercury can change from its natural 'elemental' form to another form – methylmercury – in the environment through its interaction with micro-organisms. Methylmercury accumulates in all fish, especially those at the top of the food chain, such as sharks, swordfish and tuna, and is absorbed by the large

intestine, from where it can spread throughout the body. Methylmercury is considered by

health authorities to be more toxic and of more concern to the public than dental amalgam, which they say releases less than the World Health Organization's recommended daily amount for exposure. However, elemental mercury vapour, which is more toxic than methylmercury and can freely pass through all normal barriers in the body, is as much as 10 times as damaging to the developing brain.

Diagnostically, determining the role of amalgam in a range of symptoms, particularly those indicating nervous or immuno-systemic illness, is problematic, as there are many other things that can cause the same symptoms – and yet scientists and campaigners alike say there are now simply too many individual case reports of people who have removed dental amalgam and shown a recovery or a marked improvement in their symptoms

to ignore.

The amount of mercury released from amalgam fillings is dependent on many things, including: the number fitted, size, age and location of placement, chewing habits, food texture, grinding and brushing teeth. *Smoking Teeth*, a video widely shown on YouTube (www.youtube.com/watch?v=9ylnQ-T7oiA), shows mercury vapour coming off a 25-year-old filling, under a phosphorescent screen, in amounts the video-makers claim far exceed 'recommended' levels.

Moreover, there have been numerous studies that suggest elemental mercury can be bio-transformed into methylmercury by bacteria in oral plaque or the gut, and that long-term exposure to low concentrations of elemental mercury vapour itself may cause symptoms similar to those of methylmercury.

New studies on amalgam toxicity are emerging, linking it with, among other things, a higher incidence of neurological disorders such as Alzheimer's disease and Multiple Sclerosis. While such findings remain disputed, however, the net result is that for the consumer, the task of making an informed choice about dental healthcare is complex.

The BDA says patients can choose to have composite (white) filling material used as an alternative if they wish, and that dentists will discuss concerns about dental amalgam. Often such discussions centre around aesthetics rather than health, though, and even then tend not to happen unless prompted by the patient.

The fact is that dentists have no reason proactively to inform consumers; in addition to it being an easier material to work with than composite resins, they have been taught at dentistry college that amalgam is safe. This, of course, includes many dentists who studied before the 1980s, when it became widely known that the mercury in dental amalgam remained active after it was placed in the mouth.

Reasonable doubt

The use of dental amalgam may be decreasing as the nation's oral health improves, but there are still millions (nine million in the UK alone) of amalgam fillings fitted every year in adults and children. This amounts to tonnes of mercury, some of which, via crematoria, will find its way back into the environment as toxic mercury vapours. The question remains: should we be taking this risk?

Even if the risk is very small – the BDA admits that some three per cent of people are sensitive to mercury – this will nevertheless result in a large number at risk, since a

majority of the population is exposed to mercury through dental amalgam. For the sake of comparison, in a flu season, infection in just 0.4 per cent of the population counts as an epidemic. By that standard we should be taking some form of preventative action.

Clearly there are many scientists who believe there is room for reasonable doubt. As Dr Needleman says: 'With the application of better epidemiological designs and more robust statistical methods to investigate

'Perhaps there is genuine fear of what might happen if the public were informed about dental amalgam'

toxicity, the usual consequence is uncovering effects at lower thresholds. The trajectory of discovery of the toxic effects of another metal, lead, has followed this path and may offer insight into the future path that mercury investigations may follow.'

David Kennedy, of the IAOMT, believes we need to reconsider our attitude to risk.

'The understanding of the concept of "risk" has received much attention in toxicological and regulatory circles,' he observes. 'To say that something is "not without risk" has little meaning if one considers there is a finite health risk associated with virtually every human activity and chemical exposure. The real issue is what level of risk do we accept in the context of simultaneous benefits?'

We are developing a more conscientious attitude to the health risks of mercury via the environment, and bans on non-electronic measuring devices that contain mercury, such as barometers, thermometers and blood-pressure devices, as well as on mercury exports, are becoming more widespread.

When it comes to the direct health risks of the dental amalgam that sits in our mouths, though, is it really acceptable, or even accurate, to say that because we've been using it for 150 years, it must be safe? We used tobacco for nearly 300 before definitive evidence was available about its health risks.

To date, Government health departments and dental health bodies have been content to take a 'decide, announce, defend' approach to communicating the health risks of dental amalgam. If you're pregnant, for instance, you

might already be aware of the risk of mercury crossing over the placenta into the foetus. While there are health advisories in place to warn pregnant women not to eat fish that may be contaminated with mercury, the BDA insists there is no evidence of any link between amalgam use and birth defects or stillbirth.

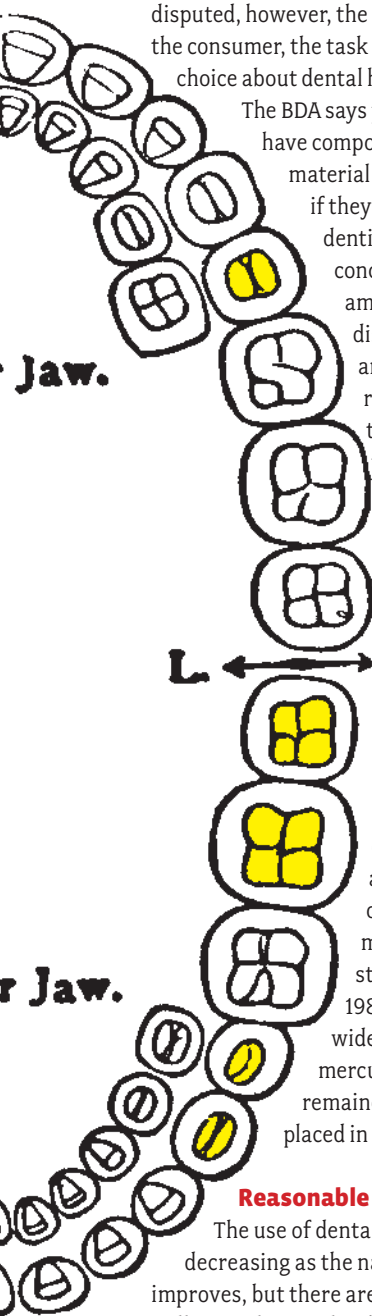
Dr Berlin is more emphatic, saying because it isn't always possible to predict when a woman will become pregnant that, in order to prevent exposure to the foetus during pregnancy, those of childbearing age should not have amalgam fillings. It sounds like sage advice, and yet no provision is being made for mercury-free dentistry for this vulnerable group, which amounts to some 10 million women in the UK alone.

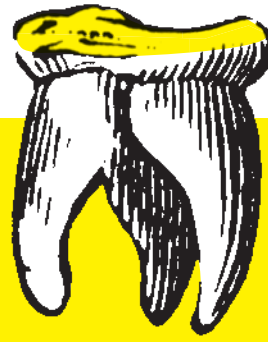
In his paper, written for DEFRA, 'Understanding Risk in Everyday Policy-Making', Dr Kevin Edson Jones says this approach is based on the assumption that there is an intellectual deficiency in people's understandings [of risk] as measured against some objective or authoritative body of scientific knowledge. This in turn leads governments to adopt paternalistic and often derisive attitudes towards the public's perception of risk, such as that 'the public are irrational', 'public concerns are the result of scaremongering and perpetuated by a cynical media' or 'the public won't understand the truth about risks'.

Perhaps also there is genuine fear of what might happen if the public were informed. One mercury-free dentist says the worst thing that could happen would be a mad rush of people wanting dental amalgam removed; dentists would be at risk of increased toxic exposure as a result of having to drill out so

How to find a mercury-free dental practice

In the UK you can request composite (or 'white') fillings on the NHS, but the chances are that the dental practice you visit is not mercury-free, meaning every time you go to the dentist you may be exposing yourself to toxic mercury vapours. To locate a mercury-free dentist in your area, contact the British Society for Mercury-Free Dentistry at www.mercuryfreedentistry.org.uk The College of Naturopathic Medicine (www.naturopathy-uk.com) also keeps a register of UK mercury-free practices.





How much can your dentist tell you?

In the US, according to a 2006 Zogby poll of more than 1,200 Americans, only 50 per cent of adults knew that the primary metal in amalgam was mercury.

That's not surprising, since what dentists can and can't tell the consumer is governed by state law. According to the Consumers for Dental Choice, mercury-free dentists have been threatened with gag orders by the American Dental Association (ADA) for speaking out about the toxic effects of the mercury in amalgam. These orders are enforced under the ADA Code of Professional Conduct, on the grounds that it is unethical for a dentist to suggest that the removal of amalgam restorations amounts to removing toxic substances (mercury) from the body.

In a more freely litigious country, however, the consumer can fight back. Charles Brown, of the US group Consumers

for Dental Choice, says his organisation successfully sued and forced the closure of the Californian Dental Health Board in 2003-2004 for issuing such gagging orders. Another mercury-free dentist in Connecticut also successfully sued under his First Amendment rights of freedom of speech. In California, Maine, Pennsylvania and New Hampshire laws have been passed requiring dentists to provide patients with factsheets about dental amalgam.

In the UK we take a more polite approach. One mercury-free dentist, who asked not to be named, claims the General Dental Council issued him with a mild rebuke under its Fitness to Practice Code, for stating in his publicity literature that the mercury in amalgam is toxic, saying that it might 'cause alarm' or denigrate dentistry.

Faced with the ultimate risk of losing their licence and a code of conduct that

includes all-encompassing statements that can be interpreted in any way, most mercury-free dentists choose to stay quiet – though another mercury-free dentist, who also didn't want to be named, said people don't need to be persuaded, but come having already done research on the Internet.

In Canada, the Canadian Dental Association is more liberal with what it tells the public. Its website offers a whole page of surprisingly frank, frequently asked questions and answers about dental amalgam. Among these is the admission that the prevalence of mercury sensitivity in the general population is approximately three per cent. In the UK that would be a staggering 1.8 million people. As yet there is no mechanism in place to identify these people. Likewise, no provision is in place to help people know if they might be sensitive to mercury in the first place.

much amalgam. Many 19th-century milliners suffered from a neurological condition, St Vitus's Dance, as a result of chronic intensive exposure to mercury used to treat felt. In other words, our dentists could become the 'mad hatters' of the 21st century.

Hard to legislate

At the very least, we should be taking the same approach with dental amalgam as we are with other medical devices and drugs.

Even, the British Dental Health Foundation, the leading UK-based independent oral health charity, concedes that if amalgam for dental restorations were to be evaluated according to the criteria used today for approval of drugs, it would never be approved.

And if it can't be approved as a drug then maybe it should be assessed as a commercial chemical compound? The new European law known as REACH (Registration, Evaluation and Authorisation of Chemicals), described as the most important EU legislation for 20 years, says that the burden of proving a previously untested chemical is safe to today's standards should be borne by the business using them.

Will dentists, who in the absence of free universal dental healthcare are within the commercial sector, bear the onus of responsibility in proving that the dental

amalgam that sits inside the mouth, inches from our brains – a chemical compound classified hazardous waste – is also safe? That remains to be seen, but whoever grasps the nettle should be aware of the lesson presented by the precautionary principle communicated so clearly by the Stern report on Global Warming. Quite simply, that when an activity poses a risk to human health or the environment, precautionary measures should be taken, even if some cause and effect

'Mercury is a non-essential element, having no biochemical or nutritional function'

relationships are not fully understood scientifically. The burden of proof falls on those advocating taking the action, who must take into consideration not only 'what we know we don't know', but also the more troublesome 'what we don't know that we don't know'.

It is quite possible, in the face of continuing pressure, that governments will opt for more stringent minimum recommendations, such as a requirement for dentists to acknowledge patients' autonomy by actively making known the risks and benefits of all dental materials,

but if we want to address the considerable environmental impact of dental amalgam too, nothing short of an all-out ban will do.

'Mercury is a non-essential element [in the human body], having no biochemical or nutritional function,' says Kevin Brigden, a member of Greenpeace's science unit. 'Today, alternatives are commercially available for virtually all applications of mercury. Unless it can be established there isn't a suitable, less hazardous alternative for a specific use, it's time to stop using it.'

This is what is already happening in Norway, where, as of 1 January 2008, dental amalgam was banned on environmental and indirect health grounds. In Sweden, a decision to ban dental amalgam on environmental grounds is imminent, while Austria and Germany have restricted its use.

A recent Bank of America market analysis that advises dental products company Dentsply – the world's second largest manufacturer of mercury fillings – to realign its operations to sell only resin and other filling materials, suggests the writing is on the wall in the US. The question now remains: will the UK choose to follow and be among those who lead patients away from putting hazardous waste in their mouths. **E**

Nick Kettles is a freelance journalist

the Green Show

Help save the planet, one day at a time...

The main features at The Green Show will include the following exciting sessions:

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Showcasing some of the spectacular organic, fair-trade and ethical clothing out there, with shows throughout the day.

CALCULATE YOUR CARBON FOOTPRINT

Learn the impact of your lifestyle on the environment using and then learn how to offset it!

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Some familiar faces will be running cookery sessions and teaching us how to shop for food, grow food and make food in a sustainable way...

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Learn about the huge range of natural, eco-friendly and body-friendly products out there, then have a go yourself!

ECO HOME ZONE

With the help of high profile eco experts, learn how to give your home a green makeover. Enjoy modern design advice, energy saving tips, and money-saving know-how from the experts!

CINEMA ZONE

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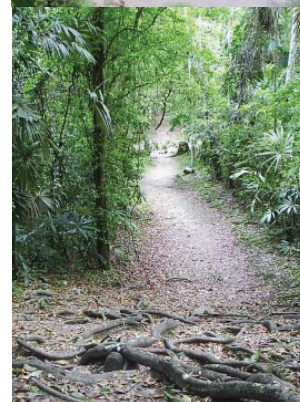
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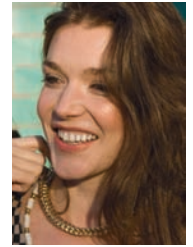
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Why people who love food love Suma





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Gardening without toxins; green theatre at London's Old Vic; the best walks in the city and why it's good to go veggie – all in May. By **Rachel Clode**

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Breast is best for mum, baby and the environment, so why do fewer than one in 100 mums follow the Government's advice to feed their baby solely on breast milk for the first six months? **Mike Stones** meets the woman determined to make breastfeeding fashionable

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Biscuits made from roadkill badger fat and elderflowers? It can only be the culinary creation of **Fergus Drennan**, who this month proves that it's possible to be a full-time forager and still enjoy snacking

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He may be battling a fractured spine, but **Monty Waldin** still has a biodynamic vineyard to get off the ground. Pruning in tune with the winter moon, ploughing by horse and picking by hand, will he get his grapes to the vat on time? And what will come out? Part two of a viticulture vulture's quest to make his own wine in the Pyrénées

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As a green art form, t-shirt sloganering has truly come into its own this year. **Laura Sevier** picks the best of the season's eco tees

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Why every clued up homeowner should be getting turned on to SMART technology. **Rachel Clode** investigates



Wherever you see this little bird it'll point you to relevant contacts in our Green Shopping Guide



Some films haunt you for months. At the end of last year I watched a gruesome documentary about industrial food production and high-tech farming. It was called *Our Daily Bread* (directed by Nikolaus Geyrhalter) and is the kind of film everyone should see. There were no interviews, comments or music; the images spoke for themselves. Baby chicks crowded into plastic containers on conveyor belts; fish being gutted by machine; sunflowers being sprayed from aeroplanes; masked men in white suits spraying inside greenhouses. The only sound was of machines – on the land or in the factory farms, slaughter houses and processing units.

So it comes as a relief to find more people taking matters into their own hands, going back to traditional methods of producing and gathering food – like Monty Waldin, who decides to plough his vineyard using horses and to pick grapes by hand (page 64); or, in its most extreme form, Fergus Drennan, making biscuits from foraged ingredients (page 62). It may be dismissed by some as quaint or quirky, but the words 'wild', 'home-grown', and 'handmade' are now positive, widely used marketing points. A low-tech, low-input and low-impact approach is forward-thinking, even if it draws on the past.

When it comes to energy-efficiency at home, however, the technology is getting smarter and increasingly high-tech (page 70). But worry not, technophobes, there are always the low-tech alternatives: a simple matter of turning heating down, and lights, taps and standbys off.

Laura

Laura Sevier, Acting Green Pages Editor

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May

BY RACHEL CLODE

From plant to plate

Know what happens to your vegetables by growing your own. Find out how to garden without toxins – see www.pan-uk.org/info/gardening.htm

25 May-12 Sept Otesha Project UK

Calling all cycling, theatrical troublemakers... The Otesha Project needs you.

This global charity project aims 'to tackle issues like climate change, injustice and poverty in creative ways, starting with our own lives and actions, to inspire others to take practical environmental actions, and to have a bit of fun at the same time.'

The Otesha Project – Otesha means 'reason to dream' in Ki-Swahili – began in Canada in 2002, and was formed with the intention of encouraging sustainable living in young people. With cycling tours around the UK planned from May onwards, as well as training in public speaking, facilitation, theatre, bike touring, bike maintenance, group living, media relations, consensus decision-making and sustainable living, if you're aged between 18 and 25 and ready to take action, see www.otesha.org.uk or call 020 7841 8939.



Image: MATTHEW CARROLL

Flower of the month Elderflower

Said to ward off witches and midges, as well as helping to create rich soil for your plants, the appearance of elderflower in UK hedgerows also hails the beginning of summer.

Rich in vitamin C, elderflower – known as 'Nature's medicine chest' – has been revered for centuries as a cure for coughs and colds – and even for asthma and rheumatism. It also tastes wonderful as a summer cordial or wine. Try this recipe for non-alcoholic elderflower champagne:

Elderflower Champagne

6 elderflower heads; 1½lb caster sugar; 2tbsp white wine vinegar; rind and juice of 1 lemon; 1 gallon of boiling water. Place elder blossoms in a pan. Add sugar, vinegar, lemon juice and rind. Add the water, stir gently then leave for 24 hours, covered with a cloth. Strain into sterilised bottles and seal. Allow two weeks before drinking, storing the bottles in a cool place. By then, your 'Champagne' should be clear and sparkling.



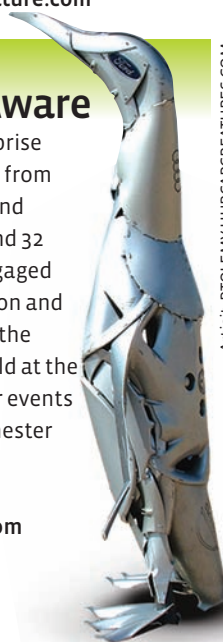
Nature explorer

Find out more about our flora and fauna with the Identify Nature website. Register your discovery and let the experts tell you whether you've found a rare plant, bird or animal. Don't forget to photograph rather than pick wild plants.

www.identifynature.com

10-11 May London Aware

This social enterprise has 100 speakers from major charities and organisations, and 32 exhibitors all engaged in the preservation and sustainability of the environment. Held at the Barbican, further events will run in Manchester and Edinburgh. For tickets, visit www.ukaware.com



Artist: PTOLEMY HUBCAPCREATURES.COM

Join the car-share club

Share lifts to work, start a car pool for your children's school or travel to a festival this summer with an online service that allows potential lift-sharers to take practical action against congestion and single-occupant car use. See www.isanyonegoingto.com

WhizzGo offers short-term car-hire in 11 cities. Its fleet of green vehicles is exempt from congestion charges. See www.whizzgo.co.uk



1-3 May Old Vic goes for green

Following open amateur auditions in London and environmentally themed workshops and debates in schools, the Old Vic presents *Branded*, a challenge to preconceptions of economic and environmental citizenship. Telling the story of the most wanted shoe on Earth, who will be prepared to sell their soul for it? Directed by Matt Wilde, performances use the talents of 100 local people. For free tickets, see www.oldvictheatre.com



In season



Above: Dandelion leaves make for a piquant salad



Right: Boil up nettles to make a nutritious tea

Food in season

- Asparagus
- Broad beans
- Beetroot
- Cabbage
- Cauliflower
- Chard
- Dandelion
- Elderflower
- Endive
- Garlic
- Lettuce
- Morel mushroom
- Nettle
- Onion
- Pea
- Potato
- Radish
- Rhubarb
- Rocket (wild)
- Sea kale
- Sorrel
- Spinach
- Spring greens
- Spring onion
- Swedes
- Turnip
- Watercress

What's in this?

If you're confused by the myriad logos and labels on your food packaging then check out Ecolabelling. With a global listing of 301 products and services from food to tourism, it is possible to say no to greenwash.

www.ecolabelling.org



Pick of the month

Apples & Pears lipbalm

These lovely little lipbalms don't feel gunky or greasy and leave your lips moisturised and kissable. Handmade with beeswax and honey, and scented with organic plant oils, extracts and butters, they come in natural beeswax, calendula for sore lips or wild rose for daily protection.

Apples & Pears is offering *Ecologist* readers a discount – pay £8.50 (RRP £9.25). Visit www.greenessentials.co.uk or www.perfectlypureskincare.com and enter offer code EC01. Valid until 14/06/08.



19-25 May

National Vegetarian Week

According to the Vegetarian Society, 'Farmed animals produce more greenhouse gas emissions (18 per cent) than the world's entire transport system (13.5 per cent).' If greenhouse gases, animal rights or water and land conservation aren't reason enough to give meat a rest, vegetarians also benefit from lower rates of heart disease, diabetes and certain cancers. For a free *Meat-free Made Easy* recipe book, go to www.vegsoc.org/nvw

31 May-1 June

The Green Show

Find out more about sustainable living at the event that launches Love London, with everything from eco fashion to green home makeovers. Co-located at Olympia with the Family Show, tickets give access to both events. www.the-green-show.com



A lovely day for a walk in the city

Londoners can take advantage of the warmer weather and ditch the gym and hot, overcrowded buses and tubes in favour of a walk along some less polluted routes in the city. Walk beside a canal or along a tiny, ancient backstreet with the help of online walking route-planner www.walkit.com

'Many people know that walking is often the smartest and healthiest way to get around central London, but they also want to know more about the qualities of the route they take,' says its founder, Jamie Wallace. 'With this new service, you get the double bonus of working out walking routes that not only keep you fit, but also steer away from pollution.'



Email: rachel@theecologist.org with upcoming events for In Season

LOCAL HERO

Catherine Pardoe of the Baby Café

Why does only one in 100 mums follow government advice to feed her baby solely on breast milk for the first six months? **Mike Stones** meets the woman determined to change that



Some women would march up Everest to breastfeed their baby. Others need support, and that's the role of the Baby Café.'

Hyperbole is rare from the lips of Catherine Pardoe, co-founder of the Baby Café, a national network of drop-in centres dedicated to promoting breastfeeding. During a two-hour conversation almost all her comments are measured, even restrained – except this. Not even the dubious marketing tactics of formula milk manufacturers sparks a change in her tone.

So, Pardoe's opening remark underlines the depth of her passion, commitment and dedication – not to bully women into breastfeeding, but to give them the choice. It's a choice often denied in modern society – denied by peer-group pressure, myths and the omnipresence of persuasive bottle feeding marketing campaigns.

'Nine out of 10 women who stop breastfeeding in the first six weeks wanted to carry on,' says 41-year-old Pardoe. For her it's an exasperating statistic with profound consequences for the physical and psychological health of mothers, their children and



Breast-feeding is a choice often denied by persuasive bottle-feeding marketing campaigns

Above: Catherine Pardoe (left) offers advice to breast-feeding mothers
Right: Happy babies at Horley Baby Café

the environment. Ultimately, it was a statistic that launched a quest to make breastfeeding more popular. After working as a staff nurse and lactation consultant she found the answer, along with co-founder Julie Williams, with the idea of Baby Cafés, offering support for mums who want to breastfeed.

The first opened in Hayward's Heath Health Centre, in 2000. Seven years later, there are nearly 100 Baby Cafés, from Banff in Scotland to Peacehaven in Sussex, run by volunteers under strict rules set out by the Baby Café Charitable Trust. Applications for new cafés are strictly vetted and thoroughly supported with starter packs that contain advice on everything from health and safety to public relations.

We are talking in Horley Baby Café, in rooms borrowed from the local infant school and against a rising tide of noise. Gathering in the room next door are mums, mums-to-be, infants and babies. Pushchairs are piling up outside; toddlers are grappling with building blocks and mums are chatting over coffee, tea and rock-cakes.

The aim is friendly peer support for breastfeeding in a non-medical environment. Pardoe and her colleagues want to encourage a method of feeding babies that everyone – mothers, the medical establishment, the Government and even formula milk producers – agrees benefits mothers and babies.

But it's a tough challenge. Only one in 100 mothers follows Government advice and feeds her baby solely on breast milk for the first six months, according to the latest statistics, the Infant Feeding Survey 2005. Although nearly 80 per cent of mums started

breastfeeding, only 21 per cent were still breastfeeding exclusively after six weeks, and more than half had stopped. By six months, three-quarters of mothers had stopped breastfeeding completely.

That's despite overwhelming medical evidence that breastfeeding is better for the mother and her child. According to research published in the *Health Education Journal* (June 2006), it reduces the incidence of childhood diabetes, obesity, asthma, gastroenteritis and some types of childhood cancers, while boosting cognitive functioning. The United Nations Children's Fund UNICEF estimates that better breastfeeding practises worldwide could save up to 1.5 million children a year.

The best of the breast

For mothers, breastfeeding facilitates the bonding process with babies and is said to protect against ovarian cancer, breast cancer and weak bones in later life.

Pardoe also points to powerful psychological benefits from breastfeeding, which often go unreported.

'Stopping breastfeeding prematurely can cause a lot of grief that's seldom acknowledged,' she says. 'People underestimate the damage. I've spoken to grandmothers in their 70s and their sense of loss at not breastfeeding is still with them.'

So why do so many women choose to replace nature's free and finest with bought-in, bottle-delivered alternatives? I detect a glimmer of exasperation as Pardoe speaks.

'For some women, particularly young, single mums on low incomes with poor education, breastfeeding





wide a range of women as possible,' says Pardoe. 'Sometimes cafés offer a safety-net for stressed, exhausted mothers who may be struggling to raise children alone on low incomes while perhaps grappling with undiagnosed post-natal depression.'

Baby Café venues are critical to their success. You won't find them in cold, dank, dark village halls where hardy souls huddle together over polystyrene cups of lukewarm, instant coffee. Instead they are located in bright, warm, comfortable community centres and schools. The accent is on pleasant surroundings to help mums relax in an atmosphere of mutual support. There's always a room for private consultations and a baby changing area. The locations must be within easy reach of a bus route and with places to park in an area where women feel safe.

'So, shall we go next door and meet the mums?' suggests Pardoe. There's no lull in the conversation as we walk into the room – the mums have been warned about my visit. There's a warm aroma of good coffee, comfortable chairs and wall sheets on breastfeeding. The ground is littered with building blocks as toddlers practice their architectural skills.

New mum Loukia explains how, after a painful nine weeks, she was about to give up breastfeeding when she discovered Horley Baby Café. 'Since coming here, I've become much more confident about breastfeeding,' she tells me.

'My baby is happier, more settled and more confident. I know exactly what's in my milk and feeding my baby creates a happy time for us both. When I was pregnant, I was bombarded with information about formula milk products. The Baby Café helps mothers resist the appalling commercial pressure to use them.'

The milk of human unkindness

Back in the adjoining room, I ask Pardoe whether she thinks the Government is doing enough to protect new mums against the rampant marketing tactics of formula milk manufacturers.

against breastfeeding women, no such law exists in Wales and England. Often the attitude of the new mum's partner and mother can be critical in influencing her decision to continue breastfeeding or, more likely, to stop.

Hit or myth?

Then there is the multitude of myths that cloud the central truth that breast is best for babies, mother and the environment.

Myths such as that there is little difference between modern infant formula milk and breast milk, which is believed by more than one-third of mothers, according to Department of Health research. The reality is that infant formula milk does not contain the antibodies, living cells, enzymes or hormones present in breast milk.

Myths such as that breastfeeding will ruin the shape of women's breasts and bodies. In fact, breastfeeding consumes 500 extra calories a day. Plus, medical advice suggests that it helps the womb return to its normal shape and doesn't affect long-term breast-shape.

Myths such as that some women do not produce enough milk to be able to breastfeed. In reality, breastfeeding is a skill that takes practice. Given accurate information and support, virtually all women can breastfeed.

Baby Cafés aim to provide that service for everyone – not just middle-class mums who eat lentils and read *The Guardian* newspaper. 'We want to put information about breastfeeding back into the community. By taking the topic out of a medicalised, clinical setting we hope to make breastfeeding more accessible to as

is sometimes far down the agenda,' she says. It's so easy for worries about housing benefit or maintenance payments to take priority. Peer-group pressure, family opposition and the slick marketing campaigns of formula manufacturers all conspire to help women choose the bottle rather than the breast to feed their baby.

Many first-time mums who choose to breastfeed report feelings of isolation and embarrassment in a society that seems sometimes openly hostile to the practice. Although it is illegal in Scotland to discriminate



My baby is happier, more settled and more confident. I know exactly what's in my milk



Her reply is surprisingly pragmatic for one so resolutely committed to promoting breastfeeding. 'The public sector faces its own constraints and bureaucracy,' she says. 'Plus, the Baby Café arose from generous support (£15,000) from the Department of Health. Given the nature of the public sector, the Government is probably as supportive as it could be.'

The undue influence of formula milk manufacturers is a threat the Government says it takes seriously. In January, in line with EU legislation, the Department of Health and the Food Standards Agency (FSA) introduced stricter controls on the labelling and advertising of all types of milk formula. The new rules are designed to help parents tell the difference between infant formula, which can be used for the first six months and beyond, and follow-on formula, for use only after the age of six months.

Two days before the legislation was to come into force, the FSA received a legal challenge from the Infant and Dietetic Foods Association, which represents baby milk manufacturers. Its aim was to postpone the introduction of the legislation and to apply for a judicial review to test its legality. The challenge was upheld and product labels won't change until 2010. A similar challenge mounted in Scotland was dismissed swiftly by the legislature.

Whitehall has always ruled out a total ban on the promotion of formula

milk, but it recently promised £150,000 a year for a national breastfeeding helpline, and its own advisers, the Scientific Advisory Committee on Nutrition, warned in February that more should be done to support breastfeeding. Some countries, such as Sweden, do ban the promotion of formula milk and report much higher rates of breastfeeding than the UK.

Could healthcare professionals do more? Again Pardoe is reluctant to criticise. 'A lot could do more with management support, but you can't lay the blame at anyone's door within the health service.'

Pardoe is less forgiving of the formula milk manufacturers. She believes they are denying healthcare professionals independent, scientific information about their products. This lack of reliable information makes it hard for them to advise on the proper use of formula milk, and that can lead some women to stop breastfeeding prematurely.

'At worst, the lack of independent scientific information about formula milk can lead manufacturers to collude with mothers to absolve them of responsibility for breastfeeding their babies,' Pardoe warns.

Her comments are resigned rather than angry. 'There's no point wasting your energy being angry with formula milk manufacturers. They're commercial companies out to make a profit for their shareholders. They work within the law but don't always

Above and opposite: Mothers and babies gather in the pleasant surrounds of the Horley Baby Café in Surrey to breastfeed and offer each other mutual support

abide by the World Health Organization code.' The WHO/ UNICEF international code bans all promotion of bottle feeding and sets out requirements for labelling and information on infant feeding.

'It would be great if every formula milk company were ethical, altruistic and had the best interests of mums and babies at heart, but there's no money in that. Instead, they spend millions on advertising, phone lines and websites to produce non-renewable, unsustainable, ethically suspect and highly branded products. That's one thing we can learn from them – branding. We should re-brand breastfeeding to make it trendy.'

Outside I hear pushchairs departing. People are saying their goodbyes, but they'll be back – for the fellowship of like-minded mothers, determined to breastfeed their babies despite the commercial and social pressures ranged against them. **E**

See www.thebabycafe.co.uk

Why breast milk is the green choice

- It's a natural, renewable resource
- There is no environmental contamination involved in its manufacture, processing, packaging, transportation, preparation, promotion or disposal
- It is produced only in the quantities required

Breastfeeding bonus

'A woman's decision to stop breastfeeding is only a choice if she has had the relevant information and viable options have been offered.'

The Baby Café Handbook

'I breastfed for seven months and hardly ever came across other breastfeeding mums apart from at the Baby Café.' **Mum**

'It just feels like the right thing to do. It makes you feel so close to your baby and so special.' **Mum**

Helping breast beat bottle

- WHO breastfeeding code should become law
- Make public places more breastfeeding friendly
- More paid leave for parents after birth
- Support legislation making it illegal to discriminate against breastfeeding in England and Wales
- Media and celebrity support for breastfeeding



Respecting your elders

From its flowers and berries to the fungi littering its branches, the elder is a one-tree feast, says **Fergus Drennan**



Respect your elders. Amid the kaleidoscopic plethora of often contradictory mottos to inspire and safely guide us purposefully through life, few have the capacity to ground us so deeply in a shared past that determines our collective future, while simultaneously threatening such deleterious consequences if ignored.

Scratch only gently below the surface of this phrase and Mother Earth, the supreme Elder, accumulates beneath the nails. We realise, locked into a symbiotic dance with her myriad offspring, the whole web of life, that we are kith and kin to the core. Respecting our ancestors, our full biological inheritance, is to learn from them the secret dance of symbiosis, reciprocity and natural balance. Foraging is my dance, and Lady Ellhorn, Hylde-moes, Old Gal, Lady Elder, *Sambucus nigra* the best dance partner I know.

I want to celebrate the elder tree and the accompanying veil of springtime warmth and light by sharing a recipe with you. And yet, in

trying to select just one elderflower-based recipe, I have been racking my brains until the little white flowers danced before my eyes – not for want of recipes but, on the contrary, because there are almost countless possibilities.

Elder gives so generously of its flowers, berries and withered, branch-laden fungi that the scope for creativity in the kitchen is enormous. Speaking of the flowers alone, used fresh, raw, cooked, whole, dried or powdered these fragrantly clustered sunny miracles can be used for wine, champagne, cordials, salads, fritters, sorbet, ice-cream, cakes, biscuits, milk puddings, jellies, jams, sweets, tea, vinegar, sweet and sour meat dishes or simply placed in the hair as you dance naked around the Beltane fire!

Then, remembering once having made delicious shortbread biscuits using entirely conventional ingredients except for 30 per cent powdered elderflowers for the flour mix, I wondered how one might make such a common food item if all conventional food supplies could no



longer be taken for granted, while at the same time endeavouring to create as little negative environmental impact as possible. Here is the result – a taste of the kind of things I'll be up

to throughout my 100 per cent wild food year and a dedicated exercise in learning not to take food for granted.

Wild Thing's Elderflower Biscuits – for a Mad Hatter's tea party

Makes 10-20 biscuits, depending on their size

Ingredients

- 50g** pollen-laden elderflowers, dried and ground
- 150g** wild flour (40 per cent powdered rhizome of reed mace, 40 per cent calcium oxalate-leached powdered Lords and Ladies tubers, 20 per cent tannin-leached powdered acorns)
- 50g** escaped hand-winnowed 'wild' oats, rolled
- 150g** solar-evaporated, 5x concentrated, low-acidity wild apple juice
- 60g** (after shell-removal) of fresh, strandline cuttlefish egg (NB washed and powdered strandline shells can be used as a calcium supplement or as an addition to flour)
- 30g** air- or sun-dried wild apple (not brittle-dry), finely chopped
- 100g** pure anti-culture of waste roadkill badger fat (NB use the intestines and meat for sausages, the skin to make boots or for your mad hat, and the bones to make... Well, I wasn't sure, but my friend Kris has asked me for them so he can make knife handles)
- A pinch** solar-evaporated sea salt

Method

First get on your bicycle and find your ingredients. Gather the lesser or greater reed mace rhizomes from clean rivers between November and



In season

= flowers = leaves
 = young leaf shoots and stems
 = roots = stem = berries

Elder
 Bramble
 Hogweed
 Hop
 Hedge mustard
 Garlic mustard
 Wild garlic
 Alexanders
 Nipplewort
 Chickweed
 Reed mace
 Bistort
 Annual seablite
 Common mallow
 Charlock
 Cow-parsley
 Plantains
 Bristly ox-tongue
 Ground elder
 Burdock
 Stinging nettles
 Dandelion
 Common daisy
 Watercress
 Perennial wall rocket
 Honesty
 Seabeet
 Wood and sheep's sorrel
 Sow thistle
 Spear thistle (immature heads)
 Mahonia
 Seaweeds

Between November and March is the best time for finding badgers laden with winter fat

March. This is also the best time for finding badgers laden with winter fat (a friend just called me this second as I was writing; I answered the phone to a greeting of 'Hello, this is your local badger patrol'). Remove the fat from the back area (about 1kg from a large one), chop and grind to a pulp with boiled water; strain through a pillowcase to remove fat cell membranes and return to a large pan of boiling water, whisking in the melted fat. Cover and leave outside to set on a frosty night. Remove solidified fat that forms on the water's surface and repeat process from whisking onwards (to remove unwanted flavours).

Collect the acorns in October. Shell, crush, place in a double-layered pillowcase (i.e. one inside the other), tie and leave in a clean, flowing river for six weeks. Dry and finely grind. Collect the elderflowers from late April to June (usually May – last year was the first time I've ever made elderflower cordial in April). Remove flowers from the stem, lay spread out on newspaper and dry in an airing cupboard. This can occasionally be done in the sun. They may turn brownish but don't worry.

Dig for the Lords and Ladies tubers in July, once the berry spikes are red. Scatter these to ensure future crops. Scrub tubers, very finely grate or liquidise and place in a container of water (at least 10x the volume of the gratings); allow all solids to settle, leave for two hours and carefully strain off the water. Repeat this process 10 times. Taste-test a tiny piece – there should be no sensation

on the tongue; if there is then repeat the soaking procedure until it is totally eliminated. Finally, take the wet, solid residue and squeeze out as much liquid as possible using a piece of silk; dry and grind.

Juice apples and collect seawater on a very hot day in August. A few litres at a time can be evaporated in large shallow black trays over a couple of days (cover with black muslin to prevent dust and flies getting in). Oats can be gathered around field edges in July and the cuttlefish eggs gathered in the same month. Wash the fist-sized clusters of black eggs, stab a knife into each individual egg and collectively squeeze out the content (up to 100g per cluster). For the apples, core and thinly slice (no need to peel), string them up and hang them outside for a day or two (bring in before sunset if they haven't dried sufficiently on the first day).

On a low heat, melt the fat and mix in the apple syrup. Off the heat thoroughly mix in the flour, oats, apple pieces and elderflower blossom flour then beat in the egg. Roll out the mixture to approximately a 5mm thickness and cut to required size and shape. Place on a greased baking tray (I found a nice one dumped on a bit of so-called wasteland) and bake at 200°C for 10 mins. Cool on a wire rack and store in an airtight tin. Easy.

Okay, perhaps not so, but great fun nevertheless, and yes – I really did make these! The biscuits were actually very tasty; they had a strong taste of elderflower and not the slightest whiff of fishy egg or badger.



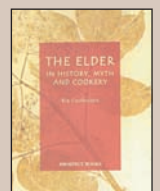
If you're not the foraging type, see our list of fruit and vegetables in season **p 57** and shopping guide **p 73**

Reading

The Elder in History, Myth and Cookery (2005)

by Rai Loohuizen

For more on the elder, see www.elderberries.com



Contact me

For information or to get in touch, visit www.wildmanwildfood.co.uk



A tough year for the red

Battling a fractured back and the vagaries of the weather high in the Pyrénées, is the biodynamic dream of wine writer turned grower **Monty Waldin** about to turn sour?



In the end I had to pay some locals to prune the vines for me, as my back wouldn't take any more punishment



My first task when I returned to France should have been spreading the 15 tonnes of organic compost I had ordered for my newly rented French vineyard. As the car crash in Italy had left me with a fracture in my lower back, however, it meant my first priority had to be finding a back specialist in France, someone who'd be able to manipulate my back regularly enough for it to heal straight rather in a banana-shape. Luckily Eric, whose organic vineyard I was renting, was able to recommend a local osteopath, Fred Py.

During my first visit Fred told me 'Monty, you'll never make a winegrower – no my friend, not with a back like you've got. Mind you, even without the fracture in your back, I suppose growing wine is a sure way to damage it permanently. So you can't win either way!'

When I did finally get to spread the compost on to the vineyard, using just a shovel and a wheelbarrow, I was in considerable pain and, Fred said, risking permanent damage.

Nevertheless, I had reasoned that spending time moping around, doing nothing, was likely to be just as bad for my health as taking a calculated risk and getting on with what I had come to France to do – to grow wine in as environmentally friendly a way as possible. In the end I had to pay some locals to prune the vines for me, as my back just wouldn't take any more punishment.

Winter pruning is necessary for the vines to produce a crop of grapes. I had the vines pruned when the moon was going through its 'winter' phase, which lasts roughly two weeks out of every four. This is similar to – but not the same as – the 'waning' moon, which is when the moon's visible shape in the night sky gets gradually

smaller after the full moon.

The moon's 'winter' or descending phase occurs when the moon's physical position in the night sky gets lower and lower – just like the sun's from summer to winter, when it gets lower in the sky. Whereas the sun takes six months to do this (from June to December in the northern hemisphere), the moon takes only approximately 13 days – although you'll have to wait for good visibility and spend a few nights waiting up into the early hours of the morning in order to verify this.

This 'descending moon' period is a good time to prune – and to plant – woody plants such as vines or fruit trees. The idea is that when the moon is descending the sap remains in the woody trunk of the tree and underground in its roots, rather than being in the branches. If you prune the branches off when they are full of life-giving sap, you'll be throwing away all the valuable food they contain, making your vines weaker as a result. Weak vines are more likely to suffer from pests and diseases.

'Prevention rather than cure' is the watchword of bio farmers, and so knowing what the moon is doing when you are pruning makes sense – and costs nothing.

Even if I could control how and when my vines were pruned, however, I had no control over the weather.

An element of chance

Three extremely dry winters in Roussillon had left many local villages with water shortages. Mutterings about global warming were now a staple of daily conversation, especially since the 2006-2007 winter had not only been dry but also much warmer than usual. All of which meant the vines were on track to produce their spring buds several weeks ahead of schedule.

This was potentially disastrous: if the vines budded abnormally early they would be at risk from any subsequent cold snap – a real possibility for vines as high up as mine were growing (500m altitude). It would take just one night of cold to kill off the spring buds, and with it my chance of producing any wine grapes at all. I'd be out of business before I'd even started.

Luckily, towards the end of March, snow fell for two days, calming the vines down enough for bud-break to be delayed for another fortnight. The vines were back on track and I could relax a little.

I began work on my vegetable garden, organised a hen house and chickens, and dug a small water reservoir, which would also serve as a swimming pool for a pair of geese I had bought. The geese would keep the grass down on a neighbouring allotment owned by an elderly gentleman who was so ashamed of the weeds growing there (he'd given up gardening years ago) that he said he had planned to spray the whole plot with weedkiller. The geese became such a hit with the villagers that my elderly allotment neighbour's grandson was taken down regularly to see how 'Marmaduke' and 'Petronella' were getting on.

The other sight of interest in the garden was an oak wine barrel I had half-buried there. This was the container in which I made some of my biodynamic barrel compost.

A quick form of sprayable compost, along with cow manure and eggshells (to counter radioactivity) it contained the six all-important biodynamic compost preparations made from yarrow, chamomile, dandelion and valerian flowers, whole stinging nettles and oak bark. When spread on to soil, these herbal preparations carry into crops what biodynamic



Look out for the new six-part television series *Château Monty* screening on Channel Four this autumn.

Organic wine

growers call 'life forces'.

These are said to help plants grow more strongly, allowing them to tap into beneficial earthly rhythms (the changing seasons, for example) and even lunar and other cosmic cycles. Without them, my vineyard could not be considered biodynamic.

In fact, there are nine biodynamic preparations in total, the three others being horn manure, which is sprayed on to the soil to enliven it; horn silica, which is sprayed above the vines to help them gather as much sunlight as possible, and a tea made from horsetail (a plant more commonly known as 'bottlebrush'), which is sprayed on to the vines themselves to prevent disease.

As far as commercial winegrowing is concerned, however, biodynamics is not an end in itself, meaning I would still have to spray the vines with substances such as sulphur. This protects the vines from a type of mildew and is approved for use in biodynamic and organic vineyards. If mildew struck I knew I'd be looking at a small crop of grapes of highly questionable quality.

During the vines' growing season, the plants would need to be sprayed every 10 to 14 days with sulphur – some five times in total. I had planned to spray as much as I could by hand using a back-sprayer, thus avoiding the need for diesel-burning tractors. Due to the problem with my back, however, only the biodynamic sprays went on to the vineyard by hand. The sulphur required a tractor-mounted spray rig – though I did manage to get the vineyard weeds under control using a horse-mounted plough.

Weeding yourself

I think that far too much energy is wasted in the fruitless quest to make vineyards look 'clean' or weedless.

The conventional approach, of course, is to use weedkillers, but many bio growers also go overboard by ploughing out every last weed. As well as burning up a lot of diesel, ploughing with a tractor sends earth – in the form of dust – into the atmosphere, dust that is full of the



kind of food valuable soil organisms such as worms need to survive.

Ploughing with a horse is much more gentle – and besides, I only used the horses to plough a small strip of weeds away on either side of the vines. This prevents high-growing weeds from blocking valuable sunlight from getting to the grapes.

I also left a weed-covered strip down the middle of each row. This allows the weeds to act as a habitat break for insects such as ladybirds, which will naturally control vine pests such as spider mites. In addition, the weeds would protect the soil from eroding under the hot sun or when rain bursts were heavy. Mine is a steeply sloping vineyard, and the weeds would stop the soil from slipping off in a heavy downpour.

Soil in the vegetable garden was

equally precious, and there I used the raised-bed system.

Some people call it the French-intensive system – not because it resembles intensive farming in the battery-hen sense, but because with unusually deep, fertile soil you can grow more crops in a smaller space.

You simply bank up soil in beds surrounded by wooden boards, with pathways in between. The idea is that the more space that is taken up by crops, the less space there is for weeds, meaning you spend your time making crops grow rather than keeping weeds down.

By making the beds only double the width of your arm, it also means you can water, weed or pick each of your crops from either side of each planting block. You will never have to stand on the growing area and damage the soil by compacting it with your work boots.

The vat of the land

In the winery I did my best to recycle as much as I could.

I had planned to make my wine in a local co-operative, but as this was not approved for a wine carrying organic certification I had to change tack and rent space in Eric's winery. This was approved by the organic inspectors.

Eric had no spare fermentation vats that were usable, only some old cement vats last used 30 years ago by his grandfather. We eventually struck a deal: I agreed to clean them and help pay for new door-hatches on the side and top of the vats if he'd let me use them.

Cement tanks are ideal for making red wine. Tanks made of fibreglass or stainless steel heat up or cool down very quickly; cement, however, warms and cools only slowly. Gradual changes in temperature are best for the yeasts that turn grape juice into wine via fermentation – when sugar gets converted to alcohol and carbon dioxide gas.

Wines fermented in fibreglass or stainless steel tanks are more likely to need to be chilled or heated using expensive – both for the environment and financially – temperature-control

Top: Weeding with a horse and plough means less pollution
Above: Monty and the compost barrel of six biodynamic ingredients



Too much energy is wasted in the fruitless quest to make vineyards look 'clean' or weedless

systems to keep the yeast happy at a constant temperature.

Harvest festival

When it came to harvesting the grapes, only hand-picking would do.

My vineyard had been planted in the 1950s when machine-harvesters did not exist. After the oil crisis of the early-1970s, however, in Europe at least, winegrowing was all about producing as much wine as you could for as little money as possible. Picking vines by hand was 40 times slower – and thus 40 times more expensive – than doing it by machine.

So my vineyard had been modified using a system of support posts and wires that allowed the vines to be picked by machine: as the mechanical harvester passed, the wires would stop branches snapping off – potentially fatal for the vines.

I insisted mine be hand-picked, though, and when all the grapes were in the vat felt a great sense of relief. I knew at any moment that the

fermentation could ‘stick’, however, and I’d be left with a few thousand litres of vinegar rather than wine.

In the end the wine turned out to be good enough and fairly enough priced to interest a number of British wine importers, but I soon realised that making the wine was only half the battle. Packaging proved to be equally as important. Bottles, corks, capsules and labels – all of these had to be selected too.

Ultimately, I opted for a bottle stopper that was not made from 100 per cent natural cork. Although environmentally sound – the tree bark from which natural cork is made can be stripped for hundreds of years without the trees themselves ever having to be cut down – natural cork stoppers have proved unreliable. Wines sealed with natural cork risk becoming tainted by off-flavours that are present in the cork itself.

I opted instead for a stopper made from cork



The wine turned out to be good enough and fairly enough priced to interest a number of importers

particles that were bound together using a non-organic substance.

It was much better than a metal screwcap or 100 per cent plastic cork, neither of which are foolproof (both can occasionally make wines smell vinegary or cheesy). The stopper I chose was the only one that I have found that could bring the bottled wine to the consumer exactly as the wine came out of the tank.

Ideally I’d ship my wine to the UK in oak barrels, from where wine merchants could fill up their customers’ own empty bottles on an as-needed basis – the customers would then reuse their bottles indefinitely, rather than use them once and smash them up in recycling bins of dubious environmental value.

Making a bio wine is one thing; getting it to the consumer in a ‘bio’ fashion is my next challenge. **E**

Below: Monty’s wine, certified biodynamic

Bottom: The hand-picked grapes being placed into the vats



Monty’s biodynamic, organic wine is available from Adnams, see www.adnams.co.uk

Photography: ©Monty Waldin



You can read more about about Monty’s vineyard experience in his book, **Chateau Monty** (Portico, £16.99), which is out later this year to accompany the Channel 4 series





Read my Tee

Bright, bold and branded with a logo... It's time to wear your ethics on your eco t-shirt. By **Laura Sevier**



To grow the cotton for just one non-organic t-shirt takes a cupful of pesticide – 150g. The three million annual pesticide poisonings cause 20,000 deaths among agricultural workers, according to the World Health Organization. At least 8,000 chemicals are then used to turn raw materials into clothes – many of these are toxic and cause irreversible damage to people and the environment alike.

Green tees

These t-shirts (pictured) have a much lower environmental impact. Made of organic cotton and other sustainable fibres – bamboo, hemp and recycled polyester – and dyed with non-AZO, non-heavy metal, low-impact dyes, their slogans and logos mean you can wear the change you want to see.

For more information:

Pesticide Action Network (PAN)

www.pan-uk.org

Soil Association

www.soilassociation.org

Environmental Justice Foundation

www.ejfoundation.org

Doll images: MARY EVANS

Ekonoiz

'The aim of Ekonoiz is to spread awareness,' says Ekonoiz co-founder Marianne Soisalo. Using water-based ink, she hand-prints the designs to order in her conservatory in London's West Hampstead. Slogans range from *Plant Power* to *Future Extinction*. The t-shirts are made from recycled plastic bottle fibre, hemp, bamboo, or organic cotton. A biologist by profession, Soisalo spent six years working in Brazil on jaguar conservation projects and wants the t-shirts to help fund the project and others like it – £2 from selected designs goes to various charities and organisations that relate to the logo.

Women's No Clear Future organic cotton t-shirt, £23

www.ekonoiz.com

Katharine E Hamnett

Emblazoned with bold slogans such as *Save Our Seas*, *Stop Acid Rain* and *No More Fashion Victims*, these t-shirts are hard-hitting, in-your-face protest-wear – and about as eco and ethically correct as it gets. Katharine E Hamnett clothes (E stands for ethical and environmental) are unqualifiedly ethical – the cotton is 100 per cent organic and made using fair labour conditions even if not Fairtrade-certified. With a focus on the preservation of traditional skills, many of the clothes in the range are produced in the UK. All processing aids, dyestuffs and printing must comply with Katharine's environmental policy.

Men's Save The Rainforest organic cotton t-shirt, £40

www.katharinehamnett.com



Environmental Justice Foundation (EJF)

The EJF is a registered charity that campaigns to defend human rights and environmental security. EJF works with internationally renowned fashion designers creating exclusive, fairly traded and organic cotton t-shirts in support of its 'Pick Your Cotton Carefully' campaign. Sales support the charity's work putting an end to forced child labour and the use of highly toxic pesticides in cotton production, as well as promoting ethical and sustainable alternatives. The t-shirts are 100 per cent organic cotton and are printed in the UK using water-based and PVC-free ink.

Women's Christian Lacroix for EJF organic cotton t-shirt, £30
www.ejffoundation.org

The Hemp Trading Company (THTC)

THTC have been making hoodies and t-shirts from hemp for nearly 10 years. All its hemp is grown organically on small family farms in north-eastern China. The hemp is blended with cotton (most t-shirts are 55 per cent hemp, 45 per cent organic cotton) and the clothes are made in ethically audited factories in eastern China. The minimum age of employees is 19, the maximum age 54. They work eight-hour shifts, have weekends off, receive full safety training and belong to a labour union. THTC now uses water-based inks for the printing process for almost all new designs.

Men's Climate Change organic hemp-cotton mix t-shirt, £22
www.thtc.org.uk

People Tree

'100 per cent Fairtrade throughout manufacture' is what makes People Tree a Fairtrade pioneer. Founded by Safia Minney, People Tree works with 70 Fairtrade producer groups in 18 developing countries (you can find out more about each group on the company's website). This particular organic cotton t-shirt was made by Assisi Garments, in India, one of the first groups People Tree worked with. Set up by Franciscan nuns, it provides employment for deaf, mute and poor women who were considered by their families to be unfit for marriage. Thanks to support and regular orders, its staff has grown from five to 150.

Women's Authentic organic cotton 'Tree Tee', £20
www.peopletree.co.uk



Keeping up with the smarts

Rachel Clode explains why every switched-on homeowner should be turned on by SMART technology

To some of us, mentioning SMART technologies conjures up images of the 1970s and ideals of futuristic living, a sci-fi haven of clap-on, clap-off lighting and automated teasmaids. The 1970s hailed the beginning of SMART or intelligent technology, aimed at integrating and automating functions such as lighting, heating and audio and visual systems. This was cutting-edge, high-end living, something aimed at improving the lifestyles of only the most design-savvy and wealthy homeowners.

The past 30 years have seen SMART technologies evolve, however. It is still a term that refers to an integral network through which devices talk to each other, intelligent controls for managing the system, sensors that collect information and intelligent heating and lighting that respond under instructions, but SMART has got... well, smarter. It no longer simply looks after the smug, platform-wearing home-owners of yesteryear. Intelligent systems certainly offer integrated solutions for luxury living, but they also provide assisted living to the disabled, support to our growing elderly population and a means of measuring and, potentially, greatly reducing the nation's ever-growing energy consumption.

The use of energy in the home has been widely identified as a major producer of carbon dioxide. In 2004, 27 per cent of the UK's total CO₂ emissions stemmed from domestic use. SMART technologies have been singled out as the most effective means of making us aware of what we use, how and when we use it, and how much it costs, both in monetary and energy terms.

So why aren't we SMART already?

SMART technology is already being used extensively in places like South Korea, where investment in innovative technology since the 1990s has led to entire cities, known as U-cities, being able to control their home and monitor their health through mobile phones, remote controls and the internet. As the European Union increasingly looks to improve energy performance in the home, derivatives of these technologies may become more widespread in the Western home.

SMART now Electricity meters

In 2007, the Government began energy-saving trials in approximately 40,000 homes around the UK, approximately 15,000 of which were to receive SMART electricity meters. Tracking electricity use in the home, meters pinpoint areas of inefficiency and enable residents to adjust their habits and appliances. This allows for much greater efficiency, saving money on household bills and lowering the cost to the environment.

Real-time display units

From this month, the EU is due to decide whether UK energy suppliers need to provide SMART electricity meter display units to all their customers on demand over the next 10 years under the EU Energy End-Use Efficiency and Energy Services Directive. Government estimates that this could save 300,000 tonnes of carbon a year, but it could take 10 years to roll out metering and real-time display units could provide an interim solution. As Faye Scott, author of the Green Alliance report *Teaching homes to be green: smart homes and the environment*, says: 'SMART meters are not an answer by themselves but do help to effect behavioural change. Real-time display units won't be linking to your bill, but have a short-term impact by raising awareness.'

SMART gas

The majority of domestic carbon emissions are produced from heating; both hot water usage and gas consumption could be read and reduced by employing a meter similar to that used for electricity. Despite metering and intelligent heating controls being widely available on the market, however, very little research has been carried out to explore the benefits and reductions that gas meters could provide.

SMART water

Metering trials have been conducted since the 1970s, but despite the Environment Agency openly encouraging water companies to switch to metering – as well as the consistent reporting of annual water shortages – companies still place the emphasis on the customer requesting a meter (unless it is a newbuild or in an area designated 'water-scarce').

Get SMART

Contact your energy or water supplier and ask if they provide SMART metering. Efergy and Eco-eye produce wireless electricity meters with a sensor and transmitter that can be clipped to your electricity feed cable.

Get SMARTer

Real reductions in energy consumption require smarter thinking than simply boiling kettles less or getting rid of an archaic freezer.

'If they really want to save energy they need to control their heating costs, which are at least 60 per cent of the total,' says Lawrence Griffiths



of Ivory Egg, which distributes EnOcean self-powered controls for intelligent buildings.

By isolating 'zones' and adjusting heating and lighting appropriate to the room's function, excess use of heat and light becomes negligible. Removing the need for switch and sensor wiring, the controls harness mechanical and light energy to power themselves. At around £3,000 for a four-bedroom home with three heating 'zones', homeowners could switch their house on and off with one button that can be remotely controlled, while opening a window could turn down your radiator. That's a pretty clever house.

SMARTest

The long-term potential that SMART homes have to change the way we use and generate energy in the UK is phenomenal. Demand on power stations at peak times causes surges in energy use, which have a much greater impact on the environment. Ultimately, the smartest homeowners making the biggest savings could be generating energy through microgeneration and selling it back to the energy companies.

The EU's decision on metering, and consequently on the extent of our wastefulness, will be made this month. If it does become mandatory, we could be doing one of the smartest things we can for the planet, without even having to leave our homes. **E**



If they really want to save energy they need to control their heating costs



Thinking of investing in a water filter? Find out where to buy one on **p 83** of our shopping guide

Smart today and tomorrow

Since the introduction of the mandatory Home Information Pack in December 2007, every home put on the market will need to display an Energy Performance Certificate, and although there is currently no specific rating for SMART buildings, how smart we are could save energy and affect house sales in the future.

Smart Solar Water

In the UK you are unlikely to be able to generate enough heat fully to replace other energy sources, but one hour's sunshine still produces an hour's worth of hot water at a usable temperature with the Willis Solasyphon. Fitting to the side of your existing tank, it delivers solar-heated water to the top of your tank. As a retrospective installation it is cheaper than a new twin-coil solar cylinder, at £275 + VAT. As it uses your existing tank, it is also less wasteful than a full replacement. They are produced in Ireland and supported by the Carbon Trust.

www.willis-renewables.com

Smart radiators

No more opening the window when you're too hot and wasting energy. The EnOcean radiator receiver electrothermic valve closes the valve as you open the window. The functions are solar-powered. EnOcean is also developing a valve that harvests its energy from a temperature difference of a few degrees.

www.enoceanshop.co.uk

Get smart

Home Information Packs (HIPs) www.homeinformationpacks.gov.uk

Heating and Hot Water Council www.centralheating.co.uk

More information www.energysavingtrust.org.uk www.carbontrust.co.uk



Y2L

Cancer finding another way

Conventional cancer treatment works by killing cells. This approach helps many, but can also damage the body it is trying to protect. Sadly, it's not unusual for people to die of the cure, rather than the cancer.

*Above image: Bryony Daly
– the original inspiration for
Yes to Life – at The Hole in the
Wall Gang Camp for kids with
life-threatening disease*

Complementary and alternative medicine (CAM) for cancer typically aims to support the body and to rebuild the immune systems that are nature's inbuilt mechanism for controlling malignancy.

But in cancer treatment there are no certainties. No medical discipline has all the answers. Many, however, have some of the answers. So increasingly, people are wanting to try to pull together all the available resources to create what is now termed an 'integrated' programme of treatment – one that allies the best of conventional medicine with CAM – to give themselves the greatest chance of success. They are wanting choice and looking for support from their doctors and therapists in finding their own way through the intense challenges facing them.

*Just such an approach is being pioneered by a new charity called **YES TO LIFE***

We are the first and the only charity in the UK to directly support people with cancer in taking an integrated approach to treatment. We are dedicated to making the widest range of complementary and alternative medicine readily available to people with cancer.

Cancer and cancer treatment can be relentless and impersonal – we will look for any way to counter this and to support you.

Our Health Service will often tell you what you have to do – we will help you to find out what you want to do. We will be there to help you find your way through both the bureaucracy of the NHS and the maze of private alternatives.

We will be there to say 'Yes' and to support you in the choices you make for your own healthcare. But we urgently need support to implement our ambitious plans. By supporting us, we believe you will be backing a movement with the potential to have a serious impact on the rising epidemic of cancer.

Currently only a privileged few are reaping the benefits derived from integrated medicine. Our aim is to change this and to radically alter the view and the experience of cancer for ordinary people such as you and your loved ones.

To find out about the many opportunities to support our work, please visit our website:

www.yestolife.org.uk

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★ **Reader offers** ★

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In 2000, Garstang, near Lancaster, became the worlds first Fairtrade town. In 1995, a year after the Fairtrade mark was launched, the local Garstang Oxfam group encouraged locals to try Fairtrade coffee with the 'Cafédirect Challenge'. Putting an ethical twist on the Pepsi/Coca-Cola challenge, Garstang

has now been twinned with a cocoa-producing town in Ghana, with which it runs exchanges.

For those wishing to follow in Garstang's footsteps, the foundation advocates council support to raise awareness, and making Fairtrade products available in shops and cafés. The foundation also has schemes for fair trading in schools, universities and churches.
www.fairtrade.org.uk

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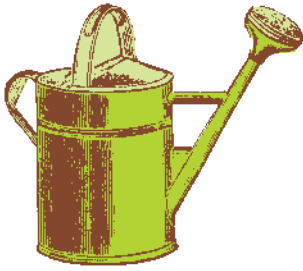
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Home and garden

From garden tools to bed linen, cleaning products and furniture – by simply changing our household buying habits we can reduce our carbon footprint and the chemical cocktail that makes its way into our homes. So visit the online producers below for ideas on how to green your home

★ B-Eco paints

A new lick of paint has never been so fresh – or user-friendly...

'We used Self-Coat paints on our office walls and the builders thought they were too good to be true – easy to apply, quick-drying, with no odour. Now we're using them in our homes. And the personal service is fantastic – they're very hands-on and helpful.' *Ecologist*

To celebrate the launch of its new B-Eco range, Self-Coat London is offering *Ecologist* readers a 15% discount

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• Paint life-expectancy of up to 20 years. After 75,000 hours of UV testing, they showed no visible signs of colour fade

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READER OFFER



To order, email info@self-coat.co.uk or call 020 8648 8230 and Self-Coat will deliver to your door. See www.self-coat.co.uk for more information – offer valid until 30/05/08.

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The Little Green Book of Gardening by Diane Millis

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Clothing

The virtual boutiques and retailers featured on these pages stock a range of well-made, stylish and ethical clothes. Precise sizing charts make it easy to find the right size for you – and if something doesn't fit, or you don't like it, simply return it. Being fashionable and being ethical are no longer at odds...



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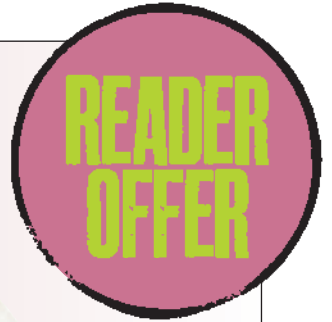
Showcasing the latest collections from ethical fashion lines such as Amana, Beyond Skin, Camilla Norrback, Ciel, Del Forte, Enamore, Ethletic, Noir, Stewart+Brown, Terra Plana and Wildlifeworks, *Ecologist* readers receive 10 per cent off all orders at Fashion-conscience.com

Fashion-conscience.com's summer style forecast:

- Safari-style with khaki jackets, wooden-bead detail, African print dresses, safari boots, leather thongs and sandals
- Made-to-order organic wooden bead and crochet wedding gowns from Nevis, silk underwear from Eco-Boudoir and Enamore, and guest wear from Ciel, Julia Smith and Elsom
- Ethical beachwear with cover-ups, belted shorts, batik print dresses from Lalessa, and Aaron Chang reversible bikinis made from recycled plastic bottles.

Meet the Fashion-conscience.com team at London Aware 2008, from Sat 10-Sun 11 May 2008.

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e **Ecotip**
All-nature dyes

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As well as your fabric you will need a mordant to fix the dye. Rock salt can be used for berry recipes, and vinegar for plants. Simmy's 'Echoes of a dream' site offers recipes for mordants, as well as tips and hints on the best fabric and colour sources to use. www.simmy.typepad.com

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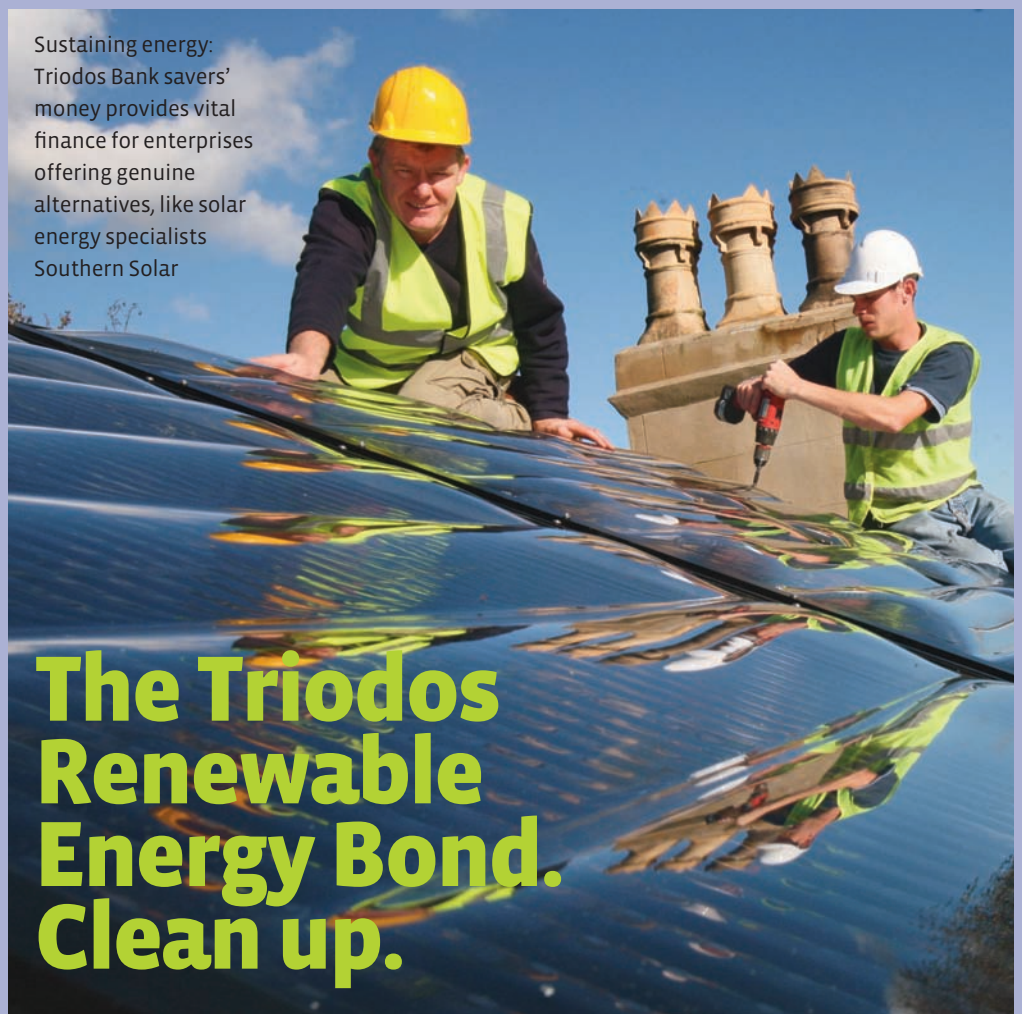
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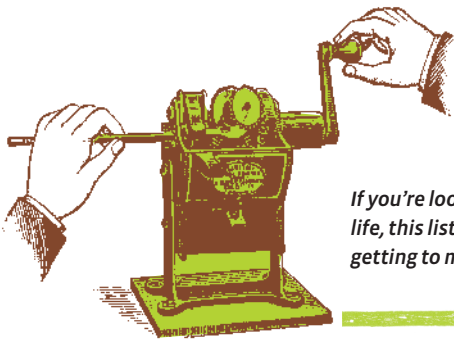
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www.nationaltrust.org.uk or www.sense.org.uk

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Courses and events

Whether it's professional training you're after or a book that can teach you how, ideas that can change the world or practical skills to help with sustainable living, this is the place to find out about courses, books and websites that will equip you with more information on how to help people and planet

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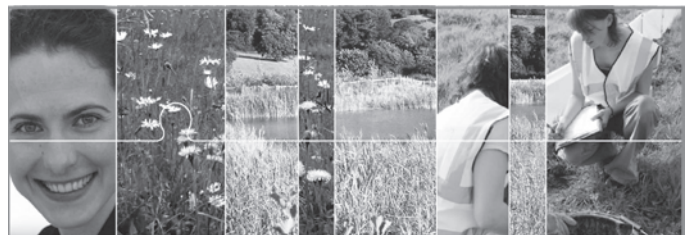
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The next green revolution

Chemicals, pesticides, GM and agrofuels – when it comes to food production it seems the lunatics are running the asylum. **Claire Robinson** finds hope in some new approaches

A competition to design the least intelligent food-production system would be hard-pressed to beat the one we have. As the authors of this book show, the dominant chemical-intensive 'Green Revolution' model failed as early as the 1980s, when yields fell even as fertiliser use climbed. Soil, water and people suffer the toxic legacy. Meanwhile, we transport food around the globe, aggravating climate change. The latest 'solution' to the problems caused by the first Green Revolution is... a second Green Revolution, this time with self-replicating pollution caused by GM crops. The rush to agrofuels will intensify the crisis, stealing land from food crops while hardly making a dent in carbon emissions.

Alternatives to the failed model are detailed in this book, which cites scientific research and case studies to describe

successful organic farming systems. Two objections commonly raised to the widespread adoption of organics – low yields and not enough fertiliser – are shown to be false. The assumption that humans bring environmental degradation is also rubbish. Research reveals the re-greening of the arid African Sahel (contrary to scientific predictions) by farmers using traditional methods that owe nothing to the World Bank or Western technology. Other inspirational stories include a Japanese rice farm where ducks do the weeding and pest control, and the organic agricultural revolution feeding Cuba without fossil fuels.

The most exciting development is integrated farms, as pioneered in China and Brazil. Combining fish, crops and livestock, the farms produce abundant food with zero inputs and emissions. The only byproduct is

biogas that can be used for energy. If adopted worldwide, this farm model could save energy and reduce greenhouse gases.

Biotech proponents tell us that turning our backs on GM crops is a 'crime against humanity' that deprives the developing world of food. The real crime, however, is to turn our backs on the cheap and sustainable solutions outlined in this impeccably referenced book.



Food Futures Now

Mae-Wan Ho, Lim Li Ching, Sam Burcher et al
£15 (Institute of Science in Society and Third World Network, 2008)

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Jennifer Baichwal

Ever wondered where computers go when they die? Or what the endless

expanse of a Chinese factory floor actually looks like?

Jennifer Baichwal's award-winning documentary shows us the mountains of 'e-waste' in China (where 50 per cent of the world's computers end up to be recycled), the monotonous bleakness of the daily lives of factory workers, the Yangtze Valley, where whole towns are being demolished to make way for the Three Gorges Dam, vast coal mines and other 'manufactured landscapes'. The focus is the work of renowned Canadian artist Edward Burtynsky, whose epic photographs portray 'the landscape that we change – that we disrupt – in pursuit of progress.' The artist is filmed at work amid some of the most surreal landscapes of the 21st century. The minimal commentary and slow, lingering pace leave maximum room for reflection on the deep-seated problems created by consumer culture. **Laura Sevier**

From 9 May 2008 (BFI Southbank, The Gate, Ritzy Picturehouse), other venues tbc



Back to the garden

Growing your own would be vital if the shops shut for good. **Clive W Dennis** has the key to a persistent vegetable state

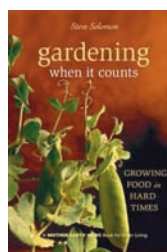
So peak oil has arrived, food prices are soaring and violent gangs are on the rampage. Things have come to a head. As you proudly survey your newly acquired modest acreage in rural France, however, it suddenly occurs to you that you haven't the faintest idea what you are doing. Lucky for you, then, that Steve Solomon, the Mr McGregor of self-sufficiency, is here to help. In his introduction he even generously offers to be 'the gardening grandfather you never had'.

Like most authors of books on self-sufficiency, Steve Solomon is blessed with the healthy excess of self-confidence that comes from spending three decades with a solid inch of topsoil permanently wedged under his fingernails. This book describes the approach he has developed over this period. His aim is to help the reader to grow food reliably, organically and at low cost, and this is a straightforward guide to getting food out of the ground by time-tested means, with the kind of harvest that could feed a family.

In contrast to his nemesis, John Jeavons of *How to Grow More Vegetables* fame, Solomon advocates a less intensive approach to veg growing, requiring a little more land, a lot less water and a lot less time and effort. A key component of Solomon's

approach is plant spacing. By leaving enough space between plants we reduce competition between them, conserve soil water and make weeding a simple matter of running a hoe down between the rows. Tools, seeds, soil preparation, compost, insects and diseases are all given a thorough, well-explained treatment, and the book also contains tables giving correct plant-spacings, as well as a comprehensive list of reputable seed companies in the English-speaking world. The last section gives growing instructions for all the main crop varieties and is organised by ease of cultivation.

Thus far my own attempts at smallholding amount to a pitiful incident involving 12 heirloom potatoes, 20 car tyres and what turned out to be an excessive amount of shade. Next time I try, this will certainly be the book I will be using for reference.



Gardening When It Counts

Steve Solomon
£9.99 (New Society
Publishers, 2005)



DVD

The Real Dirt on Farmer John

Farmer John Peterson is an eccentric organic farmer from the American Midwest and the star of this strangely compelling documentary. It's a classic tale of triumph over adversity, which centres around Farmer John's struggle to keep the family farm going in the face of debt, depression and neighbours who are deeply suspicious of his wacky antics (which include driving tractors wearing a feather boa and hanging out with artists and hippies).

The real interest of the film is how, after being forced to sell most of his land, he manages to get it up and running again as a flourishing biodynamic, organic farm supplying 1,200 families with veg boxes. This is largely thanks to a community-supported agriculture scheme, but also down the determination and flair of a farmer who so loves his land he even eats the soil.

Although it's a highly personal story it encompasses much wider issues – the plight of family farms, price declines and the benefits of sustainable agriculture – which make the film resonate way beyond the fields of Farmer John. **Laura Sevier**

Last words? Tariana

Status: Highly endangered, less than 100 speakers left.

Habitat: Around the Vaupés River, among what's left of the rainforests in Amazonas, western Brazil.

Description: The state of so many languages in the vast Amazon basin mirrors the fate of wild species also found there – we know very little about them and they are gravely endangered. Tariana is just one of these. In terms of genealogy, Tariana is a single leaf on the Maipurean language tree, which forms part of the Arawakan language family that used to span much of what is now Latin America. Most speakers have now switched to the healthier and unrelated Tucano.

Much like another South American language, Aymara (which has a three-value logic system as opposed to our 'western' two-value logic system), Tariana includes key concepts in its grammar that seem alien to us. For instance, it would be a grammatical error for a Tariana speaker to say something if they did not know for certain it was the truth. Every sentence includes a component called an 'evidential', indicating whether the information was seen, heard or inferred, or from whom it was heard. Does such a language have no concept of lies? Can fiction exist? Is the misinformed loquacity so common to us replaced by humble silence?

Perhaps Tariana has been doomed from the outset. Tariana people are linguistically exogamous, meaning they always marry someone who speaks another language. It's taboo for them not to, a sort of verbal incest. This also means all speakers know at least three languages. Again we have to thank the pioneering work of a lone linguist, Alexandra Aikhenvald, without whom this remarkable language would soon be lost to us entirely. But before long Tariana won't be lived, only studied.

David Hawkins

How to be free

Bad medicine

Bono may be cheerleading for its charitable wing, but corporate America is not waging a war on AIDS for the sake of its health, says **Tom Hodgkinson**

What do the Global War on Terror, the war in Iraq and the war on AIDS, TB and malaria have in common? The answer is that all three were started by George Bush.

We all know about the war in Iraq, but less perhaps is known about the US-declared war on AIDS. This war is administered by a group of 400 or so highly-paid bureaucrats working in tax-free Geneva. Its full title is 'The Global Fund To Fight AIDS, Tuberculosis and Malaria', its sub-heading line is 'Investing in Our Future' and each year it distributes something like \$2 billion of grants to 'support aggressive interventions' against these diseases. The money goes all across Africa and to South America, Egypt, and Korea.

It is to the Global Fund that all the money made by Bono's Red scheme goes. His recent auction in New York raised \$70 million, though that is a drop in the ocean compared to the money put in by governments around the world. Of the Global Fund's \$2.5 billion 2006 income, two billion came from governments and the rest from the private sector.

As William Morris wrote in the 1890s, all wars are about new markets – and that includes the US war on disease. Look at the maps on the Global Fund website and you'll see areas where the US would like to get a foothold, both to gain access to the natural resources and to create new markets.

How is the money spent? Well, \$2 million goes to fund eight or nine top managers. The Global Fund's annual operating fees for 2006 were in the region of \$85 million, and most of its salaries are paid for by the World Health Organization. It goes without saying that this money received by local groups comes with strings attached. A hell of a lot will go straight back to GlaxoSmithKline, manufacturers of the antiretroviral drugs used to treat AIDS, and which many commentators consider not

only toxic, but also deadly. In other words, huge chunks of the money goes straight back into the US economy via tax-free salaries and drugs from American-owned pharmaceutical giants.

It's a typical US strategy: identify an enemy, move in with piles of cash and an aggressive intervention, hook the locals on American products such as AZT or whatever then sit back and watch the share price rise. Quite strange that Irish pop stars should be contributing money to a George Bush war chest. Bono's mate Geldof accompanied Bush on part of his recent trip to Africa, during which Bush

remarked: 'Africa in the 21st century is a continent of potential.' Potential for whom?

Why is all this relevant? Because it shows the fine line between philanthropy and exploitation. It also demonstrates the never-ending need for the US to expand its commercial territories, whether by war, by aid or by business. It's an episode in the American journey towards world domination.

Some see the American cause as a noble one. Through capitalism, the Puritan apostles probably do genuinely want to bring freedom, women's liberation and comfort to all. They genuinely do believe in a Brave New World, where disease has been more or less wiped out and we all exist as happy consumers. They probably are well motivated. What do I know? Maybe Bush will save the world.

But the US's interest in Africa looks to me like a case of white man as saviour. It's a missionary programme; a plan of Americanisation, just as Britain's missionary programme of the 19th century went hand-in-hand with its imperial ambitions. Money comes with ideological conditions, and ideology itself is totalitarian. An example is that, according to some Africans, the new white missionaries are telling young people to be chaste in order to avoid getting ill. You just need to look at American language to get the vibe; it's half-militaristic, half-business: 'investing', 'aggressive intervention', 'war', with overtones of moral superiority.

Whichever way you look at the US's global programmes, it's important to realise that Bono/Geldof are now active fundraisers for its activities, passing the hat for the most powerful government in the world. Anyone interested in ecology, diversity and true freedom should disengage at once, and remember that charity begins at home. **E**

Tom Hodgkinson is the Editor of *The Idler* and author of the book *How to be Free* (Hamish Hamilton, £14.99)



'It's a typical US strategy: identify an enemy, move in with piles of cash, hook the locals on AZT then sit back and watch the share price rise'

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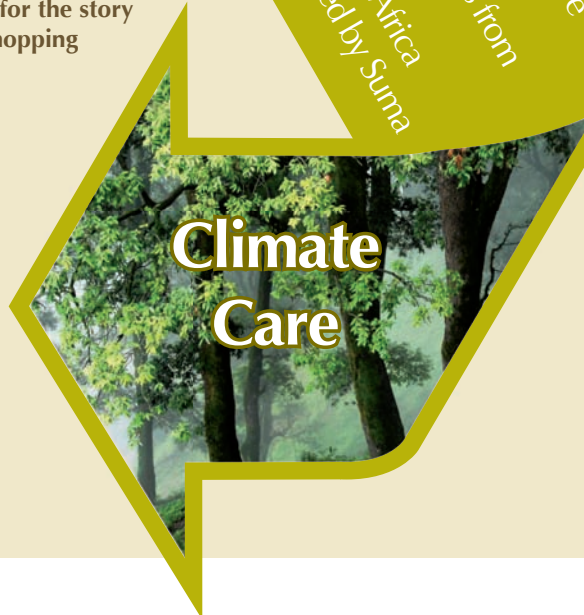
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