

“To be truly radical is to make hope possible, rather than despair convincing”

Phil England

Heat: How to Stop the Planet Burning

George Monbiot, Penguin/Allen Lane, 2006
ISBN 9780713999235

The Revenge of Gaia

James Lovelock, Penguin/Allen Lane, 2006
ISBN 9780713999143

Gaia fights back

Let's face it. We're in a mess. Ex-World Bank chief economist Nicholas Stern says climate change is the biggest market failure ever. That's one way of saying that an economic system that only values financial return on an investment and is incapable of accounting for wider consequences, is leading us toward ecological meltdown. The question now is just how big a mess are we in and can we still get out of it?

In his book *The Revenge of Gaia* James Lovelock is inconclusive about whether or not we have reached the point of no return on this journey to ecological catastrophe. Yet in the run up to the book's publication at the beginning of last year, the 87-year-old ex-physician, inventor and Earth systems theorist was complicit in marketing spin that gives a different picture (check out the mock disaster flick cover of the new paperback edition). *The Independent*, for example, ran one of their campaigning front pages with the headline: 'Green guru says: we are past the point of no return'. Is that really what he says? In the opinion piece by Lovelock on which the Environment Editor bases his story, Lovelock's muddled thinking is exposed. On the one hand he says, unequivocally and without caveat: "The temperature will rise 8 degrees centigrade in temperate regions and 5 degrees in the tropics ... before the end of the century is over billions of us will die and the few breeding pairs of people that survive will be in the Arctic where the climate remains tolerable". Then later he says: "Sadly I cannot see the United States or the emerging economics of China and India cutting back in time, and they are the main source of emissions. The worst will happen and survivors will have to adapt to a hell of a climate."¹ The implication here is that we could prevent catastrophe if we had the political will.

The truth is, Lovelock has no privilege to special knowledge that the rest of the scientific community do not have. What he has is a pessimistic vision of the political community's ability to get to grips with the problem in time. That's a subjective view, albeit based on the evidence of recent history.² What it ignores is the capacity for rapid change to occur in human societies.

A BBC Radio4 panel of experts was convened to discuss Lovelock's work and assess the book's key claims. Among the results on which the panel were unanimous was that: "It is likely that temperatures will rise by 3-5°C by 2100 *unless we act swiftly to cut greenhouse gas emissions and protect natural forests.*"³ (My emphasis.)

What was striking was the level to which his fellow scientists shared his pessimistic view of politics; six to one supported the proposition that: "Politicians are unlikely to cut greenhouse gas emissions sufficiently until it is too late to prevent dangerous warming."

The panel were also unanimous in judging that

Lovelock is wrong to give the impression that nuclear fission is our only realistic short-term solution and that, in the UK context, Lovelock is wrong to reject wind power. Lovelock talks about his book as "a wake up call." If that was genuinely his intention, then it's more than likely backfired. Rather than shake everyone from their stupor, surely the net result of his doom and gloom pronouncements is to make readers resigned and disempowered. There's nothing we can do. It's all too late. A self-fulfilling end-times prophecy.

The two degrees imperative

Meanwhile, cooler heads in science, policy and campaigning are rallying round the idea that 2°C global average temperature rise is the critical threshold that we simply must not cross. Beyond that the chances of irreversible, rapidly escalating global warming becomes increasingly likely. As the chief scientific advisor to the German government, John Schellnhuber, told me in an interview at the end of last year:

"Going beyond [2°C] is extremely dangerous. There's not a crisp level of temperature that is tolerable. It could be 2.2 degrees or 1.9. But we know we are moving into the red zone, if you like, when we go beyond two degrees. And beyond that we scientists cannot guarantee that these feedback loops I just described would not operate."⁴

These amplifying feedbacks could lead to what Schellnhuber terms a "runaway greenhouse effect" where the upper level of predicted temperature ranges are more likely to be reached. Also, the seriousness of the impacts rises significantly beyond 2°C. According to the International Climate Change Taskforce:

"A review of the IPCC's Third Assessment Report and other peer-reviewed publications finds that beyond [2°C] the damage to ecosystems appears to grow significantly: 95% of coral reefs are unlikely to recover; other highly bio-diverse ecosystems and sources of regional climatic stability, such as the Amazon rainforest, are likely to be lost forever, and the planet's soils and forests are projected to become a net source of carbon. Also beyond that threshold, projections show agricultural losses extending to the world's largest exporters of food; the additional number of people at risk of water scarcity jumping by 2 billion; and global net economic losses taking place."⁵

The European Union have adopted 2°C as their ideal limit (though they don't yet have sufficient policies in place to play their part in achieving this), as well as the Stop Climate Chaos coalition of development and environmental groups in the UK⁶, and the 365 campaigning groups that come together under the international Climate Action Network umbrella.⁷

Heat

If Lovelock has descended into woolly thinking (we need sunshades in space and to look after ourselves, not help more vulnerable others), untidy writing and pragmatic pessimism, then George Monbiot is the antidote. Now, more than ever, is the time to be demanding the (seemingly) impossible. To rip off a Raymond Williams quote: "To be truly radical is to make hope possible, rather than despair convincing."⁸ In this book, *Heat*, Monbiot has sat down and done some good

thinking about how we're going to get ourselves out of this mess. His point of focus is the UK and what we need to do to play our part in reducing carbon emissions globally to a level that gives us a good chance of keeping within the 2°C limit.

Is his target right?

His first task is to set an emissions budget that is in line with the best current scientific thinking. The UK government still talks about a cut of 60% in CO₂ by 2050, whereas Monbiot calculates that we need a 90% cut in CO₂ in the UK by 2030. The UK government figure is based on a Royal Commission on Environmental Pollution recommendation from 2000⁹ that has long been superseded by the science. Even the UK chief scientist has admitted that it's not enough. Speaking at the end of 2004, David King admitted that "if we want to avoid these major impacts threatening the thermohaline circulation [which



includes the gulf stream], the Greenland ice sheet melting, [then] we may have to increase that target perhaps to 80% by 2050."¹⁰

The only other comprehensive "Can We Do It?" national policy plan that I'm aware of (there's nothing in the public domain to suggest that the UK government has attempted this) is the Tyndall Centre for Climate Change Research study 'Living Within A Carbon Budget', which was commissioned by Friends of the Earth with funding from the Co-op bank and published in September 2006¹¹ – around the same time as Monbiot's book. This established a plan for achieving what is set out in FoE's draft Climate Change Bill – that is, a cut of 78% in CO₂ by 2050. The Tyndall Centre action plan assumes that the current cross-party agreement on "60% or greater" CO₂ reductions by 2050 "rapidly transforms into a consensus on '90% by 2050.' However, more important ... is the consensus over the mantra of '70% by 2030' as the period between now and 2030 is the one in which the steepest reductions in emissions must occur."¹² However, the authors point out that even this target may be insufficient to keep us within a two degree limit. In fact they note that "assuming current scientific understanding of the issues" the FoE target would equate to "only a

All photographs from: Support for Manor Garden Allotments Society, in Hackney Wick, whose future is in jeopardy due to pending eviction from the current site due to the planned Olympic Park. There are 80 plots which provide food for over 150 families in the summer.

lifeisland.org



30% to 40% chance of not exceeding 2°C.”¹³ Later they note that “to have a very high probability of not exceeding 2°C would require a complete cessation of carbon emissions from today.”¹⁴ These probability estimates are based on recent studies by Malte Meinshausen that even made it into Nicholas Stern’s report on the economics of climate change.¹⁵ Another recent assessment has suggested, “that the UK’s fair global allocation in 2050 would be in the order of 88-94% below 1990 levels.”¹⁶

Monbiot, then, is clearly in the right ballpark. But such a target represents a truly Herculean task. It makes you wonder, even if we had the political will, could we achieve such an ambitious target? After taking a hard look at all the options available to us – and discarding many you might have previously put your faith in on they way – Monbiot thinks we can.

Consumer Politics

The first pillar of Monbiot’s plan¹⁷ is carbon rationing. This proposal has been around since 1990 but is now being taken more seriously by the UK government.¹⁸ Under the scheme, every adult gets an equal carbon allowance that reduces rapidly in line with the national target. The idea seems to have some distinct advantages over a carbon tax. It could be more politically acceptable than a tax, conferring carbon literacy on every adult in the population and providing a massive demand for low carbon goods and services. And since the allowance is tradable, the scheme could help effect income redistribution: The rich, who generally emit more carbon, will have to pay for extra emissions credits – while the poor and those who have adopted a low carbon lifestyle voluntarily will be rewarded financially when they sell their surplus units.¹⁹

Monbiot envisages a closed system where trading is only between UK participants. But the government’s current enthusiasm for offsetting schemes raises the concern that they might be tempted to include carbon offsetting in a carbon rationing scheme. This should be resisted since it will considerably weaken the scheme. Carbon offsetting would allow individuals to buy their way out of action at home by investing in projects that supposedly have a carbon saving abroad. Carbon offsetting is currently a voluntary option for individuals but institutionalising the system

on a national scale as part of a mandatory carbon rationing scheme would scale up the problems that are already endemic with these schemes. Offsetting schemes are unmonitored, uncertified and have endless scope for exploitation by ruthless profiteers (many of the big name offsetters in the UK have been exposed). Benefits for local people range from the dubious to complete destruction of livelihoods.²⁰ Furthermore, inclusion of a carbon offsetting option would disable carbon rationing’s principle function of measurably reducing emissions in the UK in line with a national target.

Monbiot doesn’t have any time for bottom up, citizen-led initiatives at this late stage. The Tyndall Centre, likewise, conclude that we no longer have the luxury of time: “The urgency with which we must make the transition to a low-carbon pathway leaves no option but to instigate a radical and immediate programme of demand management.”²¹ A parallel bottom up process would though, in my view, enhance the effectiveness of carbon rationing. Individuals are already getting ahead of the game forming into low-carbon action groups, unplugging from a mediated, consumerist existence and starting to experiment with the enhanced well-being offered by a life more local, more neighbourly, more healthy, with a stronger connection to the land, stronger local economies, enhanced appreciation of our own countryside and the joys of slow travel.²²

Monbiot is clear, however, that carbon rationing is just part of the solution and needs to be accompanied by a full package of public investment, information and regulation.

Burning down the house

Home energy use accounts for about 30% of the UK total. There is no reason why the 1.2 million homes the government is planning to build by 2016 should not all be built to the German zero-energy ‘Passivhaus’ standard which dispenses entirely with the need for heating and ventilation systems. As to the 25.5 million existing houses, Monbiot suggests that private landlords should be obligated to make their properties energy efficient before they are able to rent them out. This seems reasonable, as landlords are already obliged to include certain safety features. For private owners, tough building standards that are properly enforced should be laid down so that energy efficiency is taken into account when they are refurbishing their homes.

A proliferation of gadgets and technologies is currently causing home electricity use to rise. Carbon rationing would make us more energy conscious but Monbiot also prescribes a “feebate” system, in which inefficient electronic goods are heavily taxed while efficient goods are given a tax rebate. In addition, excessively wasteful and non-essential technologies, such as old-style lightbulbs, patio heaters and garden floodlights, should simply be banned.

The reduced energy use that remains needs to be made as clean as possible. When I interviewed Monbiot back in October 2006²³ he had already revised the optimism he expresses in his book for the potential of “clean gas” technology (also known as “carbon capture and storage”, and a big favourite of the fossil fuel companies). He now thinks this technology is not sufficiently ready to be employed. In the book he rules out nuclear energy on two counts: nuclear energy is hugely expensive²⁴ and goes hand-in-hand with nuclear proliferation. We should therefore scrap plans for a replacement of Trident nuclear missiles and for a new generation of nuclear power stations and invest the money instead in a massive programme of clean energy production. Exposing the low potential of some domestic renewable energy technologies (particularly micro-wind turbines on homes in an urban setting), he suggests that we should build big renewable energy projects where the wind and sun are most abundant and transport the electricity over long distance using high voltage direct current cables. We’re talking windfarms miles offshore and solar farms in the Saharan desert. And to replace the burning of

natural gas in our boilers, he suggests investing in a new hydrogen pipeline network.

In a possible lapse in his thoroughness, Monbiot appears to have insensibly dismissed the huge potential of decentralised energy. This is something that has delivered massive savings for Woking Borough Council, for instance, and remains the central thrust of Greenpeace’s climate change campaign. A recent presentation by independent sustainability consultants SEA/RENUUE to my local council, concluded that Woking-style large scale community combined heat and power installations (CCHP) would be the single thing most likely to deliver major cuts in greenhouse gas emissions in our area. The man behind the plan at Woking is now working for the Mayor of London to implement a similar scheme across London. Localising energy production in this way means that the 60% energy loss through heat at the point of production in our current centralised electricity systems could instead be used to heat homes.²⁵ Monbiot’s brief discussion of this technology is not substantial enough to be convincing.²⁶

Getting about

For road transport Monbiot does a demolition job on our hopes that biofuels might become a viable low-carbon fuel for road vehicles. He reveals that the small amount of biodiesel that is included in petrol station biodiesel-mixes is already causing significant problems. Palm oil biofuel plantations are causing rainforest destruction which is actually increasing CO₂ emissions. We simply do not have the landmass in the UK or Europe to support domestic production of enough biofuels to feed our cars, and, anyhow, the UK government has ruled out the restriction of imports.

Obviously we need to abandon the government’s insane £11.4bn road building programme, which will just allow road vehicle numbers to rise, but at the same time we need to provide attractive and viable alternatives to the car. Monbiot notes that while, per passenger, the train is about seven times more efficient, coaches are about eight times more efficient. Consequently he supports a novel proposal for a new deluxe national coach network using dedicated lanes on motorways. Transport expert Lynn Sloman has calculated that 40% of journeys could be made by bicycle, on foot, or by public transport. Again, carbon rationing will help drive behaviour change. Sloman calculates that a further 40% of road journeys could be avoided if public transport and cycling facilities were improved. For the remaining unavoidable journeys, mandatory improvements in vehicle efficiency are needed. But Monbiot’s big scheme is to have filling stations converted into battery leasing facilities with the batteries charged by the unused windfarm electricity generation that occurs overnight.

Like everywhere else in the economy, the 90% cut in CO₂ emissions needs to apply to aviation. Having investigated all possible alternatives and found them wanting, Monbiot concludes that it is no longer possible to enjoy long-distance travel at speeds that many of us in rich countries have become accustomed to in the recent past. So, rather than continue with the current expansion of airport capacity, it needs to be frozen and rapidly reduced. For those who enjoy the privilege, the time for second homes abroad and weekends in New York is over.

Timescale

The task seems formidable – particularly since a lot of relatively minor policy proposals that sound straightforward and commonsensical on paper have already foundered on the rocks of vested interests. To make action happen, we have to give government the political space afforded by an equally powerful civil society. As Monbiot concludes:

“Governments will pursue this course of inaction – irrespective of the human impacts – while it remains politically less costly than the alternative. The task of climate change campaigners is to make it as expensive

as possible. This means abandoning the habit of mind into which almost all of us have somehow slumped over the last ten years or so: the belief that someone else will do it for us.”

There is an unparalleled urgency here and a plan needs to be put in place immediately. The Tyndall Centre note that although “there is little evidence that the UK is about to embark on an absolute and significant reduction in its carbon emissions ... this is a situation that will necessarily have to change within the coming 2 to 4 years.”²⁷ And later:

“It is an act either of negligence or irresponsibility to continually refer to a 2050 target as the key driver in addressing climate change. The real challenge we face is in making the radical shift onto a low-carbon pathway by 2010-12 and thereafter driving down carbon intensity at an unprecedented 9% per annum, for up to two decades. The urgency with which we must make the transition to a low-carbon pathway leaves no option but to instigate a radical and immediate programme of demand management.”²⁸

Action now, besides giving us a better chance of avoiding the worst, also makes the task easier. A number of models suggest “that delaying action would require greater action later for the same temperature target and that even a delay of 5 years could be significant.”²⁹ Nicholas Stern also concludes: “There is time to avoid the worst impacts of climate change if strong collective action starts now ... Delay would be costly and dangerous.”³⁰

Reasons to be cheerful

Remarkably, and bearing in mind the great inertia of the status quo, the speed of change is quite breathtaking if we care to stand back for a moment. In the UK a massive civil society campaign (in which virtually all MPs in the country were met by constituents) has forced the government to introduce a Climate Change Bill into the House of Commons later this year which will make emissions targets legally binding on government. This would have seemed almost inconceivable twelve months ago. That said, the government is considering legislating for a weak, outdated target that does not stand up to the slightest scrutiny. A target properly informed by the latest science needs to be the next campaign focus, and that quickly needs to be followed by a plan of action that is fit for the task.

What about the rest of the world?

Monbiot doesn't address the question of how we're going to get an adequate global agreement in time that has buy-in both from the US and developing countries. But our inaction and lack of practical commitment at home has actually held back the international negotiations. Our “Do as I say, not as I do” attitude has given us no credibility at the UN. The slowness of the rich world to move first – as it promised to do under the UN Framework Convention on Climate Change³¹ – has actually harmed progress of the UN talks. China for example, a key player, constantly justifies its unwillingness to take on binding targets because it is waiting for de-industrialised nations to first take a strong lead. The US in turn, still uses the intellectually dishonest pretext that it won't act without China and India.

As an excuse for our poor record at home, UK government representatives still peddle the tired and false argument that “We're only two per cent of global emissions, so what's important is an international agreement.” This argument perpetuates the buckpassing that has characterised and stymied the negotiations. Furthermore, the truth is that as the country where the industrial revolution started, historically we account for much more than 2%. Also this figure does not take account of the energy in the transport and manufacture of all the goods we import. In a sense, China's growth is due to the fact that the West has contracted out its manufacturing base.

In the Tyndall Centre plan, the assumption is that adoption by the UK of a strong target informed by the best current science and expressed as a cumulative emissions budget (the total amount of greenhouse gases we can emit over a given time period), and backed up by an adequate policy package, quickly leads to similar action within the EU. That in turn leads to an effective international agreement that finally contains targets in line with the science, rather than notions of political acceptability.

There are even encouraging signs in the US. Besides unilateral action on target-led greenhouse gas reductions at state and city level, and with control of both houses of Congress having swung to the Democrats, there are three climate change bills that campaigners are rallying around that would affect an 80% cut in emissions in the US.³² There are also some serious legal challenges afoot there that could force the administration to act in the very near future.

The current state of the science means we can only talk in probabilities about whether or not a particular emissions target would keep us beneath the 2°C threshold. But, contrary to Lovelock's assessment, it also suggests that we still have a chance to avoid the worst and that the higher the goal we set, and the quicker we act, the more likely we are to avoid catastrophe. We have to maintain a positive outlook and brace ourselves for the challenges ahead.

Phil England is a freelance journalist and radio producer. His Climate Radio archive can be found at: <http://coinet.org.uk/climateradio>

Notes

- 1 James Lovelock, ‘The Earth is about to catch a morbid fever the may last as long as 100,000 years’ – *The Independent*, 16/1/07.
- 2 Recently, see for example: ‘Britain tries to block European targets for renewable energy’, David Adam, Environmental correspondent, *The Guardian*, 13/2/07.
- 3 For the full results see ‘Climate Panel – The Verdict’, <http://news.bbc.co.uk/1/hi/sci/tech/5152590.stm>; to hear the full discussion visit: www.bbc.co.uk/radio4/today/reports/science/lovelock_climate_20060706.shtml
- 4 John Schellnhuber interviewed 11/12/06 as part of The Two Degrees Show#11 which is archived at <http://coinet.org.uk/climateradio>
- 5 Simon Retallack, *Setting a long-term climate objective – A paper for the International Climate Change Taskforce* (IPPR, February 2005) p. 2. See also Bill Hare, ‘Relationship Between Increases in Global Mean Temperature and Impacts on Ecosystems, Food Production, Water and Socio-Economic Systems’ in Hans Joachim Schellnhuber (ed.), *Avoiding Dangerous Climate Change* (Cambridge University Press, 2006), pp. 191-9.
- 6 See their manifesto at www.stopclimatechaos.org/about_us/8.asp
- 7 See for example www.climatenetwork.org/about-can/index_html/three-track-approach
- 8 Quote by Raymond Williams used in Camp for Climate Action publication *Time Up* (2006)
- 9 RCEP's 22nd report, *Energy – The Changing Climate*, June 2000
- 10 Professor Sir David King in *Minutes of Evidence Volume II* (HC 130-II), Question 27, House of Commons Environment, Food and Rural Affairs Committee, 8/12/4
- 11 Dr Alice Bows et al, *Living Within A Carbon Budget* (Tyndall Centre, September 2006), www.foe.co.uk/resource/reports/living_carbon_budget.pdf
- 12 Ibid, p. 170
- 13 p. 15
- 14 Tyndall Centre, p.1164
- 15 *The Stern Review on the economics of climate change – executive summary*, p. 5 (HM Treasury, October 2006)
- 16 Dr Paul Baer with Dr Michael Mastrandrea, *High stakes: designing emissions pathways to reduce the risk of dangerous climate change* (IPPR, November 2006)
- 17 Monbiot summarises his key recommendations to government in ‘Here's the plan’ (*The Guardian*, 31/10/07) archived at www.monbiot.com/archives/2006/10/31/heres-the-plan
- 18 DEFRA Secretary David Milliband has publicly expressed enthusiasm about the scheme – for example, see Patrick Wintour, Milliband plans carbon trading ‘credit cards’ for everyone in *The Guardian* 11/12/06; Milliband commissioned a feasibility report on the scheme *A Rough Guide to Individual Carbon Trading – The ideas, issues and the next steps* (DEFRA/Centre for Sustainable Energy, November 2006); and the RSA has



launched a half a million pound three-year programme to explore the idea. See: www.rsacarbonlimited.org

- 19 This may well be Monbiot's way of meeting transitional demands, but for an account of Green Capitalism's incapability of “solving the problems embedded in capitalist social relations of production and in capitalist production's exploitative relation to nature” see ‘Garbage Capitalism's Green Commerce’, Rogers, H., *Coming to Terms With Nature: Socialist Register 2007*, eds. L. Panitch & C. Leys.
- 20 See chapter four in Larry Lohman, *Carbon Trading – a critical conversation on climate change, privatisation and power* (The Cornerhouse, 2006) downloadable at www.thecornerhouse.org.uk/pdf/document/carbonDDch4.pdf; hear also the interview with Soumitra Ghosh as part of The Two Degrees Show archived at http://coinet.org.uk/information/climate_radio/2d9
- 21 Tyndall report, p.162 (see note 10).
- 22 See for example www.transitiontowns.org
- 23 For The Two Degrees Show archived at http://coinet.org.uk/information/climate_radio/2d3
- 24 A joint GLA/Greenpeace campaign estimates the cost of clearing up the last generation of nuclear reactors to be a staggering £70bn – see ‘Mayor and Greenpeace launch nuclear poster campaign’ GLA press release #667, 15/12/2006, www.london.gov.uk/view_press_release.jsp?releaseid=10209
- 25 See www.greenpeace.org.uk/decentralisingpower
- 26 George Monbiot, *Heat: How to stop the planet burning*, p.133-134
- 27 Tyndall Centre report , p19 (see note 10)
- 28 Ibid, p.162
- 29 Hans Joachim Schellnhuber (ed.), *Avoiding Dangerous Climate Change* (Cambridge University Press, 2006), Executive Summary
- 30 *The Stern Review on the economics of climate change – executive summary*, p. 27 (HM Treasury, October 2006). Note that Stern does not consider the steep cuts in CO₂ to be economically justified and many have rightly taken issue with this. His own analysis suggests that the economically justified targets he proposes are very likely lead us to exceed 2°C target with all the consequences that implies.
- 31 See UNFCCC Article 3.1 <http://unfccc.int/resource/docs/convkp/conveng.pdf>
- 32 Henry Waxman's Safe Climate Act and Senator Jefford's Global Warming Pollution Reduction Act.