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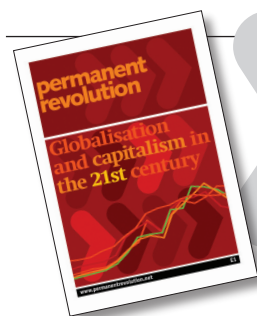
World leaders have finally woken up to the problem of global warming. But how do we ensure that the poorest aren't made to pay for the solutions? Helen Ward argues that radical environmentalists and even sections of the left want to avoid having to tackle capitalism, the real cause of the problem. **Permanent Revolution 7** Winter 2008

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CLIMATE CHANGE

A question of power

The world's leaders have finally woken up to the realities of the looming environmental catastrophe. They may argue over the speed with which it approaches and dispute their own culpability, but in Bali this December they will be falling over each other to show willing to do something. Helen Ward surveys the solutions on offer from political leaders and environmental campaigners and outlines a socialist alternative

THERE IS more CO₂ in the atmosphere than ever before, heading towards levels likely to produce severe climate convulsions within the next thirty years. The climate change sceptics have largely conceded on the scientific questions and debate now focuses on what level of reduction in greenhouse gases is required to avoid the planet reaching a point of no return.

Almost everyone agrees that the world needs to shift away from its current reliance on fossil fuel-based energy, and the need for a greater use of renewables, more efficient use of energy and, technologies permitting, the use of carbon capture techniques to reduce the damage from existing technologies.

Arguments start when discussion turns to which countries should change, and by how much. The forthcoming UN meeting in Bali will have to tackle this head on. The worst offenders like the US, Australia and Europe will try to defend their existing level of emissions, offering paltry reductions in the future. Rapidly growing economies such as China and India will demand the right to increase emissions to levels of the industrialised west, and therefore place the onus for change on the rich nations. Meanwhile, those economies that need to grow, in sub-Saharan Africa for example, will be largely ignored or perhaps offered a few leftover emission permits.

The second major area of dispute is how changes are to be achieved. The problem is global so local, or even national, solutions will not work. What can be used? The UN conference will look at various options – can they create a parallel carbon economy, a system of carbon taxes, tradeable permits? In other words, how can the magic of the market be used to solve this problem, with national and global institutions lightly regulating it to ensure it moves in the right direction? Environmental campaigners have more radical proposals in terms of pace and extent of change, but they also believe market mechanisms, albeit more tightly regulated, are essential to bring down emissions.

Few people, right or left, doubt the scale of the challenge. Gordon Brown, outlining his policies for Britain, believes, “it will require no less than a fourth technological revolution. In the past the steam engine, the internal combustion engine, the microprocessor, transformed not just technology but the way our society has been organised and the way people live. Now we’re about to embark on a comparable technological transformation to low carbon energy and energy efficiency . . .”¹

Brown is right. The changes needed do amount to a revolution, social and technological. But social revolutions do not take place with a few policy wonks producing reports. They involve major social upheavals, and the question everyone needs to ask is who is going to lead this revolution and who will end up paying?

George Monbiot writes passionately and convincingly on the environment and has put forward policies that he is convinced can effectively reduce carbon emissions. His book, *Heat*, was published in 2006, but barely a year later science has moved on and made some of its targets obsolete, an illustration of the challenges we face.²

In his book Monbiot sets out a programme for reducing carbon emissions in order to prevent warming of 2°C above pre-industrial levels. At that time he assumed a cut of 60% in global CO₂ emissions was required, with the UK needing to cut 90% by 2030. He has now revised this after new predictions suggest that a global reduction of 85% will be needed. To achieve this, rich countries like the UK must cut around 98% of their emissions. He still believes that the programme outlined in *Heat*, with some modifications, can deliver such a change through greater use of renewable energy, a massive investment in energy saving measures in homes and industry, changes in transport policy and restrictions on aviation in particular.

In recent publications he has amended his programme, placing less emphasis on local energy production, which he thinks will never produce sufficient energy consistently to allow people to retain a reasonable lifestyle. As he correctly points out, if a low carbon future is perceived as “shivering around a candle” then no-one will be won to the cause.

His new approach is to aim for the mass production of electricity using renewables, but on a continental rather than local or even national scale. He envisages a European grid which is powered by solar energy from massive panels in the Sahara desert and large wave and wind turbines in the oceans. This will produce as much electricity as we need to maintain much of the current

western lifestyle once we have adopted radical energy efficiency measures.

This new stance of Monbiot is controversial among climate change activists, many of whom think that “going local” is the central tenet of environmentalism. Whether the technology and capacity to “go continental” is fully available is disputed, but even if it were possible, other obstacles are enormous. Monbiot himself recognises some of the obvious difficulties, a major one being the privatisation of energy companies which thwarts the goal of a planned, Europe-wide grid supplying electricity.

Whatever the specific plan, how does he see this change being achieved?

“I am sorry to say that only regulation – that deeply unfashionable idea – can quell the destruction wrought by the god we serve, the god of our own appetites. Man-made global warming cannot be restrained unless we persuade the government to force us to change the way we live.”³

In the preface to the second edition he adds that government will not step up to the task unless we also demonstrate that we can all change. He bemoans the fact that individuals, including some environmentalists, will not change their own lives and continue to “want it all,” calling it another form of climate change denial. “But we can no longer blame the sloth of the global response to climate change only on governments and corporations. They cannot act until we want them to . . . They won’t take real action until we shown them that we have changed.”⁴

In summary, individuals have to make radical changes now, and this in turn will pressure governments to force everyone to live a low-carbon life. Variations on this approach, often with a greater stress on direct action, such as climate camps and demonstrations, are found in the plans of all radical environmental groups. Ultimately, the state has to curb emissions globally, nationally and locally.

This places great reliance on the state to act in a rational and progressive way. There are examples of this happen-

Arguments start when discussion turns to which countries should change, and by how much, and equally importantly, how changes are going to be achieved

ing, such as the introduction of limits on the length of the working day in the 19th and 20th centuries, health and safety legislation or even the imposition of smoking bans and speed limits. But in general the state at national level is there to defend the interests of the ruling class, the owners of the multinationals. Look at the way the Bush administration, and Clinton before him, defends the oil magnates at home, and their investments in the Middle East. Yes, governments will tackle climate change as it increasingly threatens economic interests, but we can be sure that they will do it in a way that makes money for

their business friends, while offloading the worse consequences on to those who suffer most already.

Most radical writers on climate change accept that underlying the whole sorry mess is the capitalist system, with its drive to ever greater production and consumption – as long as a profit can be turned. This system, with its obscene consumerism coexisting with dire poverty, is at the heart of the ecological problems. Expanding production for the sake of profit rather than need, while despoiling the environment and using up natural resources with scant regard to sustainability, is not the policy of a

The necessary investment in renewables and energy efficiency and the equitable distribution of resources can only be undertaken under a planned economy

few perverse capitalists, but the defining characteristic of the system.

In order to tackle climate change we need to tackle capitalism. Given what everyone says about capitalism's culpability, it is surprising that such a statement is so contentious. At an international climate change conference earlier this year, a Permanent Revolution supporter raised the question of getting rid of the global corporations. He was applauded by part of the audience, but platform speakers responded with the now familiar riposte that "we haven't got time" to get rid of capitalism even if we wanted to.

Climate change is more urgent, they argued. Monbiot

argues the same. He accepts capitalism is completely incompatible with what we need to achieve, but believes we can't wait for an alternative to capitalism, so we have to deliver solutions within a capitalist system in order to hold back runaway climate change.

This is where we differ with Monbiot and the rest of the environmental movement who argue that we have to tackle climate change within the constraints of the capitalist system, empowering the state to take action to cut emissions. If capitalism is at the heart of the problem then it simply will not produce a progressive solution. It is not a question of first tackling climate change, then capitalism; it is a question of tackling capitalism to stop climate disaster and to prevent it from offloading the costs onto the poorest in society.

If we allow capitalist states to deal with climate change it will be at the expense of the working class and the world's poor, and would strengthen capitalism. As socialists, we have to tackle climate change as an anti-capitalist struggle, using campaigns and action to build local workers' and community organisations to challenge the rule of the bosses and weaken, not strengthen, their state.

The necessary level of investment in renewables and energy efficiency and the equitable distribution of resources can only be undertaken under a planned economy: not the centralised, bureaucratic Soviet-type state, but one planned by and for the interests of the mass of the population. The middle class worriers in the environmental movement hate this idea – it is a socialist solution and that sounds threatening to their individual freedoms.

But millions of workers and poor people across the globe don't share such freedoms and lack even basic resources. Their need for decent jobs, wages, housing and education is just as urgent as the need to stop climate change; indeed the two are inseparable. We don't want a zero carbon economy if it leaves millions in poverty. At the heart of a socialist society is the plan to meet needs rather than generate profit, and this is the most secure way to tackle climate change and ensure social justice.

But the idea that our rulers will cooperate at an international level to solve the climate problem is utopian. The capitalist class is inherently incapable of organising itself internationally at the cost of its own national sovereignty. Its nationally based capitalist interest forces each bourgeoisie to seek competitive advantage over its rivals. Look at the UN with its delicate balance of great power dominance and failsafe vetoes. Look at how painful, piecemeal and slow the process of building the EU has proved over the last fifty years. Look at how hostile the Bush government has been to internationally set, mandatory targets on climate change. Look at how, even in Europe, they cannot put aside the national interest of their fishing fleets to prevent the stocks being fished out.

It is inconceivable that the G7 and BRICs (Brazil, Russia, India, China) will construct an international supra-national body with the authority, legitimacy and power to enforce change against individual states.

So the challenge facing us is not to set aside the struggle to overthrow capitalism while we focus on the more pressing issue of climate change: that is simply self-

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defeating. No, we have to take measures to tackle climate change in a way that puts working class communities at the centre of the process, establishing the inner connection between this struggle and their general exploitation under capitalism. Through the experience of this struggle

we can generate an unstoppable international force that unseats the culpable leaders and their pro-business governments and can install governments not beholden to profit and rapacious exploitation. This is not a diversion, this is essential for success.

FACTFILE: CARBON OFFSETTING

BOOK ANY flight online these days and you are likely to be offered the chance to offset your carbon emissions. Companies, individuals and even prime ministers are declaring themselves environmentally friendly as a result of offsetting all their emissions.

Tony Blair, for example, rather damaged his green credentials in January 2007 when he said of the proposal to restrict flying, "I personally think these things are a bit impractical, actually to expect people to do that – it's like telling people you shouldn't drive anywhere." In an attempt to save face the next day Downing Street announced that Blair would offset the holiday and personal travel of his family. For under £100, Blair could salve his conscience by "offsetting" the 12 tonnes of CO₂ the family contributed to the atmosphere by taking a return flight from Heathrow to Miami.

Put in some kind of context, 12 tonnes is the annual per capita CO₂ emission for each person living in the UK, and to tackle climate change we need to aim to reduce that to around one tonne.

The message is, don't worry everyone, you can carry on pumping out greenhouse gases just so long as you pay someone to mop up after you.

Even the biggest polluters on the planet are getting in on the action. Carbon Trade Watch describes the antics of BP in Australia, who launched a Global Choice scheme which promised people who bought their BP Ultimate petrol, that for every purchase "BP will automatically offset 100% of your emissions at no extra cost to you." Other companies linked to the scheme used it in their advertising: "Every time we re-fuel, we're

helping to care for Australia's natural assets . . . its nice to know that your Australian adventure is giving something back to nature," boasted one Campervan rental firm.

In fact the scheme was later slowly and quietly, scaled down as BP admitted, "We were spending a lot of money purchasing offsets for a customer base who had no idea we were doing it for them." All it amounted to was an advertising campaign, and when they found it didn't work they ditched it.

So does offsetting work?

The principle is that for every tonne of carbon you emit a company will balance that with an equivalent amount either of carbon absorption, through planting trees, or energy efficiency schemes elsewhere. The carbon offsetting industry is growing fast with a three-fold increase in value from 2005 to 2006, and estimated to reach €450m in a couple of years. The Rolling Stones claimed that 2,800 trees would offset the emissions from their 2003 UK tour. More recently, bad publicity about the tree planting schemes has led offsetting companies to switch to other initiatives such as buying and distributing energy saving light bulbs.

Unfortunately for the many celebrities and well-intentioned consumers who buy into these schemes, they are not the answer. They don't reduce emissions as they allow people and corporations to continue with their behaviour. In some cases effective advertising will even encourage more emissions. Secondly, the science is often flawed. A tree or even a forest planted today will not start to absorb significant amounts of CO₂ for years. When the tree dies it will either be used for fuel, re-emitting

the CO₂, or will decompose and produce methane which is even more damaging in the short term.

Even if it did work, the scale of forestation required is impractical – to offset UK emissions would require a plantation the size of Devon and Cornwall to be planted every year and be sustained indefinitely! Thirdly, the companies are often not buying new forests, they are buying the carbon rights of existing trees, or ones that other people are planting. Even the Kyoto Protocol didn't include "carbon sinks" in its system of carbon credits due to uncertainty about how much forests actually compensated for emissions, but the EU is pushing for existing forests to be included in credits in the future.

The problem with tree planting (or not) scams means that most offsetting has turned to energy saving, but even there the claims have to be questioned. Distributing low energy light bulbs, for example, may not be replacing higher energy ones but providing additional capacity since the recipients are generally very poor. The schemes may not be sustainable and, as with the trees, most of the money ends up in the profits of the companies rather than benefiting either local communities or the environment.

At the end of the day, carbon offsetting is a highly profitable business aimed at salving the consciences of high-polluting individuals and companies, but it will obstruct real reductions in emissions. Planting forests, resisting deforestation and expanding energy saving are important initiatives, but are no substitute for cutting emissions and should not be used to justify more emissions.

The changes needed

Reducing carbon emissions, whether by 60%, 90% or even 100%, requires a radical change in technology and lifestyle – the revolution that Gordon Brown mentions. On the technological side it means improving energy efficiency, investing in renewable energy sources and finding ways to reduce the impact of past and ongoing emissions through techniques such as carbon capture. There is plenty of evidence to show that the science behind many of the new technologies is sound, but the level of investment is pathetic. Energy companies continue to make massive profits from fossil fuels and have little incentive to invest in cleaner technologies.

The technology exists to provide a huge amount of electricity from renewable sources, including wind, wave, hydroelectric and solar, but the capacity is pitifully

small. For those hoping that the capitalists will voluntarily embrace progressive policies, the current stewards of the energy industry are not yet even on board. The International Energy Agency (IEA) doesn't anticipate a great technological change imminently, warning that: "The world faces a fossil energy future to 2030 . . . I don't see a disruptive new technology that changes the game in the next twenty to thirty years. It is not the nature of this industry," said John Krenickie, chief executive of General Electric's energy business. "Everything that has been developed so far – wind, solar and so on – has taken decades to come to fruition. My expectation is that it will remain that way."

The need for investment in energy is not simply because of global warming – economic and population growth, the imminence of "peak oil", after which production will decline and prices rise further, means that major infra-

CLIMATE CHANGE and environmental destruction are consequences of the drive for accumulation inherent in the capitalist system. Pulling the world back from environmental disaster is an urgent task that should be a priority for all socialists and working class organisations.

The only progressive way to solve these problems is through an internationally agreed plan for a massive reduction in emissions, while enabling the continued development of industry in less developed countries, linked to redistribution of wealth and resources to tackle inequality on a global scale. There needs to be a cap on emissions and rationing of energy and other resources based on need not on wealth (carbon or financial).

We must oppose all moves towards a market in emissions as this will benefit the rich at the expense of the poor.

There should be no flat rate carbon taxes but instead we should tax the polluters including the bosses of the energy and transport companies.

Re-nationalisation of the energy industry under the control of the workers and users with no compensation to the parasitic owners and shareholders, and a massive investment in renewable energy. For a workers' and community enquiry into energy safety and sustainability, including

Solutions: plan or market?

nuclear power, to determine new investment priorities. We need to ensure investment in the research and development of new technologies both for renewable energy and, if possible, making clean fossil fuel energy. There should be an international workers' and poor farmers' enquiry into the use of biofuels to ensure that land is not turned from producing food for humans into producing food for cars, and to establish whether any biofuel options are sustainable. There should be an immediate moratorium on expansion of crops for biofuel production.

We need to maximise energy efficiency though investment in new production and distribution techniques, improved design and maintenance of homes and buildings, better planning to reduce the need for transport where

possible – the list goes on. This kind of transformation needs to be controlled by action committees in local communities and workplaces, with regional, national and international co-ordination as necessary.

We need nationalisation of the transport industries, with a massive expansion of public transport under collective ownership, with workers and users taking over the planning and investment to ensure an efficient and integrated transport system. These committees should discuss the appropriate use of all transport, including privately owned cars, with their transformation into community pool cars available to all as necessary. There should be an immediate moratorium on airport and road expansion in the UK, with investment diverted to the rail,

structure development is needed. According to the IEA \$22,000bn needs to be invested in energy infrastructure by 2030 simply to replace outdated capacity and keep up with demand. If greenhouse gas emissions are to stop rising after 2025, a pitifully inadequate pace of change, the IEA estimates it will cost a further \$2,000bn.

Put together that is around \$140 a year for every person on the planet! China will add lots of extra energy generating capacity – it is expected to add 800,000 megawatts over the next eight years, the equivalent of the entire electricity capacity of Europe. Almost all of this will be coal fired with lots of CO₂ emissions.

But expansion of fossil fuel based energy is likely to continue in Europe, according to energy analyst Colette Lewiner: “The investment decisions being taken, such as commitments to new gas-fired power stations, show how the private sector will choose the most attractive short

term options unless it is pushed to do otherwise . . . For the short term, for electricity prices, there is good news, but if I think of climate change and energy security, I am a pessimist.”⁵

As the *Financial Times* points out, to start to make any progress towards improved energy efficiency, development of renewables and so on, we “require political leadership to win public support and remove barriers to investment. At the moment that leadership is lacking.” So even if we were not looking at ending carbon emissions, there needs to be a major change to the way energy is used.

What can we do?

Climate change can't be averted without a major global power shift, so it is tempting to conclude that chang-

pedestrian and cycle routes.

➤ In all industries we need workplace committees to monitor and control use of energy and other resources. Inefficient and environmentally destructive industries should be nationalised and placed under the control of workers and local communities, with plans drawn up to make them efficient and, where necessary, transform them to alternative uses to meet the needs of the local community. There is a massive amount of waste under capitalism, as commodities are made with the hope of sale in the market rather than based on a plan to meet need. The level of waste can only be brought down if we have a rationally planned economy, where people can decide collectively if it really is desirable to have 240 different models of a microwave or cola drinks, or whether investment might be more useful elsewhere. We cannot predict what such planning will decide, and it should be as local as possible but co-ordinated on a larger scale as necessary.

➤ There needs to be a transformation of agriculture and food production to ensure sustainability and to minimise the impact on the environment. Greater use of local production and organic methods to reduce carbon emissions, greater investment and research into sustainable production.

Each of these areas, and many more, can be expanded to move towards a sustainable future. The problem, the environmentalists and liberals will say, is that there isn't enough time to reach this kind of socialist solution. We disagree – the world working class is bigger than ever, concentrated in cities and factories across the globe, and no one can argue that the current system is meeting their needs. Surely the best way to save the planet is by calling on the power and the creativity of this large and productive class to step in and take over.

By bringing us to the brink of environmental catastrophe the bosses have proved beyond all doubt that they cannot run the system in a fair and sustainable way. Yet the environmentalists want us to give them another chance by saying that “we haven't got time to wait for socialism.” Of course we will struggle in the here and now for every reform and improvement that we can. But, in contrast to most activists, we think that all these struggles need to be leading in one direction, organising the fight for working class power. The programme we have started to outline is a transitional programme that embeds this struggle in the fight over immediate reforms.

By stressing at every point and in every struggle the need for workers' control, collective ownership and

decision-making, we have the best chance of stopping climate change through building a socialist alternative. The alternative of using the market, or calling on the capitalist state to solve the problem will not deliver anything except greater inequality and repression as global warming causes massive population migration and devastation. We don't have time to wait for carbon trading to work, we need to organise the alternative now.

That struggle for power is a fight against capitalism – a vicious fight, given the strength and resources of the state and international organisations that will defend their power to the death. It will take a revolution – a violent overthrow of the old order to have any hope of moving to the goal of socialism. Unlike Monbiot, who insists “the need to tackle climate change must not become an excuse for central planning”, we say only centralised planning can guarantee the necessary level of co-ordinated and complementary action to reverse the path the planet is on.

A socialist federation of workers' republics across Europe, Asia, Africa, Australasia and North America alone can establish a democratic international plan that combines optimum levels of production compatible with fighting climate change along with the reduction of poverty and inequality.

FACTFILE: GLOBAL WARMING

➤ EACH YEAR we pump 30 billion tonnes of CO₂ into the atmosphere. Most of this comes from burning fossil fuels and destroying carbon sinks such as forests. About half is absorbed by the remaining sinks while the rest accumulates in the atmosphere. In the pre-industrial era CO₂ concentration in the atmosphere was 270 parts per million (ppm): it now stands at 380 ppm. High levels of CO₂ and other greenhouse gases lead to global warming by effectively trapping more of the sun's radiation. If levels rise to 450ppm (which they will by 2040 at today's rate of increase) then irreversible global warming is likely. Some of the consequences of continued CO₂ emissions predicted by the IPCC are:

➤ Around 20% to 30% of plant and animal species face extinction if global average temperatures

exceed 1.5-2.5°C over late 20th century levels. At 3.5°C, between 40% and 70% of species risk extinction

➤ Oceans and seas will become more acidic as they absorb rising levels of CO₂ and the impacts on "marine shell-forming organisms" like coral reefs will be disastrous

➤ There will be more extreme weather events, with projected increases in droughts, heatwaves and floods as well as their adverse impacts

➤ The poor and the elderly in low-latitude and less-developed areas, including those in dry areas and living on mega-deltas, are likely to suffer most

➤ By mid-century "many semi-arid areas, for example the Mediterranean basin, western US, southern Africa and north east Brazil, will suffer a decrease in

water resources due to climate change."

➤ By 2020 between 75 and 250 million people in Africa will suffer from drought, with a consequent famine due to decreased food production

➤ In Asia by 2050 there will also be water shortages as freshwater availability falls, and coastal areas, especially heavily-populated megadelta regions will be greatest risk from sea flooding

➤ In small island states rising sea levels will increase storm surges, erosion and other coastal hazards threatening vital infrastructure

➤ Global warming is likely to alter patterns of disease, with malaria and other infections becoming more widespread, more waterborne diseases from flooding and problems associated with famine and mass migrations

Trading, taxing or rationing?

➤ THERE ARE two broad policy approaches to reducing carbon emissions – taxing and rationing – and many programmes use a combination of the two. The UN International Climate Change Conference in Bali will be debating a post-Kyoto accord to come into force in 2012. It is likely to be similar to Kyoto and the EU Trading Scheme (EUTS), which set targets for reducing emissions – a pathetic 5.2% by 2012 in the case of Kyoto – and then share out the rights to emit based on existing levels.

This then establishes a market in carbon. The commodity is the right to make emissions, the idea being that companies have an incentive

to cut emissions so that they can then sell on their surplus. The EUTS, established in 2005, was a joke and is more of a polluters' charter than a green policy for fighting climate change. Carbon permits were so generously handed out that energy companies were set to make a £1bn windfall from them without making any reduction in emissions!

Taxing emissions is an additional way of trying to make the market the driver for change. While most radical groups criticise Kyoto and the EUTS, the principle of using market mechanisms is embraced in their support for more stringent agreements and in particular

"green taxes". Operating within the framework of capitalism, taxes are an obvious way of trying to change behaviour.

Congestion charges, road charging and aviation taxes are examples. The problem is that these are regressive taxes – they increase the cost for all consumers and hit the poorest hardest. While they will encourage some producers to shift to more environmentally friendly products, such as efficient cars, they still allow those with the money to continue to pollute as much as they want.

At a global level, putting a price on carbon emissions by taxation and emissions agreements, creates a market, and as with all markets, will lead to increasing inequalities. Rich countries and individuals will be able to continue to use energy as they wish and the poor will have to sell their rights in order to survive.

The most progressive take on the carbon market is the proposal of "contraction and convergence" (C&C). This was first proposed by the Global Commons Institute in the early 1990s. It involves an

ing the way individuals live will make little difference. In rich countries like the UK around 50% of our carbon emissions are from activities such as driving, flying and household chores. A further 25% are from the use of workplace power, 10% from public infrastructure and 20% from production, including food processing.

So if everyone in the UK stopped flying, abandoned our cars, turned the heating down, stopped leaving the TV on standby, put solar panels in the roof and got double glazing, there would be a substantial cut in emissions. The trouble with this as a “call to action” is that it just seems pointless to many people who think, “why should I sell the car and struggle with inadequate public transport when I see increasing numbers of people with gas-guzzling 4x4s on the road? Why should I give up my one holiday a year in the sun when the boss flies off round the world five times a year for a “working” conference in some fancy resort?”

The answer is not to abandon the idea of “behaviour change”, but to make it collective, political and progressive rather than individual, isolating and punitive. Action groups in communities and workplaces can start this process, planning better use of local transport, including shared car schemes. Trade unions can organise in the workplace and across industry to discuss better use of resources, more flexible working and longer holidays and better pay to reduce the reliance on cheap quick flights.

agreed timetable for contraction of emissions to a level required to halt climate change, with the final level involving convergence to the same per capita level for all countries. This has the great merit of addressing current inequalities in the use of energy.

At the moment the annual per capita CO₂ emission in the US is 20.4 tonnes compared with 0.1 tonnes in Ethiopia and just under 4 tonnes in China. Convergence would clearly be progressive. Most supporters of C&C argue that until convergence was reached, poorer countries and individuals would be able to sell their unused credits and this would address inequalities in the world.

It's a fine idea, but how is it going to happen? In June 2007, the Centre for Alternative Technology published a detailed programme, *Zero Carbon Britain 2007*. It endorses the C&C position and continues: “To do this, the economic drivers must be transformed from those of today, where the primary constraints are financial, to an economy in which

carbon becomes the overriding constraint. With such a shift, the most economically effective option is also that with the lowest embodied emissions. In this way the economy itself becomes an engine for rapid change and a race out of carbon.”

This transformation occurs through a system of carbon allocation which would take the form of “tradeable energy quotas” – each household and business gets these free of charge and can spend them or trade them. A similar idea is included in the Liberal Democrats’ autumn 2007 conference policy. Each person has a carbon allowance and each time they buy electricity, petrol or a flight they have to surrender credits. Any left over at the end of the year can be sold.

In some schemes everything has a carbon price – so that everything you buy has to be paid for with both money and carbon credits. In the scheme favoured by Monbiot, proposed by Mayer Hillman and David Fleming, each person gets a carbon debit card that they can

Improvements in housing, most desperately needed by the poorest 20% of people, should be at the top of demands by action groups on local councils. Waste can be reduced by the extension of “free cycling” schemes rather than the constant demand for new consumer goods.

Once people get together there will be endless ingenuity in reducing energy bills and ideas for transforming the way we live and work – and it will doubtless involve taking on the local council, transport chiefs, the bosses and other anti-social members of the community. But that's what revolutions are all about, Mr Brown.

ENDNOTES

1. Gordon Brown, speech to the World Wildlife Fund, November 2007, available at www.labour.org.uk
2. *Heat: how to stop the planet burning*, George Monbiot, Allen Lane 2006. See also: “Messages from a warming planet”, review in *Permanent Revolution* 3, Winter 2007
3. *Ibid*, p xxv
4. *Ibid* p xvii
5. *Financial Times*, 9 November 2007

spend on, but it is only used for energy and transport. Other commodities have the carbon cost included in their price.

These programmes all depend on transforming the right to make carbon emissions into an internationally tradable commodity. Monbiot and others can see some limitations:

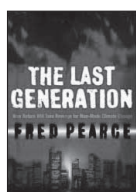
“In the UK, 30% of the very poor . . . use more energy than the national average. The main reason for this is that they live in terrible houses. A carbon rationing scheme cannot be just unless is it accompanied by a massively accelerated programme to improve the condition of the poorest people's homes”.¹ He also notes that the poor may have inefficient cars, another situation in which they need “help”, since the carbon market will not solve all their problems.

NOTES

1. Monbiot, *op cit*, p 47

Messages from a warming planet

The warmest year on record in the UK was 2006 and 2005 was the hottest on the planet. Clare Heath and Pete Ashley take the temperature of the global warming debate; who or what is to blame and what can be done?



The last generation; How nature will take her revenge for manmade climate change

Fred Pearce / Eden Project Books / 2006 / £12.99

Heat - How to stop the planet burning

George Monbiot / Allen Lane / 2006 / £ 17.99

Socialist Register: Coming to terms with nature

Edited by Leo Panitch and Colin Leys / 2007 / £15



IF YOU are under thirty and of a nervous disposition look away now. The catalogue of imminent disasters lining up to engulf you before your retire are pretty awesome: melting permafrost, disappearing forests, acid seas, burning peat, submerged plains and even a mega-fart of methane escaping from beneath the ocean floors.

These processes, all part of the changing global climatic system, will lead to social devastation, as coastal communities and then whole continents, succumb to the effects of global warming.

Last year, awareness of the problem moved up a notch. In the UK some of the most ardent climate change-deniers, such as the *Sun* newspaper and *The Economist* business magazine, finally accepted the evidence that the climate is changing and that this could have enormous effects on humanity. The recently published Stern Report commissioned by the Blair government, on the economic

effects of global warming, is another important example of capitalism recognizing the dangers, if not providing the solutions.

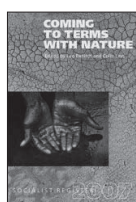
Aside from a shrinking band of climate change deniers most scientists and governments accept the evidence of the Intergovernmental Panel on Climate Change, the leading research organisation in the field, which shows the necessity of stopping global average temperatures from rising to more than 2°C above pre-industrial levels. This means no more than 1.4°C above the current point. Why?

Because a global rise of 1.5°C would mean an extra 400 million people being exposed to water shortage and the loss of 18% of the species on the planet. If emissions are not greatly reduced, temperatures are likely to reach that point in about 2030.

A clutch of recent books and essays outline the scale and urgency of the problem and what needs to be done now to prevent the impending catastrophe.

The vision in Fred Pearce's book is pretty apocalyptic, as are many of the predictions. But the main content of the book is a popular explanation of the science behind climate change and its knock-on effects.

It helps you understand why the people of South Pacific islands like Tavalu have to move en masse to New Zea-



land as their country disappears under the rising seas; why the Larsen B shelf of floating ice, probably in place for 12,000 years and larger than Luxembourg, suddenly detached from Antarctica and shattered!

Pearce, an experienced journalist from *New Scientist*, who has worked on environmental and climate issues for nearly two decades, outlines a series of linked processes that will occur through the build-up of CO₂ and other greenhouse gases.

Near Svalbard in the Arctic, there is “a giant whirlpool in the ocean, ten kilometres in diameter, constantly circling anti-clockwise and siphoning water from the surface to the sea bed three kilometres below.” A series of such “chimneys” is thought to be the starting point of the ocean circulation; water sucked down in the arctic then gradually moves along the ocean bed southwards, eventually resurfacing to join the Gulf Stream.

Apparently there used to be as many as a dozen chimneys, but the shrinking of the Arctic ice is making them disappear. Now there is only one left. No one fully knows the implications of this observation, but scientists speculate that this could herald a sudden climatic change as the ocean conveyor is reversed.

Another, even greater, threat lies beneath the vast tracts of Siberia. “There beneath a largely uninhabited wasteland of permafrost, lies what might reasonably be described as nature’s own doomsday device. It is primed to be triggered not by a nuclear bomb but by global warming. That device consists of thick layers of frozen peat containing tens of billions of tonnes of carbon.” This bog is beginning to thaw, and as it does it releases this carbon in the form of methane. Pearce describes two recent visits to Siberia, a few years apart. Over that short time he saw thousands of kilometres of permafrost that appeared to have dissolved into a mass of lakes. He suggests:

“If the methane (contained in the permafrost, about 450 billion tonnes) all came out at once it could raise temperatures world-wide by tens of degrees. That might be an unlikely scenario. Even so, the odds must be that melting along the zero isotherm is destined to have a major impact on twenty-first century climate.” (p117)

Pearce argues that the gradual climate change included in the predictions of the UN Intergovernmental Panel on Climate Change (IPPC) is less likely than a more abrupt set of changes, resulting from the reaching of key tipping points. He is not alone in this outlook. He quotes Jim Hansen, director of the NASA Goddard Institute for Space Studies in New York, and George Bush’s top climate modeller. In 2005 Hansen addressed the American Geophysical Union, saying, “We are on the precipice of climate system tipping points beyond which there is no redemption” (p15)

Marxists should not be surprised by these predictions. Scientific enquiry is inherently materialist, and research on climate change reported in this book demonstrates the dialectic at work. Dialectics embodies the law of the transformation of quantity into quality (and vice versa), exemplified by the “tipping points” that are repeatedly referred to in the climate change literature.

The process of change, including warming itself, does not occur as an endless slow progression of incremental

increases, but is likely to lead to sudden qualitative, and in this case catastrophic, changes.

This dialectic can only be understood through a detailed investigation of the interactions of the forces at play to unveil the key relationships that will lead to sudden transformations. Environmental scientists use ecological methods – ecology being the study of the relationships between all living organisms (including humans) and the environment, especially the totality or pattern of interactions.

To understand these interactions, scientists study feed-

Scientific enquiry is inherently materialist, and research on climate change reported in this book demonstrates the dialectic at work

back mechanisms that underpin that balance. Feedback mechanisms can be negative, where they restore balance and maintain stability, or positive where they lead to escalating change.

One example of positive feedback described by Pearce is the ice-albedo effect (albedo is a measure of the reflectivity of the earth’s surface). Global warming leads to ice melting; this in turn means the ice is replaced by a darker surface of ocean or land which reflects less light; with less reflection the land or sea absorbs more heat, thereby amplifying the warming – a positive feedback mechanism that will lead to escalating warming.

It could also happen in reverse, with cooling leading to more ice, more reflection and further cooling. It is not difficult to see why a number of these positive loops can act together leading to accelerating change. The relative balance of positive and negative feedback mechanisms underlies the uncertainty of predictions about climate change. Most models assume that feedback will amplify warming, but Pearce accepts that other scientists think that feedback cycles will moderate change.

But you have to look elsewhere than Pearce if you want to know what exactly is responsible for the impending catastrophe. Most ecologists would subscribe broadly to the notion that excessive “industrialism” and western consumerism is at the root of the problem. But this inexact and misleading diagnosis abstracts from the specific social relations of production from which fossil fuel energy dependence emerged and predominated, it fails to locate the class interests that defend this form of energy dependence and obstruct alternatives from emerging.

The 2007 issue of *Socialist Register*, Coming to terms with nature, helps fill this gap. In an essay on “fossil capitalism” Elmar Altvater argues that “at the centre of the analysis of capitalism’s relation to nature is its inherent and unavoidable dependence on fossil fuels, and particularly on oil.” (p39)

He explains how fossil fuel energy fitted industrial capi-

talism's needs well in the 19th century. The advantage of fossil fuels is that only a small amount of energy needs to be used to extract the greater amount of energy locked up inside. The exploitation of fossil fuels also allowed the location of manufacturing to be decoupled from the source of local energy as transport was reasonably simple. Unlike solar energy fossil energy could be used 24/7 with constant intensity and allowed production to take place as the needs of accumulation require.

But the success of this energy regime is contradictory. In the first place emissions are harmful and secondly fossil fuel resources are finite; as Altvater says: "The price of the advantages of the fossil energy regime is ecological destruction and the necessity of finding a solution to the limits of fossils energy's availability." (p45)

Of all fossil fuels, oil has had the biggest impact and its depletion poses the greatest threat to capitalist accumulation. Until the beginning of the 1980s global oil discoveries were larger than oil consumption. Since then reserves have shrunk.

Oil production has either peaked or is about to in the next decade. Up to 2004 accumulated global oil consumption was about 944 billion barrels; but the consumption of the rest (approximately the same amount) will be a lot quicker because of rising demand, the probability that "proven" reserves are smaller than stated by the oil companies and OPEC, who have a financial interest in inflating the figures and as the exploitation of marginal reserves becomes more expensive not all reserves may be exploited for commercial reasons.

Capitalism's continued addiction to fossil fuels while supplies dwindle ensures that the ecological crisis overlaps and reinforces a social and political crisis.

As the availability falls and as costs and demand rises the great oil consuming nations of the global north and

China, India etc press more urgently to do whatever is necessary to secure supplies; and when these are locked below the land or sea of nations in the global south then diplomatic and financial pressure is brought to bear on them by the imperialist nations in the interest of "oil security". And if this does not work, as in Iraq, then invasion and occupation become an option. Since by 2010 the OPEC Middle East countries will account for more than 50% of output this region is set to remain a powder keg of oppression, military adventure and anti-imperialist resistance.

Can capitalism prevail?

In a further contribution in *Socialist Register 2007*, Daniel Buck asks whether, faced with the ecological crisis, capitalism can prevail? He draws attention to the adaptability of capitalism over two centuries and suggests there are ways that "capitalism can accumulate itself out of, or through an ecological crisis." (p66) He points to the possibility of declining fossil fuel reserves prompting new waves of research and development, and innovation that establish new technological and production frameworks, based on new energy sources.

While this cannot be discounted as a possibility it is more likely that capitalist survival of the ecological crisis, riven as it is by inter-state and inter-class rivalry, would take the form of a social regression (that is, an approach towards barbarism). Resource-rich, militarised powers would seek to offset the effects of climate change for as long as possible by adopting ever more authoritarian strategies. Whole countries, regions and continents would become "gated communities" in which the orgy of consumption would continue while the rest live with

AVIATION

Flying into trouble

AVIATION IS the fastest growing source of CO₂ in the UK, having increased by 70% since 1990. Although flights now account for only 3% of emissions this is set to double by 2030 as UK air passenger flights are predicted to double from their present level of 228 million passengers in the next 25 years – the equivalent of another Heathrow every five years!

But its gets worse because due to complex chemical reactions at high altitudes aircraft emissions make flying the most highly polluting form of transport in the world.

Yet the UK government is

committed to reducing carbon emissions by 60% by 2050, recently announcing a Climate Change Bill in Parliament. How is this reconciled with the announcement of transport secretary Douglas Alexander in December 2006 that the government was going to allow airports to expand as they wish? It isn't.

The scope for aviation fuel efficiency savings are negligible so what can be done? Monbiot insists, "If you fly you destroy other people's lives" but higher sales taxes on flights hit working class people harder while business

absorbs the costs and adds to prices, hitting us twice.

The Department of Transport argues that the aviation industry "should pay the external costs its activities impose on society as a whole", but it doesn't explain how.

The answer must involve a moratorium on further airport expansion alongside a massive investment in rail transport, paid for out of taxes on airlines and businesses.

Business flights must be penalised and the use of air-freight for the transport of perishable luxury goods halted. If workers choose to take greener methods of transport for holidays then they should be given longer holidays to compensate for longer journey times.

the effects of rising temperatures and seas, and barren tracts of land.

Even Buck recognises that for the more benign version of capitalist adaptation to occur, the state would have to act (under mass pressure from below) from as the “general capitalist” and cajole and force individual sectors to act radically in the next decade or so to curtail carbon emissions.

For while the bourgeoisie in abstraction needs to protect the environment, individual capitalists are driven by competition to cut costs and this generally means despoiling the environment both in the immediate sense of local pollution, but also in the longer term – they have little interest in reducing energy use if to do so is a drain on profits.

In some situations the capitalist state can act on or even against, individual capitalists in order to protect the longer term interests of the bourgeoisie as a whole. The classic example of this is the role of the state in the Factory Acts as described by Marx – individual capitalists are fully capable of destroying the very source of their profits, namely the working class, in the pursuit of short-term competitive advantage.

The state, under pressure from the working class, moved in to limit the exploitation of workers by restricting the length of the working day and the employment of children. The impetus to introduce such changes came both from the working class and from sections of capital who would gain a competitive advantage from investing in technologies that increased productivity. Current attempts to address global warming through international agreements such as Kyoto, “green taxes” or through technological approaches (energy saving light bulbs, renewable energy sources) should be analysed in the same way – they are promoted by more enlightened sections of the bourgeoisie, under pressure from workers and environmentalists, who can see that long term accumulation is threatened by their actions. This is the approach of the *Stern Report*.

But it is utopian to think that the bourgeoisie as a whole, internationally, will set aside their conflicting national interests, suddenly see the light and agree to measures that restrict profits now, in the name of saving future generations or even future accumulation. Unlike 19th century Britain, the regulations to reduce greenhouse gas emissions sufficiently have to operate globally.

An action plan

The debates about whether global warming was happening and then about the relative contribution of human activity to this warming, have receded as almost all scientists and even politicians, accept that the world is getting warmer, increased CO₂ levels are at least partly responsible and that human activity is producing a huge amount of CO₂ and other greenhouse gases.

The capping and reduction of carbon emissions is then the most immediate task. Of these, methane seems to pose the most pressing problem. Pearce argues that we need to tackle methane emissions in the short term as these

have a more rapid initial effect (methane is 10-20 times more damaging than CO₂ but its effects are relatively short lived), while CO₂ is problematic as it lasts much longer. Experts such as Hansen agree that it is vital to reduce methane emissions and quickly too, to gain time. He also argues for reducing soot, much of which is created by fires used for cooking in Asia and Africa. Soot has a local cooling effect but a much wider warming effect and acts in the very short term.

In his book, *Heat*, George Monbiot argues that in the relatively rich, industrialised countries CO₂ emissions need to be cut by about 90% by 2030, including 83% for France, 87% for the UK, and 94% for the USA, Canada and Australia. By contrast, the Kyoto Protocol to the UN Framework Convention on Climate Change, the only international agreement on climate change in existence, commits it's signatories to cut their carbon emissions by a mere 5.2% by 2012.

Any cuts in carbon emissions will have to be the result of combining and expanding several existing technological advances: more efficient use of energy, a switch to low-carbon and carbon-free fuels (renewables), capturing and storing/recycling some of the emissions that cannot be prevented, and finding new methods of storing energy from renewable sources such as sun and wind.

Here we immediately hit a controversy. Pearce [see panel below] and other eminent ecologists, such as James Lovelock, believe the urgency of the problem of climate change and the time lag involved to get renewable energy resources up and running on the scale required, dictate that any action programme has to include an expansion of nuclear power.

But Monbiot and Altvater are trenchantly opposed to the expansion of nuclear power on three grounds. First, that nuclear plant building and uranium mining are big

Pearce's programme for action

Pearce's book describes progress in some of these areas and then moves onto outline a brief “action programme” to cut emissions by 25 billion tonnes over 50 years.

- › Universally adopt efficient lighting and electrical appliances in homes and offices
- › Double the energy efficiency of two billion cars
- › Build compact urban areas served by efficient public transport, halving future car use
- › Effect a fifty-fold worldwide expansion in bio-fuels for vehicles
- › Embark on a global programme of insulating buildings
- › Cover an area the size of New Jersey with solar panels
- › Quadruple current electricity production from natural gas by converting coal-fired power stations
- › Capture and store carbon dioxide from 1,600 giga-watts of natural gas power plants
- › Halt global deforestation and plan an area of land the size of India with new forests
- › Double nuclear power capacity
- › Increase tenfold the global use of low-tillage farming methods to increase soil storage of carbon

CO₂ emitters; secondly, that uranium will run out within four decades; and thirdly, that there is no safe method available to store nuclear waste.

Either way at present investment in nuclear power dwarfs that of renewables. In *Socialist Register* Harriss-White and Harriss point out that the UK government has invested a mere £3.6m into research on renewable energy between 1994-2004, "a sum completely swamped by its investments in oil infrastructure and other fossil fuel projects." (p79), while "State economic support for renewable energy is generously estimated as having been the equivalent of 2.5% of the subsidy for the nuclear industry's processing costs alone." (ibid)

It is utopian to expect each individual capitalist enterprise to consider the long-term impact on the environment of their energy consumption and emissions

These books all contain detailed prescriptions and arguments to prove that the expansion of renewable energy to meet the challenge of climate change is technically feasible and socially urgent but that such solutions face enormous political obstacles, as business lobbyists and bought-and-paid-for governments talk the talk on climate change but refuse to walk the walk.

Pearce tends to imply, for want of anything else, that a few well-argued briefings may see Gordon Brown become rational, adopt an action programme and fight for its implementation across the globe. Some hope. Brown, as he so frequently reminds us, will rule for business and business cares about profits not climate change. The UK government has refused to set annual targets for reducing carbon emissions; the oil companies funded scientists for years to challenge the need to cut carbon emissions and the Bush administration refuses even the most limited action of the Kyoto protocol to protect the interests of "the America People" or more accurately the SUV-driving republicans voters and oil multinational donors.

Unfortunately for Pearce, Monbiot and the rest, the

people in power across the globe are irrational when it comes to the environment. They are interested in profits – not rationality. They are there to defend a system which is inherently wasteful and destructive – capitalism.

If as a result of its unfettered expansion, capitalism destroys the environment, then that may well be counterproductive for some sections of the capitalist class but capitalism is not a planned system with a central command that addresses such consequences. By its very nature it is made up of a series of competing businesses and states, each trying to maximise profits.

It is utopian to expect each individual capitalist enterprise to consider the long-term impact on the environment of their energy consumption and emissions. A few companies are trying to exploit the growing market in renewable energy, energy saving devices and insulation but most are impervious to long term environmental needs. They have no choice – to care about the environment may well mean they would go bust.

This is where the reform agendas of excellent commentators like Pearce and Monbiot fall down. They do not tackle the underlying cause of global warming – the drive to accumulation inherent in a capitalist economy and they do not recognise the need for centralised planning to achieve the major shifts required. Take an obvious and elementary idea of Pearce's to: "embark on a global programme of insulating buildings", how is this to happen?

More than half the globe lives in such poverty that to talk of double glazing hardly seems relevant but even within Europe the insulation of all buildings would mean a massive amount of investment in old buildings and stringent controls on new buildings. Who will enforce it, pay for it and make it happen? The capitalists won't. Over the past two decades there has been a shift to deregulation of businesses and towards lower taxation and devolution of powers. Companies will resist expensive directives to change and certainly will not voluntarily do so within the relatively short time span required. Only the working class can force them to act against their fundamental profit driven interests.

Action is urgent. Carbon emissions need to be cut now and continuously. A programme for implementation after capitalism has been overthrown in one or more major centres is not sufficient. But neither can it rely on the workers and the poor of the world limiting their own consumption in order to save the planet. The workers and the poor generally don't consume that much and what they do consume they can't afford to give up. Cuts through working class self-abnegation will be marginal when compared with the scale of the problem and unjust when compared with the wealth of the bosses.

Instead we should tax the rich and use the revenues to invest in renewables, to protect the rainforest from further annihilation, the destruction of which accounts for 25% of emissions alone and halt the wasteful gluttony of the super rich elite, the top 1% richest people own 40 times the wealth of the bottom 50%. Business should be forced to cut unnecessary travel before working class give up their foreign holidays. Unions should demand that workers get longer holidays to compensate

GLOSSARY

Greenhouse gases: The gases that trap heat in the earth's atmosphere. The main ones are CO₂, methane and water vapour.

Greenhouse effect: Energy from the sun enters the earth's atmosphere as light and heat. Some is absorbed by the earth, vegetation and the sea, the rest is reflected back into space. Greenhouse gases trap heat and reduce the amount of energy going back into space, thereby producing global warming.

Permafrost: Parts of the earth's surface are covered in soil and vegetation that is "permanently" frozen. In some areas this layer can be two kilometres deep. When these layers melt, they release large amounts of methane.

for longer journey times if they elect to travel overland and not by air.

There is an urgent need for a more radical approach to addressing climate change by looking at who has the interest and the potential power to change. People who work on the land, in the factories and live in the cities have a direct interest in protecting the environment, they will feel the brunt of the effects of climate change. The experience of Hurricane Katrina shows that it was the poor and oppressed who suffer from unpredictable climate change.

We need to find a way of harnessing the power of the workers and oppressed across the globe to tackle climate change. The key has to be in using struggles around the immediate interests of the workers and poor peasants to build the kind of organisations that can build a different type of social organisation and challenge to global bourgeoisie for power.

It is in the immediate interest of millions of workers to improve public transport. Campaigns are needed to expand bus and rail travel and promote cycling and walking within local areas. But rather than leave this in the hands of local bureaucrats and rail bosses we should start with transport workers and users deciding fares the expansion of routes, the frequency of timetables etc.

Funded by a steeply progressive tax on the rich, this will bring workers and users into conflict with the rich. It will require a massive campaign of action – drawing in wider sections of the community and building action committees to expropriate, expand and control public transport.

On energy conservation, we should establish groups in each workplace to review current usage. Office workers know how and where energy is wasted, for example leaving computers on standby, keeping buildings heated and lit overnight etc. The employers prefer this as it makes it quicker to get everyone working each day rather than “waste” precious time switching on lights and computers in the morning.

We should demand that all buildings are run in an energy efficient way and that this is enforced by committees of workers and users of the buildings. In less developed countries there is an even greater potential for mobilising workers and peasants. Massive campaigns for affordable, energy efficient housing for all will improve the lives of millions world-wide.

Local struggles alone however successful will be limited, unless they start to link up and address the other problems of waste and inequality in capitalism. But by rooting local struggles in organisations of workers and communities to control transport, production or even office lighting, the seeds of a better way of organising society – socialism – are being sowed.

We recognise that climate change is one of the most fundamental challenges of this century. Capitalism will be unable to solve it, and in the process of trying will condemn the majority of the world to greater poverty and exclusion as they build fortresses for the rich and deny others access to energy and development. To really address climate change we must rid the world of the capitalist system that creates it. And urgently.

CAR INDUSTRY

Can cars be made greener?

CUTS IN car pollution will play an important part in reducing carbon emissions. Yet in the UK since 1997, rail and bus fares have risen in real terms by 7% and 16% respectively, while motoring costs have fallen by 6%. While walking and cycling have declined, a quarter of all our car journeys are less than two miles. A mere 12% of freight travels by rail. Even the more energy-efficient cars only save around 30% on emissions.

Average fuel efficiency for cars has improved slightly in the EU, 8% since 1995. In the USA it has deteriorated, average mileage per gallon is now 22.1, which is worse than the Model T Ford, which in 1908 managed 25!

As Monbiot states, “the car manufacturers will continue to produce the odd demonstration model to keep the regulators off their backs, but while they make most of their money from sports utility vehicles they are not interested in serious fuel economies”.

Only a planned, (very) cheap or free, comfortable, regular and efficient transport system, run by its users and workers poses any chance of seriously reducing the emissions from car use or of forcing trucks off the road.

The various alternative technological solutions to reduce car emissions are unlikely to deliver, governments in Europe

and North America are developing bio-fuels as an alternative to petrol. George Bush is one of its biggest supporters. But the carbon-saving from using bio-diesel is a tiny fraction of the possible emissions and the loss of forest carbon sinks caused by its production. Palm-oil imports from Malaysia and India, together with ethanol produced from rainforest land in Brazil lead to environmental destruction in these countries and will literally mean crops for cars not people. Hydrogen is unlikely to be a viable or a safe fuel alternative within the next twenty years according to a *New Scientist* report in 2003.

Transport, taxes and tackling global warming

Dear comrades

The review article in your last journal, "Messages from a Warming Planet", included interesting insights into the relationship of capitalism and climate change. It highlighted the importance of positive feedback mechanisms and the possibility of abrupt changes in climate. This is something that governments are constantly trying to deny.

As George Monbiot reported in the *Guardian* recently, the scientists of the Intergovernmental Panel on Climate Change were forced to remove statements based on such an understanding, including the following warning which disappeared: "North America is expected to experience locally severe economic damage, plus substantial ecosystem, social and cultural disruption from climate change related events."

One area you didn't address was the use of carbon taxes, quotas and trading as a way of forcing a reduction in emissions, an important debate socialists need to engage with. The latest trend in "green capitalism" is to develop a market in carbon emissions, with countries, companies and even individuals given a carbon quota which they can then trade.

Once again this is favouring those who already produce high emissions, who also control most of the wealth. The poor can sell their carbon quotas to the polluting rich, and use the money to buy food and other essentials, while the rich can salve their consciences and carry on polluting.

A related approach is the use of taxes within a country - in the UK we have seen the various political parties competing for the most green fiscal policy award. But what do "green" taxes do? As taxes on consumption, such as fuel, they are regressive and disproportionately hit the poor, which reinforces and even deepens existing inequalities. Increased tax on petrol and oil, for example, has a bigger impact on poorer families who have to spend a greater proportion of their income on fuel. The better off can easily absorb the increased cost.

Although increasing petrol taxes, and related measures such as road charging and congestion charges appear to be progressive measures to reduce car use, they are not progressive taxes because they hit the poor harder.

Ken Livingstone was right to try and reduce private vehicle use in London and to promise to use the revenue on improved public transport. But the congestion charge, like petrol duty, should be in the form of a steeply progressive tax with those who can least afford it paying less than those who can. The only really fair way to do that is to have a steeply progressive income tax in order to pay for improved public transport, at the same time as restricting people's rights to use their cars for unnecessary journeys.

Labour, Livingstone included, can only ever envisage using market forces, such as price, to regulate. Instead, we should argue for democratic decisions over limits on

car use, with no-one being able to "buy" their way out of environmental responsibility.

Last year David Miliband, Labour minister for the environment, proposed carbon credit cards to ration individual use - everyone would have a set amount of carbon they could use and when they bought petrol, or a flight, they would have their carbon credits docked. If you got to the point of having no carbon credits left you could buy more on the open market.

Once again market forces are proposed as a solution to the problem. In effect this is a way of privatising responsibility for climate change, and the rich will just pay and pollute, while the less well off will bear the burden of reducing carbon emissions.

All over the place middle class people concerned about climate change have taken it upon themselves to set up "carbon rationing groups" where they strive to reduce their carbon footprint. Anyone going over an agreed limit has to cover their debt through appeals to others in the group. Even the globe trotting Prime Minister has promised to "offset" his carbon emissions.

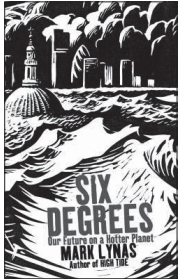
Does any of this do any good? Apparently not. The actions of a few individuals has a negligible impact on the global picture, and even the "enforced" carbon trading of companies in the EU has led to almost no change in emissions. In fact the quotas were set so high that many companies have made money with minimal changes to stay below their limit and being rewarded with government cash! In Germany, the four largest power companies got an estimated €8bn extra profit in 2005 by cashing in their excess free carbon permits, while carbon emissions are still rising at 0.6% a year!

George Bush has also come up with his own bit of greenwash - his plans for a massive expansion in biofuel production, aiming for 24% of transport fuel to be produced from crops by 2017. All the evidence so far is that this will be even worse than carbon trading. Increased demand for maize for fuel has pushed up prices with a devastating effect on people who rely on this staple, leading to demonstrations over the rocketing prices of tortilla in Mexico.

Indonesia looks set to lose anything up to 98% of its rainforests in the next 15 years because of the planting of palm oil destined for European cars. This will have a knock-on effect on climate change as the forests are destroyed, and threatens to drive already rare animal species to extinction, including orang-utans and Sumatran tigers. Brazil has similar problems, as big agribusiness cashes in on the biofuel bonanza. Hugo Chavez and Fidel Castro have rightly denounced this idea as a "cars before food" plan.

The left urgently needs a really detailed programme to combat climate change. We hope to see lots more debate on the issue in *Permanent Revolution*.

Helen Ward



Six degrees to disaster

SIX DEGREES - OUR FUTURE ON A HOTTER PLANET

Mark Lynas
Fourth Estate / 2007 / £12.99

CHINA HAS recently become the biggest producer of carbon emissions in the world (though on a per capita basis it is still a long way behind the USA and Britain). But environmental and human costs of China's development have been high. For example, almost all of its lakes and coastal waters are polluted, 15,000 square km of agricultural land are lost every year due to over-grazing, acid rain falls on most of its cities and three out of four of China's urban residents breathe air that falls below minimum health standards!

According to a recent study by the Chinese and British governments, by the latter third of the century, if global temperatures rise by more than three degrees, Chinese agricultural production will crash. The country will face the task of trying to feed 300 million more people, but with two thirds of current food supplies!

Today, every big bookshop has a whole section on climate change (three of the more influential recent books were reviewed in PR 3). What makes Mark Lynas' new book important is that he examines, in greater detail than ever before, how varying degrees of warming would change the planet. He uses a combination of reports and climate-change models, together with evidence from the fossil records. Lynas' research suggests that:

1. A one degree rise would accelerate the trend towards droughts in the western USA and the possible shutdown of the North Atlantic Gulf stream. It would continue the melting of mountain glaciers and cause more extreme and frequent hurricanes. Most importantly, this temperature rise could wipe out most tropical coral reefs, including the Great Barrier Reef, devastating marine

biodiversity, and impacting on communities world-wide.

2. A two degree rise would mean we will already have gone past the "tipping point" which leads to catastrophic changes to our planet (see PR 3). Every summer in Europe would be as hot as in 2003, when over 30,000 people died from heatstroke. It would also mean the complete melting of the Greenland ice sheet by the end of the century, causing the raising of sea levels by at least 50cm. In Peru all the glaciers supplying water to Lima will disappear and over one million species will become extinct. This ecosystem collapse will directly impact on mankind, affecting growing of crops, water supply and air quality.

3. A three degree rise would mean the carbon cycle being reversed, "instead of absorbing CO₂, vegetation and soils will start releasing it in massive amounts, as soil bacteria work faster to break down organic matter in a hotter environment, and plant growth goes into reverse." In the Amazon, the trees have no resistance to fire and will burn down, the entire rainforest being turned into desert. Elsewhere, huge areas of the world would be made uninhabitable by drought and heat. All this extra

another "tipping point" being reached. Hundreds of billions of tonnes of carbon locked in arctic permafrost enter the melt zone - releasing global-warming methane and carbon dioxide in truly immense quantities. The south polar ice cap will also be badly affected as warming ocean waters erode its base, and it's complete melting would eventually add several metres to global sea levels. This will exacerbate the problem of low-lying deltaic cities which are already being threatened with sea level rises.

5. A five degree rise would mean more than twice the current levels of carbon dioxide being present in the atmosphere. Acidic oceans, rapidly changing ecosystems, ice-free poles and extremes of wet and dry will be a feature. As in the Eocene period, methane hydrates (an ice-like combination of methane and water) may burst from the seabed in immense "ocean burps", sparking a massive rise in temperature. The resulting slump in the seafloor could release massive tsunamis. Lynas postulates a new era of humanity, based on enforced localism and survivalism, living around the current polar areas.

6. A six degree rise would see most of the world's plant cover removed as soils erode, plants and animals rot in situ and are washed into stagnant and anoxic oceans. As in the Permian period, the planet will come close to, may even become

For Lynas the message is clear, "to save the planet we have to stop at two degrees". This means global greenhouse emissions must peak within the next eight years

carbon pouring into the atmosphere could give a further 1.5°C boost to global warming, and lead to "climate refugees" heading north from Africa to Europe.

"another lifeless rock floating through space". Mass extinction and the very survival of mankind are threatened at these temperatures.

4. A four degree rise would lead to Even the Intergovernmental Panel



on Climate talks of scenarios rather than predictions, when estimating future global emissions and temperature rises. Given these uncertainties, is there still a maximum temperature rise beyond which the planet will change fundamentally? Yes. As Lynas shows above, if we cross the “tipping point” of Amazonian collapse and soil carbon release which lies above two degrees, the massive release of CO₂ into the atmosphere will take us straight into the four degree world.

For Lynas the message is clear, “to save the planet we have to stop at two degrees”. This means global greenhouse emissions needing to peak within the next eight years. They must then continue to decline, and have fallen by 90% by 2050.

This will need higher-polluting richer nations having to cutback much more than under-developed countries. Lynas sees this happening through so-called “contraction and convergence”, implemented through a world trading scheme in which all countries converge to an equal per person emissions allocation at an agreed date. But at present not a single government has clear policy to reduce emission levels!

There are no quick fixes to emissions reductions. Oil, coal and gas supplies are all near to, or past their peak supplies, but will play a role in energy production for a long time, as renewable energy is some way from replacing them. Lynas is opposed to biofuels as an alternative to petrol and diesel for transport (see article in this issue) and rightly has reservations about nuclear power. He outlines a minimum seven point plan:

- › Halve distances people drive each year
- › Double vehicle fuel economy
- › Drastically increase the efficiency of buildings and fossil-fuelled power stations
- › Construct two million 1MW wind turbines and cover over two million hectares of land with solar panels
- › Stop the destruction of tropical forests

- › Dramatically increase tree cover elsewhere
 - › Choose between injecting billions of tonnes of carbon underground and investing in 1,400 new gas power plants
- Lynas recognises that achieving these targets will need a huge change of attitude, particularly less consumerism, within society. On the other hand, all the evidence suggests that a low-carbon lifestyle is far healthier, and of higher quality, than those who “waste their lives commuting to work in cars”.

His main political point is to call on the government to introduce “carbon rationing”. This would mean trading carbon as a “parallel virtual currency” swiping carbon cards at the petrol pump and surrendering the requisite amount of carbon ration when buying flights and paying electricity bills etc. But he thinks that these permits could be traded, to allow “flexibility”. In other words the rich could buy off the poor. Carbon rationing could only be made fair if everyone is given the same carbon quota to actually use, which the government is unlikely to introduce as it will be deemed “unpopular” (less freedom to travel etc.).

Overall, Lynas’ well-researched book is a useful read for all those interested in climate change. His

seven-point action plan is a useful start towards developing a full programme on fighting global warming. The problem is that he has no real tactics to get his plan put into action, beyond vague calls on government.

He is right to say that individual actions such as carbon off-setting, switching off lights, and even the Kyoto Protocol, have had little or no effect to date. Yet he completely fails to mention the mass movements of workers and peasants around the world who are organising now against the devastating effects of global warming, and some of the so-called policies being used to counter it (for example, growing crops for biofuels). In this context, the Trade Union conference called by the Campaign against Climate Change, for next year is to be warmly welcomed.

We clearly need to campaign and fight now, as a matter of urgency, for an action programme that will stop the planet warming beyond two degrees.

But we should also recognise, unlike Mark Lynas and other writers, that it is capitalism itself which has caused this problem in the first place, and that we have to get rid of that system of production if we are to ultimately save our planet.

Pete Ashley

ENVIRONMENT

Bio-fuels – saving or starving the planet?

AS THE impending climate change catastrophe grows in scale and urgency, politicians feel the need to be seen to be “doing something”. This largely consists of launching schemes which avoid making businesses drastically reduce their CO₂ emissions. One such scheme is George Bush’s sudden infatuation with bio-fuels,

growing crops to produce fuel for transport.

Some green campaigners support the idea as a contribution to reducing carbon emissions. Others have denounced it as “greenwash”. It has also divided heads of state, especially in Latin America where Hugo Chavez has headed the critics, while Brazil’s President Lula has

supported the expansion of crops for bio-fuels.

According to Lula, "It is important to do away with certain myths. Ethanol use does not threaten the environment." Surprise, surprise, Brazil is a leading producer of bio-fuel ethanol. Lula claims that the speed of deforestation, a major contributor to CO₂ emissions, has declined dramatically and that only 4% of cultivated land in Brazil is planted for sugar cane for ethanol production. In a put-down directed at Hugo Chavez in Venezuela, he said, "It is normal for those countries that have oil to feel a bit strange about the idea of bio-fuels."

Both Hugo Chavez and Fidel Castro, ageing leader of a Cuba increasingly dependent on Venezuela's subsidised oil exports, have spoken against the use of bio-fuels, arguing that growing these crops is "putting cars before food". They claim the switch of agriculture towards bio-fuel production will reduce the amount of crops produced for food and hence cause prices to rise, at the expense of the poor who do not drive bio-fuel cars.

In Argentina, where 38 million people already live in poverty, the government is offering tax incentives to help achieve a target of 5% of the nation's fuel supply to be from bio-fuels in three years.

Chavez has particularly criticised George Bush who launched a campaign for more bio-fuel in his recent tour of Latin America. As Mark Lynas says in his new book *Six Degrees - Our Future on a Hotter Planet*, "already corn-derived ethanol is being blended into gasoline in the USA, ostensibly to reduce CO₂ emissions, but in reality having more to do with subsidising the politically powerful farming lobby in 'red' republican states." [see p50 for a review of this book.] As well as reducing the US balance of payments deficit, which has surged alongside the recent rise in oil prices, there is a lot of money to be made for growing maize for bio-fuel.

And where the US goes, the UK follows. Gordon Brown has recently

announced that all suppliers in the UK will have to ensure that 2.5% of the fuel they now sell is made from plants or pay a penalty of 15p a litre, the obligation rising to 5% by 2010. Tesco, through a part owned company "Greenery", is already using 5% bio-fuel in its petrol at 185 of its filling stations. The government can see that bio-fuels don't upset drivers, as they appear to reduce carbon without the need for new taxes or reducing car use.

Heat - How to Stop the Planet Burning between 1985 and 2005 the development of oil palm plantations was responsible for an estimated 87% of deforestation in Malaysia. The situation is even worse in Indonesia, where 98% of the rainforest will be degraded or lost by 2022, largely due to planting palm oil to turn into diesel for European cars. Writing earlier this year, he shows that it gets even worse! According to a report from a

Both Hugo Chavez and Fidel Castro have spoken against the use of bio-fuels, arguing that growing these crops is "putting cars before food"

So where does the truth lie? Supporters of bio-fuels argue that they are an effective way of reducing greenhouse gases, as the carbon expended in their use exactly matches the carbon saved during their creation. They are a zero sum solution to fuel use. But at present there are many problems.

► Firstly, growing these crops, rather than food crops, has led to huge increases in grain prices around the world. Since the beginning of last year the price of maize has doubled, and the price of wheat has also reached a ten year high. At the same time global stockpiles of both grains has reached 25 year lows. Already there have been food riots in Mexico due to shortages of maize. The US Department of Agriculture is forecasting even lower stockpiles next year. According to the United Nations Food and Agriculture Organisation, the main reason is the demand for ethanol - the alcohol used for motor fuel, which can be made from maize and wheat. This hits poor consumers of food grains, but benefits farmers who receive higher prices for their output.

► Secondly, growing crops for bio-fuel has also already led to huge levels of deforestation. As George Monbiot pointed out last year in

Dutch consultancy firm, every tonne of palm oil results in 33 tonnes of CO₂ emissions, or ten times that produced for petroleum! According to none other than the World Bank, deforestation alone is responsible for 25% of global carbon emissions.

► Finally, with deforestation also comes massive loss of biodiversity and species extinction, such as the iconic orang-utan in Borneo and the Sumatran tiger, among many others. Reports are showing that it is huge habitat loss, rather than climate change itself, that is currently causing the biggest

WHAT IS BIOMASS ENERGY?

Biomass energy is most commonly obtained from maize, soya beans, oil palms, sugar cane, rapeseed, sunflower seeds and trees. The carbohydrates in the biomass can be broken down into a number of chemicals, some of which are useful fuels. Rather than being burnt, losing lots of energy, the plant matter is either heated and refined to break down into gases, then fermented and turned into grain alcohol or ethanol, or it is chemically converted to make into biodiesel.



pressures on species survival.

Many leading campaigners, such as Mark Lynas and George Monbiot, are opposed to bio-fuel production at present. Monbiot argues for a "second generation" of bio-fuels to be produced, which are cheaper and more efficient to produce, such as from grass and wood. He admits this is some way off happening, and calls for a five year moratorium on bio-fuel production. He points out that in the UK running our cars, buses, and lorries on bio-diesel would require 25.9m hectares of land, but we only have 5.7m hectares of arable land in total!

Likewise, a recent report from www.Bio-fuelwatch.org.uk also highlights grave concerns. It said that "a small reduction in greenhouse gas emissions, due to bio-fuel production, will be at the expense of large increases in greenhouse gases due to deforestation, nitrous oxide emissions, carbon emissions from the loss of soil organic carbon, peat fires and oxidation, and potentially the loss of major carbon sinks."

As the UN report cited earlier states, "there is no doubting that bio-fuels can be used in place of petrol and diesel and can play a significant part in reducing emissions from transport." But it also goes on to say that "at their worst, bio-fuel programmes can result in a concentration of ownership that could drive the world's poorest farmers off their land and into deeper poverty." And certainly the growth of massive urban centres particularly in Africa and Asia outstripping the available infrastructure, is both a testament to the crisis of subsistence agriculture and the inability of capitalism, even in its present relatively dynamic phase, to meet the needs of the world's poor.

As Mark Lynas says, "Given that world food stocks are already at historic lows because of population growth and droughts, devoting more of our best farmland to growing food for cars seems close to insane . . . the reality is simple: you can use land to feed cars or to feed people, but not both."

And we could add the rising

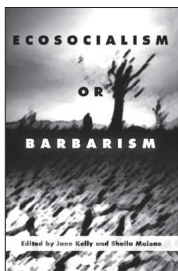
living standards and food consumption of, in particular the Asian urban population, which has transformed China, for example, from a net food exporter, to a massive importer of food stuffs over the last ten years.

So where do we stand in this debate? We should demand:

- › An immediate worldwide moratorium on expansion of the growing crops for bio-fuels, and its ending where it exacerbates deforestation.
- › Full compensation for all poor farmers currently growing these crops.
- › A massive programme of research and development into current and alternative bio-fuel crops, funded by the wealthy governments whose car-driving citizens contribute most to the problem.

The world's working class and poor cannot afford to let the capitalist multinational corporations and their representatives in government make the running on climate change. There are many simple and immediate initiatives which, if adequately funded, could sharply reduce carbon emissions now – banning old fashioned light bulbs, savagely taxing high emitting cars, providing free insulation and double glazing to whoever needs it, as well as undertaking a huge expansion of renewable energy, tidal barrages, wind and solar power and improving recycling. All these measure are less damaging to the environment than a massive expansion of crop growing for bio-fuels.

Pete Ashley



Shaking off Marxism's "productivist dross"

ECOSOCIALISM OR BARBARISM
Eds. Jane Kelly & Sheila Malone
Socialist Resistance / 2006 / £10

ENVIRONMENTAL CHALLENGES such as climate change have finally come to the top of the political agenda, with everyone from the Women's Institute to George Bush putting forward their plans to save the planet. This book is the response from Socialist Resistance.

The timing of its publication is no accident. Both Socialist Resistance and their international organisation, the Fourth International (FI), are in the process of a radical re-think, with proposals to change their "political programme, perspectives and public profile towards being an anti-capitalist, ecosocialist organisation".¹

This move is based on a new perspective of catastrophic social and ecological crisis that demands an urgent response. "At the core of this change is the contention that

free-market, privatising neoliberalism has over twenty years arrived at a new and deadly phase – what we call 'savage capitalism'."

The book compiles a set of arguments for ecosocialism, ending with the eco-socialist manifesto drafted by Joel Kovel and Michael Löwy in 2001.²

Much of the book is a useful description of environmental problems, with a consistent argument that these are inherent in the capitalist mode of production and that they can only be resolved by a socialist solution rather than a series of reforms within capitalism. This argument is used to challenge the leadership of the environmental movement, in particular the various Green Parties.

"It is not a matter of contrasting "bad" ecocidal capitalist to "good" green capitalists; it is the system itself, based on ruthless competition, the demands of profitability, and the race for rapid profit, which is the destroyer of

nature's balance . . . Partial reforms are completely inadequate." (p6)

In common with left greens including Joel Kovel³ and Derek Wall, the book includes visions of a future without capitalism where people live in harmony with the environment, a transition, "not only to a new mode of production and an egalitarian and democratic society, but also to an alternative mode of life, a new ecosocialist civilization, beyond the reign of money, beyond consumption habits artificially produced by advertising, and beyond the unlimited production of commodities, such as private automobiles, that are harmful to the environment." (p7)

This green and pleasant vision is fine but why a new label, ecosocialism, to sum it up? It suggests that Marxist socialism per se is not "eco" and that ecologism is not "socialist". The first article from Michael Löwy, an academic and long-standing member of the Ligue Communiste Révolutionnaire (LCR) the French Section of the Fourth International, is called "What is ecosocialism?":

"It is a current of ecological thought and action that appropriates the fundamental gains of Marxism while shaking off its productivist dross." (p4)

The charge of productivism is the one constantly levied at socialists by Greens and ecologists. But is it true? Two examples are usually cited. First, that Marx described a fundamental contradiction in capitalism between the forces of production and the social relations of production, with the latter acting as a brake on the former; more specifically, that private capitalist property relations impede the rational, optimal exploitation of nature.

Marx argues for an expansion of the forces of production to be able to meet widespread need. This can clearly be interpreted as "productivist", but that ignores both the context in which Marx was writing, and his related discussions of the way production should be used to meet human need rather than constantly expand capital and profit.

Indeed, as Löwy himself points out, "For Marx, the supreme goal of technical progress is not the infinite accumulation of good ("having") but the reduction of the working day and the accumulation of free time ("being")."

Marx is also accused of conflating expansion of productive forces with progress, but taking his writings in historical context this seems an unfair critique. There was a desperate need to expand

catastrophist perspectives.

Löwy argues: "The ecological issue is, in my opinion, the great challenge for a renewal of Marxist thought at the threshold of the 21st century." This, taken together with the prediction of imminent environmental collapse, leads them to adopt the new turn, and the addition of eco- is a way of signalling a break with the past.

Many Greens also think that Marxism has scant regard for the

Many Greens think that Marxism has scant regard for the ecosystem, a criticism linked to the idea of productivism

production to meet the very basic needs of humanity. We can see how expansion of productive forces under capitalism has been contradictory, with the production of goods for profit rather than need, the expansion of unnecessary things that advertisers then have to persuade us that we need, and the production of luxury goods for a decadent layer of society. Nonetheless, the development of the productive forces, through computing, for example, does have huge potential for reducing the working day – but capitalist social relations obstruct this use of new technology.

The second example Greens cite of socialism's "productivism" is the Soviet Union, China and other "socialist" states. Yes, the Soviet Union was "productivist", with maximum volume of the goods being integral to their planning system rather than quality or usefulness of these products. But we need to reassert that this was not socialist – it was a distortion in which the transition to socialism was blocked by a brutal and bureaucratic dictatorship.

It seems that this charge is one of the reasons for the adoption of the "eco" label. The second is the primacy the ecological question attains for the FI in a set of

ecosystem, a criticism linked to the idea of productivism. In fact Marx and Engels both had quite a lot to say about the way capitalism misuses non-renewable resources and degrades the environment. But for Marx it was capitalism itself – a system wedded to accumulation for its own sake – that was responsible for this state of affairs, and this puts an unbridgeable gulf between him and those Greens who believe that a benevolent form of capitalism can be built that lives in harmony with people and nature more generally.

Forerunners of Socialist Resistance have often promoted a red-green alliance, part of a rainbow coalition, but now they propose a more strategic amalgam. "The convergence of these movements could form a new vision for society – ecosocialism". And failure to advance ecosocialism will, the book argues, lead to barbarism.

So what new strategy and programme is being advanced to avert the possibility of barbarism? There are some good sections outlining the need to link the struggle for immediate reforms to the goal of revolutionary social change. Jane Kelly and Phil Ward correctly criticise the Green Party, arguing that "... the Greens do not



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differ fundamentally from social democracy in the belief that capitalism can be reformed". (p51) They also recognise that the revolutionary programme for the environmental change is not well thought through – a position we would agree with, including in our own tendency historically.

In an attempt to start that programmatic re-elaboration, they look to ways to link socialist and green demands. At the heart is the idea that we strive for production for need rather than exchange – a basic socialist goal and one not possible to achieve under capitalism. But reforms are also needed in the short term: to reduce carbon emissions, promote renewable energy, insulate homes and so on. The key programmatic question is how to apply the transitional method to achieve these. Kelly and Ward agree that transitional demands are needed, arguing that immediate reforms cannot be fully achieved "without the control of ordinary working people; issues of workers' control, workers' democracy and socialist solutions are paramount." (p54) They also refer to the way that many socialist goals, such as socialisation of domestic labour through a revolution in the way we live, would be much more environmentally sustainable than the individualised consumption under capitalism.

But the laudable aim of developing a transitional programme is unfortunately not achieved either in the ecosocialist manifesto (pages 116-120), the resolution of the International Socialist Group from April 2006 (pages 68-73) or in the recent Socialist Resistance conference document.

All of these programmes and manifestos are actually limited to a progressive goal (socialism, or rather ecosocialism) and a series of mostly fine reforms, such as an end to airport expansion, "an international treaty that goes well beyond Kyoto", "global action to help third world countries in sustainable development".

But how? This is where

transitional method should come in, but is lacking. At the heart of transitional demands is the linking of struggles for reforms with the struggle for power. The struggle for power is a fight against capitalism, which will be a vicious fight given the strength and resources of the state and international organisations that will defend their power to the death. This will take a revolution – a violent overthrow of the old order – to have any hope of moving to the goal of socialism.

A transitional programme embeds this struggle in the fight over reforms. For example, the correct demand for cheap and integrated transport systems needs to be elaborated to include the role of workers in transport industries taking control of the planning and investment of their companies. They should link to local workers and users of transport to determine priorities.

These action committees would come up against the owners of the transport companies and the state that backs them, to win the battle the workers would need to take on larger issues of ownership and planning and, eventually, control over the local state.

Revolutionary socialists differ from reformist Greens and even the most militant eco-warriors on two key questions. The first is the question of the state. We understand that the state is not neutral and will have to be smashed. The Greens want to reform it and the eco-warriors want it to go away but are not, in general, willing to see the need for another form of power to replace it.

The second is the role of the working class. The most left wing of the Greens see the workers' movement having a role in eco struggles, but also see the obstacle of workers with vested interests in many polluting industries. "Ecosocialists know that the workers and their organizations are indispensable for any radical transformation of the system," writes Löwy (p5). But that is not the same as understanding the primacy and centrality of the working class; the working class not as a

constituent part of the ecosocialist coalition but as the leadership of it.

The lack of a discussion of the state in relation to revolutionary strategy, and of the centrality of the working class in any socialist movement, is a major weakness in the ecosocialist project since it is on these issues that there will be most disagreements with many Greens. Any new international party or movement for socialism, with or without a prefix, needs to be founded on a shared understanding of the state and the working class, otherwise it will shatter at the first test of real struggle where a choice between the interests and organisations of the working class is pitted against the corporations and institutions of the capitalist state, be they neo-liberal or even reforming "Green" liberals.

Developing a practical, working class response to climate change and other environmental threats is one of the most important challenges facing the left today. But we are certain that if socialism needs any prefix, it should be "revolutionary" and not "eco".

Helen Ward

NOTES

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4. Wall D, *Babylon and beyond: the economics of anti-capitalist, anti-globalist and radical green movements*, Pluto Press 2005