GREENPEACE
BUSINESS

The Drax coal power station typifies the problems of centralised system – most of the energy is lost as heat up the cooling towers.

'The energy review has a highly disproportionate focus on electricity supply as opposed to heat and transport – neglecting the other 82% of UK energy use. It has the traditional over-emphasis on large, centralised and big power supply using conventional engineering thinking.'

PROFESSOR MIKE HULME, TYNDALL CENTRE FOR CLIMATE CHANGE RESEARCH

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Energy's future: bottom-up and decentralised

Tony Blair has made clear his commitment to building more nuclear power plants to solve the UK's impending energy crisis (page 2). But his Government's new UK Energy Review is fatally flawed. As then Secretary of State for Trade and Industry Patricia Hewitt said at the launch of the Government's 2003 Energy White Paper: 'It would have been foolish to announce that we would embark on a new generation of nuclear power stations because that would have guaranteed that we would not make the necessary investment in both energy efficiency and renewables. That is why we are not going to build a new generation of nuclear power stations now.'

The financial, political, institutional and technical investment needed for new nuclear power stations will not only suck investment away from renewables and efficiency – it will also lock the UK into its current wasteful, centralised electricity system, sabotaging the potentially huge energy and CO_2 emission savings which could be made by decentralising our energy supply. Building 10 new nuclear reactors would deliver only a 4% cut in CO_2 emissions by 2024 – too little and too late to contribute meaningfully to combating climate change. Moreover, while decentralised energy offers greatly enhanced energy security at a time of mounting global uncertainty over oil and gas supplies, nuclear power's overall contribution to total UK energy demand is so tiny (only 3.6%) that it can offer only marginal energy security benefits.

As Professor Mike Hulme, the director of the Tyndall Centre for Climate Change Research, has stated: 'The energy review has a highly disproportionate focus on electricity supply as opposed to heat and transport – neglecting the other 82% of UK energy use. It has the traditional over-emphasis on large, centralised and big power supply using conventional engineering thinking. There is no real action proposed to realise the substantial potential of alternative means of generating low-carbon power.'

But there are hopeful signs at Westminster. David Cameron said recently: 'We need to think in an entirely new way about energy. The future of energy is not top-down, it's not centralised – it's bottom-up and decentralised.' If this proves to be a sincere reflection of Conservative policy, then Blair's vision of a nuclear-dominated future may yet run aground on the rocks of a general election.

Renewables and decentralised energy are also being taken more seriously by business. EDF Energy may be known as France's largest nuclear contractor, but it is also supporting London's desire to set up more decentralised energy projects (page 6). And international architects Arup are working closely with the Greater London Authority and Greenpeace on a new 1,000-plus home zero-emission project (page 3). If business is getting the message, how long before the Government sees the light?

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Why our energy future must be decentralised

This housing development in Amsterdam gets its heat and power from a community CHP plant.

When the Government's UK Energy Review was published in July, it was its long-predicted support for new nuclear power stations that hogged the headlines. Lost – perhaps to the Government's satisfaction – amid the media's focus on the nuclear issue was a promise to consult further on decentralised energy. However, there was a singular lack of commitment to this technology, even though the purpose of the Energy Review was ostensibly to identify solutions to halting the ravages of climate change and providing for our energy needs into the future. Yet these precise goals could be accomplished by building a decentralised energy system, without expensive and dangerous new nuclear power plants.

Decentralised energy – the pursuit of efficiency

As obsolete power plants, both nuclear and conventional, become due for replacement, the UK has the opportunity to choose between two energy systems: the traditional centralised model or a radically decentralised system. In the existing centralised energy system, coal, gas and nuclear power stations generate electricity which is transmitted over the national grid to where it is needed, often many hundreds of miles away. Two-thirds of the input energy is wasted as heat, mostly from the fossil-fuel power plants themselves. The energy lost is enough to provide all the space heating and hot water needs of the entire UK.

In a decentralised energy system, however, thermal power plants generate electricity close to where it is needed. Their waste heat, which would otherwise be lost to the atmosphere, can be piped to surrounding homes, offices and factories.

The high efficiency of CHP stations means that much less fuel is used overall for the same amount of energy, which in turn means that considerably less CO_2 is emitted.

These combined heat and power (CHP) plants are up to 95% efficient, more than double the efficiency of the best centralised power stations.

Decentralised energy may seem a revolutionary proposal, but successful examples are already proliferating across Europe. The entire city of Rotterdam, for example, runs on decentralised energy, as does over 50% of Denmark. Major cities like Malmö and Helsinki have also adopted the approach on a large scale. In fact, worldwide, decentralised energy systems are generating more energy than nuclear power stations.

Nuclear versus decentralised energy

Proponents of nuclear power argue that it produces fewer CO_2 emissions than thermal power plants. However, although nuclear power provides 20% of our electricity, this represents only 3.6% of the UK's total energy use, the bulk of which is attributable to heating and the transport sector. So its limiting effect on our total CO_2 emissions is very small. Indeed, cuts in CO_2 emissions achieved by building the proposed new generation of 10 nuclear power stations would be cancelled out by the predicted expansion of airports alone.

Compare this to the decentralised energy scenario. The high efficiency of CHP stations means that much less fuel is used overall for the same amount of energy, which in turn means that considerably less CO_2 is emitted – as much as 30% less, according to energy experts.

A decentralised system using CHP, however, would drastically cut overall gas consumption by virtue of its higher efficiency, reducing our dependence on uncertain supplies. Decentralised energy could further enhance energy security by supplementing the efficient use of gas and coal with CHP plants powered by domestically obtainable (and carbon-neutral) fuels such as woodchip, straw or biogas, as well as other renewable energy sources.

Of course, besides offering an inadequate solution to the key issues of emissions reduction and energy security, nuclear power has its own dangers which the Energy Review chooses to ignore – it offers a potentially devastating target for terrorists, brings an ever-present risk of a catastrophic accident (as the recent discovery of cracks in many of the UK's existing reactors reminded us), and produces waste that remains deadly for over a million years and is impossible to make reliably safe in the long term. A less apocalyptic but inevitable drawback is cost. The bill for cleaning up

nuclear waste generated so far in the UK alone is estimated to be £90 billion. With such vast liabilities, the only way the Government can make nuclear power stations attractive to investors is for it to meet some of these additional costs.

By comparison, a study conducted for Greenpeace using a well-tried economic model (used by the UK Government itself) concluded that implementing a UK-wide decentralised energy system would cost considerably less than upgrading the existing centralised energy system with new nuclear power stations. It also concluded that our energy bills would be cheaper as a result. Thus the UK could close the 'energy gap', cut CO_2 emissions and reduce gas consumption simply by using fossil fuels more efficiently. However, to move beyond fossil fuels and create a fully sustainable and secure energy system, renewables must come into play on a much larger scale – here again a decentralised system offers far greater scope for new technologies than the relatively inflexible national grid. Decentralised energy is the great opportunity that the Energy Review has failed to grasp – let us hope that, with continued pressure from business, environmentalists and the general public, the Government may yet reconsider its short-sighted position.

Greenpeace has produced a 15-minute DVD, What are we waiting for?, showing how a decentralised energy system works in practice, with examples from across Europe. To obtain a copy, email robin.oakley@uk.greenpeace.org

London's zero carbon homes at no extra cost

The UK's housing stock of over 25 million homes is a major contributor to our CO_2 emissions. It seems perverse that we continue to build new homes with poor energy performance, entrenching our dependence on dirty and expensive fossil fuels.

Ongoing work by the Mayor of London's office, the London Development Agency (LDA), and Greenpeace is about to challenge this short-sightedness. We are working to create a 'zero carbon development' (ZCD) which will be built at close to the typical building costs for equivalent conventional properties. Environmentally responsible homes like these are already commonplace in Denmark and Sweden.

The ZCD will comprise homes built to exemplary standards of energy efficiency, including high thermal insulation and efficient lighting and heating. Combined heat and power systems are likely to feature, and there is potential for a local heat distribution network, maximising the efficient use of energy resources. Natural gas is a highly efficient fuel when used for CHP, but it still produces CO_2 emissions. Renewable fuels such as biomass and biogas are being fully appraised.

The idea of creating the ZCD began with discussions between the Mayor of London's office and Greenpeace in late 2005. A range of sites has been assessed, the leading contender being Galleons Park, Albert Basin in London's East End.

So how is this ambitious project to be brought to fruition? There is obviously a need for political will and forward planning. The Mayor has seen what is being achieved elsewhere in the world and wishes to make similar projects happen here in London. To develop our initial ideas to the tendering stage, we have called upon the expertise of the international architects and engineers Arup, which is involved in similar developments around the world, including the eco-city of Dongtan being planned adjacent to Shanghai in China (page 5).

Arup is currently working to produce two documents. Firstly, it is developing a series of design guidelines for the successful developer, which will ensure that the development's energy demand is minimised. Secondly, it is working alongside the London Climate Change Agency and the new London Energy Services Company to draw up an energy strategy for the development that will maximise renewable energy uptake and minimise CO_2 emissions.

There will be major new business opportunities in helping deliver these new zero-carbon homes and providing energy services to them. The LDA is advertising for developers for this project.

If you are a developer and want further details, contact the London Development Agency's agents Drivers Jonas, hollyhilliard@driversjonas.com or matthewevans@driversjonas.com

For further information contact simon.reddy@uk.greenpeace.org

Greenpeace is working with the Mayor of London's office to create a 'zero carbon development' (ZCD) which will be built at or very close to the typical building costs for equivalent conventional properties.

China's development – is it built to last?

'China is now going five years faster than the rest of the world in everything it does.'

PETER HEAD, DIRECTOR OF GLOBAL ARCHITECTS AND CONSULTING ENGINEERS ARUP.

China is rapidly becoming the world's manufacturer, importing and processing more and more resources to produce goods for sale worldwide. The country's rapid industrial growth demands ever-increasing energy inputs. Meanwhile, as China develops economically, more and more people are moving to cities and leading more energy-intensive lifestyles.

Industrialisation and cultural transformation makes China into an increasingly important global driver of climate change. While per capita CO_2 emissions in 2000 were only about 15% of those in the USA, they are rising rapidly. At the same time, China is already suffering the environmental, social and economic effects of climate change. Ecosystems are being destroyed; poverty and a lack of adequate public infrastructure or proper response mechanisms have left communities vulnerable to climate impacts. In 2005, the cost of extreme weather events such as typhoons, which are becoming increasingly frequent, accounted for 3% of China's GDP.

Crisis on the Yellow River

Greenpeace has a presence in China, where we are working both to expose the impacts of climate change on the country and to push for clean energy solutions. In 2005, Greenpeace embarked on a research expedition to the upper reaches of the Yellow River. Our research uncovered evidence of devastating environmental damage along the Yellow river – one of several major river systems. central to the life of rural China and vital to the nation's agriculture and its ability to feed itself.

Over the past 30 years, as the climate has got warmer and drier, nearly 24 billion cubic metres of water have been lost at the Yellow River source due to glacial retreat. The scientific community has warned that at the current pace of climate change the volume of water in the Yellow River is set to fall by 50% over the next 30 years. Other impacts in the region include permafrost degeneration, lake shrinkage, grassland degradation and desertification – all symptoms of climate change.

According to a report by the Chinese Academy of Sciences, by 2020 over 60% of the formerly usable land in the Yellow River catchment will be desert. Over the last 20 years, up to 80,000 nomads in the region have lost their grazing lands. These climate refugees are now completely dependent on the Chinese government. Some 200 million people depend on the river for their livelihoods; so without serious and effective measures to tackle the impacts of climate change, the numbers of climate refugees will continue to grow.

Across China, the story is the same. In the last 40 years, 3,000km^2 of glaciers have been lost. Over 50% of the total area of China's glaciers in the north-west will be gone by 2050 and temperatures on the Tibetan Plateau will rise by 2– 3.6°C over the coming century. This represents a time bomb for the great rivers of China.

Sustainable solutions

The Chinese Government is starting to take the issues of climate change and sustainable development seriously, and is beginning to look

at ways in which it can continue development while avoiding or reversing its worst impacts. The Government's five-year plan states that the environment and society cannot be sacrificed to GDP. Energy efficiency has become a strategic imperative, and the Government has taken serious measures to stimulate the renewable energy sector. So, while it is true that China has been building the equivalent of a new coal-fired power station every two weeks, there are positive initiatives that show that the country has the potential to be a leader in sustainable development.

By 2020, China aims to get 20% of its energy from renewable sources – a vision which promises not only a significant curb on CO_2 emissions but also a huge boost to the world market in renewable energy technology. There are hurdles to be negotiated. The first is to shift the financing of infrastructural development away from fossil fuels and towards renewables. Another is the need to obtain the most up-to-date clean technologies – perhaps by technology transfer from the West. Then, to drive costs down, China needs to develop its own manufacturing capacity for renewable energy systems.

Managing resource demand

Nor is energy production the whole story. Energy demand is also critical. China has 22% of the world's population, and will need to build housing for 400 million people in cities over the next 12 years – a task equivalent to rebuilding all housing in the UK every year. As China becomes increasingly urban, the Government is having to think hard about how the design of its new and existing cities can be made to minimise their environmental impact.

One outcome of this is a proposal for the world's first zero-CO_2-emission city. Dongtan will be located on a large island at the mouth of the Yangtze river near Shanghai. The island has an internationally important wetland which it is hoped this development will safeguard. It is being designed by global architects and consulting engineers Arup (also acting as a consultant for Greenpeace's London zero-emission development project in collaboration with the Greater London Authority – see page 3). Arup also has plans to design two further cities which will be self-sufficient in energy, water and food, with no greenhouse gas emissions from transport. Technologies to be used in Dongtan will include combined heat and power generation, energy from waste, photovoltaic panels and a large-scale wind farm. 'Food factories' will use clean energy for lighting and recycled water to grow fruit and vegetables. The streets of Dongtan will be quiet – no petrol or diesel cars will be allowed, only battery or fuel cell-powered vehicles.

Will Dongtan offer a real solution to the problem of climate-friendly development, a model for all sectors of society – or will it just be a fashionable, prestigious address? Only time will tell. But it is at least clear that China is making a serious start at addressing the most pressing issue facing the human race today.

During the past 30 years, the warming of the Tibetan plateau has increased rates of glacial retreat .

What we need from government

There is a need for fundamental changes in how developments are planned, and for vigilance to ensure that schemes are designed to maximise potential emission reductions.

This article was written by Miles Hearn, EDF Energy Project Director. EDF Energy is one of the UK's largest energy companies. It is working with the Greater London Authority on a range of new decentralised energy projects.

The UK is facing a huge energy challenge. We at EDF Energy believe that the only way to meet this challenge is by ensuring that we have a diverse mix of generation and improved energy efficiency, so as to ensure security of supply, address climate change and provide value for money. However, before we and other companies can invest towards these goals, action needs to be taken by government to remove some of the barriers we face.

Carbon trading

One barrier is uncertainty over the value of carbon emission savings. To encourage investment in low-emission generation technologies we have to find a way to place a stable long-term financial value on the reduction in CO_2 emissions that they deliver. While we support the European Union Emissions Trading Scheme (EU ETS), the scheme is not long-term enough to give clarity to investors looking at projects with a lifetime of say 40 years.

EDF Energy calls on the UK Government to put in place a market-based mechanism, compatible with the EU ETS, but which can secure the long-term price of saved CO_2 emissions. EDF suggests a carbon hedging mechanism, guaranteeing a minimum value for emissions savings well beyond the next phase of the EU ETS. Such a mechanism should be available to any generation plant that produces a reduction in CO_2 emissions, regardless of technology.

Decentralised generation

EDF Energy is committed to getting the best from current and future technologies. Our UK sustainable energy portfolio already includes wind farms and combined heat and power (CHP) schemes; and, using money raised partly through our 'green' tariff, we give financial support to the use of solar panels, hydroelectricity, biomass and marine turbines. Although the known technological options for deploying decentralised generation are not capable of meeting all our energy needs, decentralised generation does have a role to play in achieving the challenges outlined above as part of a diverse generation mix. We are currently working with the London Climate Change Agency to create a London Energy Services Company to help deliver the Mayor's Energy Plan for London – which targets a big increase in decentralised generation.

CHP is a proven technology and one of the best prospects for local sustainable energy. In the short term, most plants will probably need to use gas, but biofuels could be used once a viable supply chain is created. However, to operate efficiently, a CHP plant needs the correct balance between electricity and heat demand within its catchment area. Few single-use developments can provide this; one example of a successful scheme with a mixed customer base is our Barkantine plant at the Isle of Dogs, London. This supplies affordable electricity, space heating and hot water to residents and also heats a swimming pool, a nursery, a primary school and a community centre.

The Mayor of London's recent call for new housing developments to be linked to decentralised generation will help promote this technology. However, there is a need for fundamental changes in how developments are planned, and for vigilance to ensure that schemes are designed to maximise potential emission reductions. To incorporate CHP effectively into new developments, there should be more mixed-use sites including homes, leisure and industrial buildings, since the peak power demand for each building type occurs at a different time of day.

Energy efficiency

As well as more low-emission generating plant, more action is needed to improve energy efficiency in both the residential and business sectors. To achieve this, we must engage all parts of society through a combination of information, fiscal incentives and, in some cases, compulsion.

Innovative solutions to improve energy efficiency, such as micro-generation and smart metering, should be explored, and the regulatory framework can help. For example, the Energy Efficiency Commitment scheme, which requires larger energy suppliers to promote efficiency measures to their domestic customers, could be made more flexible to allow for trials of new technologies.

EDF Energy does not believe there needs to be a choice between one technology or another. All types of generation, and better energy efficiency, will be needed if we are to deliver secure, clean, affordable energy for the long term.

Contact miles.hearn@edfenergy.com

BP's $8 billion alternative energy plans

In November 2005, BP announced that it was setting up a low-carbon power business. Vivienne Cox, chief executive of BP's Gas, Power & Renewables division, describes the thinking behind the decision

Alternative energy is good business. The technologies are increasingly competitive, they offer the possibility of driving efficiencies and lowering costs further, and there is already a significant opportunity to make good returns. Yet, there appears to be growing pessimism concerning the feasibility of taking actions that will make a real contribution to stabilising global CO_2 emissions. The emergence of a low-carbon power economy, with the choices it offers, can challenge that thinking.

Over the next decade BP aims to invest $8 billion in solar, wind and hydrogen power, and in combined cycle gas turbine (CCGT) generation. Our goal is to grow our business tenfold in ten years, to achieve revenues of $6 billion a year by 2015. Compared with BP's total annual capital investment programme of $15bn, the investment devoted to alternatives is admittedly small, but growing. Over $1.8 billion will be spent in the next three years and more will be made available as projects grow. During the next three years, we expect to grow our wind business by 50%, build two of the world's first commercial hydrogen power and sequestration projects, start construction on two new cogeneration facilities and increase solar panel sales at least threefold.

To tackle CO_2 emissions effectively, we need a mix of approaches and solutions. Renewables will not displace fossil fuels by 2050. Gas, for example, is not merely a building block of the low-carbon future but arguably its cornerstone, as it produces only half the CO_2 emissions of conventional coal. Nor can we predict how technology will develop or how governments and consumers will respond to the higher costs associated with cleaner energy. What we can do is to make good choices on where to start.

In our view the power sector is the ideal place for everyone to find common cause. Power is the largest sector for CO_2 emissions, producing twice as much as the transport sector. Furthermore, we know that over 40% of the electricity generating capacity that the world will need by 2020 has yet to be built. This faces developed and developing countries with a number of important choices as they determine how to meet their future energy needs. BP already participates in CCGT plants in the USA, Vietnam, Spain and South Korea and we plan to expand our portfolio, mainly in the USA.

BP is currently only a modest player in the wind power sector, with two wind farms in the Netherlands. However, the wind power market is growing at 12% a year, and over the next 15 years we expect global wind power capacity to quadruple. Having learned how to build and operate small wind farms, we have now decided to focus on large-scale farms with a view to becoming a top-tier wind power operator by 2015.

Prospects for solar power, too, are excellent, with the market expanding at 30% annually and costs trending down. By 2010 we foresee up to 40% total system cost per watt improvement in solar's competitiveness, and indeed within a decade we expect solar to become competitive with grid power in sunny markets. In response we are doubling our solar panel manufacturing capacity worldwide. As for hydrogen power, we have several options in hand to develop the world's first industrial-scale hydrogen power stations. In Scotland we envisage taking natural gas from North Sea fields and converting it to hydrogen and CO_2. The hydrogen would be used as fuel in the Peterhead power station while the CO_2 would be injected more than three kilometres under the seabed. This project would provide clean power equivalent to the needs of 250,000 UK homes. We have also identified a second opportunity in California which would use petroleum coke as the feedstock.

Of course our response is not just about power generation; transport emissions are also important to BP. We have therefore committed $500 million over the next decade to develop new biofuel components, new technologies to accelerate the conversion of organic matter and new species that produce a higher energy yield and can be grown on land unsuitable for food production.

We want to move forward. And we want to invest with confidence in low-carbon technologies. At the moment regulation is selective in its support for solutions to climate change. BP aims to work with policymakers to broaden the ways in which we can advocate the greening of the energy industry.

'We want to move forward. And we want to invest with confidence in low-carbon technologies.'

VIVIENNE COX, CHIEF EXECUTIVE OF BP'S GAS, POWER & RENEWABLES DIVISION

Soya giants agree moratorium in the Amazon

'When we were first alerted to this issue by Greenpeace, we immediately reached out ... to resolve this issue and take action...We are determined to do the right thing together with our suppliers and the Brazilian government, to protect the Amazon from further destruction.'

MCDONALD'S

In a significant development for rainforest protection, Greenpeace and major UK food companies have joined forces to broker a two year moratorium on multinational traders buying soya from newly deforested land in the Amazon rainforest. Soya production has been one of the main driver s of Amazon destruction in recent years. The deal, signed in Brazil, is a welcome step forward, but Greenpeace is warning that it will only prove to be a major breakthrough if real action is taken on the ground.

The deal follows publication in April of a Greenpeace investigation into the impacts of the soya trade in the Amazon. McDonald's and other leading European food retailers subsequently formed a unique alliance with Greenpeace to demand action from soya traders to stop deforestation in the Amazon rainforest. Demand for soya-based animal feed – used in meat production – is fueling Amazon destruction. As a result of pressure from the alliance, US commodities giants Cargill, ADM, Bunge, French-owned Dreyfus, and Brazilian-owned Amaggi – which between them account for the majority of the soya trade in Brazil – were brought to the negotiating table.

The soya traders have been discussing an initiative proposed by Greenpeace and the food companies that includes criteria designed to boost the Brazilian Government's efforts to stop deforestation, enforce governance, protect critical habitats, and safeguard the lands of indigenous peoples and traditional communities.

The soya traders commitment to a limited two year moratorium risks being no more than a token gesture, unless the traders deliver real change to protect the Amazon. Greenpeace is demanding that the moratorium stays until proper procedures for legality and governance are in place and until there is an agreement with the Brazilian Government and key stakeholders on long term protection for the Amazon rainforest. A working group will be established, made up of soya traders, producers, NGOs, and government to put in place an action plan.

The soya traders' statement follows a three year Greenpeace investigation into the negative impacts of soya in the Amazon. Soya is the leading cash crop in Brazil and soya farming – much of it illegal – is now one of the biggest drivers, along with cattle ranching and illegal logging, of deforestation in the Amazon rainforest. Violent conflict over illegally cleared land is not uncommon. Most of this soya is exported to Europe to feed chicken, pigs and cows for meat products.

In a statement, McDonald's said: 'When we were first alerted to this issue by Greenpeace, we immediately reached out to our suppliers, other NGOs and other companies to resolve this issue and take action...We are determined to do the right thing together with our suppliers and the Brazilian government, to protect the Amazon from further destruction...The two-year time frame set for the initiative is, we hope, indicative of the sense of urgency with which the soya traders wish to implement the governance programme and all of its conditions. We expect that should some of the measures take longer than the stated two years to implement, the moratorium would remain in existence until all commitments have been fulfilled.' McDonald's has already committed to removing Amazon sourced soya from its chicken supply chain.

All of the food companies calling for action to protect the rainforest have also pledged to continue their demands for non genetically modified (GM) soya from their suppliers. Greenpeace will continue to campaign against the use of GM crops within the Amazon rainforest and elsewhere.

For further information contact john.sauven@uk.greenpeace.org

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Greenpeace expose illegally deforestation for soya in the community of Santarem, where Cargill has illegally built an export terminal. The land is used by the President of the Agricultural Producers Association in Santarem.

More illegal timber found on Government site

Greenpeace activists scale the Admiralty Arch wing of the Cabinet Office in protest at Government use of illegally logged rainforest timber in the buildings refurbishment.

Greenpeace has again exposed the Government using illegal timber on one of its building sites. In July, Greenpeace volunteers climbed to the top of the world-famous Admiralty Arch off Trafalgar Square, where renovation work is currently being done on the building, home to the UK Cabinet Office and the Prime Ministers Strategy Unit. Commuters and tourists were greeted by a banner proclaiming 'Repeat offender! Blair's trashed another rainforest!', above plywood hoardings from the rainforests of Papua New Guinea (PNG).

A landowner from PNG, Sam Moko, delivered a piece of the illegal plywood to 10 Downing Street with a demand for the Prime Minister to stop assisting the destruction of his forest home. Earlier this year, Brian Baring, another landowner from PNG, toured Europe asking ministers and timber companies to ban the trade in illegal timber that is destroying the PNG's forests – among the most diverse and important wildlife habitats on the planet. At current rates of logging, the country could be completely logged out by 2020.

Admiralty Arch is the latest government timber procurement failure. In 2002, Greenpeace occupied Cabinet Office rooms where sapele wood, logged illegally in the rainforests of Cameroon, was being used. In 2003, illegal Indonesian plywood was found on the construction site at the new Home Office building.

The latest Greenpeace investigation discovered that the plywood hoardings used in Admiralty Arch were installed by System Clad, subcontractor to Allenbuild, part of Renew Holdings plc. This is the second time this year that Greenpeace has caught System Clad using rainforest plywood of doubtful provenance – in June, the company was found using bintangor plywood hoardings in the refurbishment of Nelson's Column in Trafalgar Square (see news briefs). The red canarium plywood used in Admiralty Arch was sold to System Clad by timber merchant AW Champion, while the bintangor was sold by WI Chambers. Neither timber merchant could prove the legality or sustainability of the wood supplied.

In 2000, the Government introduced a timber procurement policy in which it undertook to buy legal and sustainable timber. Had this policy been enforced, it would by now have had a massive effect on the UK timber industry, since central government and the public sector buy up to 40% of all timber purchased in the country. However, weak guidelines for government contractors and a lack of monitoring and enforcement effort have led to continuing purchases of illegal timber. The only sure way to bring an end to the UK's complicity in rainforest destruction is to ban all such illegal timber imports and promote the use of wood certified by the Forest Stewardship Council (FSC). The FSC logo ensures that wood – including garden furniture, household items and wholesale timber – comes from environmentally and socially responsible sources.

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Weak guidelines for government contractors and a lack of monitoring and enforcement effort have led to continuing purchases of illegal timber.

Progress to eliminate toxic e-waste

At present, e-waste makes up 5% of all municipal solid waste worldwide, with 20–50 million tonnes thrown away every year.

The two largest computer manufacturers in the world – Hewlett-Packard (HP) and Dell – have agreed to stop using some of the most hazardous chemicals currently found in their products. HP announced its new policy in March and Dell followed suit in June with a pledge to phase out by 2009 the use of brominated flame retardants (BFRs) and plasticised polyvinyl chloride (PVC).

Dell and HP join other consumer electronics manufacturers including Sony, Nokia, Samsung, LG and Sony Ericsson as industry leaders in the phasing out of toxic chemicals. However, other manufacturers, including Apple, Fujitsu-Siemens, IBM, Panasonic and Toshiba have failed to follow this lead. Worse, US mobile phone company Motorola has actually backtracked on a promise to remove toxic chemicals from its products. Of the top five mobile manufacturers, Motorola is the only one yet to commit to eliminating the toxic elements of e-waste (waste electronic goods).

HP's change of policy has not happened overnight. In 2003, Greenpeace investigations discovered that the company's computers contained particularly high amounts of BFRs. Thousands of customers wrote to the company about its chemicals policy and the controversy was followed closely by the industry media.

Aside of Greenpeace's efforts to publicise the issue, another reason green electronics are on the corporate agenda is the introduction of stronger EU legislation. The Waste Electrical and Electronic Equipment (WEEE) Directive, which passed into UK law last year, requires companies to set up recycling facilities for their products. On 1 July, the Restriction of Hazardous Substances (RoHS) Directive, which restricts the use of certain substances (including BFRs) in electrical and electronic equipment, became law across EU Member States. As a consequence of RoHS and WEEE, other countries outside the EU are looking at developing similar regulations. China has an equivalent law that will come into force next year. Many US manufacturers will comply with RoHS, even though the USA itself does not have legislation on toxic substance use or recycling.

Despite these positive steps, electronics users expect more. A survey conducted for Greenpeace by Ipsos MORI found that most people questioned in countries around the world from China and Mexico to the UK, would pay extra for a more environmentally friendly computer and felt that companies should be held responsible for dealing with their hazardous waste from PCs.

Disposing of e-waste

At present, e-waste makes up 5% of all municipal solid waste worldwide, with 20–50 million tonnes thrown away every year. E-waste from the West is routinely exported to developing countries, often in violation of international law: inspections of 18 European seaports in 2005 found that up to 47% of waste destined for export, including e-waste, was illegal. In 2003, at least 23,000 metric tonnes of undeclared or 'grey' market electronics waste from the UK alone was illegally shipped to the Far East, India, Africa and China. In the USA, it is estimated that 50–80% of the waste collected for recycling is exported.

China tried to prevent this trade by banning the import of e-waste in 2000. However, a recent Greenpeace investigation discovered that e-waste is still arriving in Guiyu, Guangdong Province, the main centre of e-waste scrapping in China. Greenpeace has also found a growing e-waste trade problem in India: 25,000 workers are employed at scrap yards in Delhi alone, where 10,000–20,000 tonnes of e-waste is handled each year, a quarter of this being computers.

Greenpeace will continue to confront those manufacturers who refuse to take cradle-to-grave responsibility for their products. Manufacturers must design greener electronic goods with longer lifespans, that are safe and easy to recycle, and that will not expose people or the environment to hazardous chemicals.

A child sits amongst a pile of wires and e-trash in Guiyu in Guangzhou province.

Taking the bomb out of politics

Top of the political agenda this autumn will be the question 'Should Britain commit itself to building a new nuclear weapons system to replace Trident?'

Tony Blair and Gordon Brown have already made their position clear – firmly pinning their colours to the policy of 'retaining Britain's independent nuclear deterrent'. No rationale has been given, supporting research released or debate encouraged. Pressure from MPs and from groups such as Greenpeace has forced the Government to agree that there will be a 'debate'. However, this will not take place until after the Government has announced its decision in the form of a White Paper. Damningly, the White Paper will examine nuclear weapons in isolation, rather than looking more widely at the real threats facing the UK in this post-Cold War era and at their policy implications.

Patently, the argument that the UK needs a strategic nuclear deterrent to see off a threat from an aggressive nuclear-armed state is no longer valid. Since the break-up of the Soviet Union such a threat does not exist, nor will it in the foreseeable future, even from new nuclear states such as Iran or North Korea – as the Government's own advisers concede and US intelligence confirms.

So why is the Government so keen to see Trident replaced? Partly, of course, it is a matter of international prestige, vanity even – wanting to remain at the top table with the top countries, and in particular not wishing to concede to France the status of Europe's only nuclear power. It must be admitted, though, that a country such as Germany does not seem to be hampered on the world stage by its lack of nuclear weaponry, and the same would surely hold true for a non-nuclear UK.

But the nature of the present Trident system gives a clue as to the main reason for the Government's enthusiasm. For Trident is not simply a multi-warhead, high-yield strategic weapon: it can be fitted with sub-strategic or tactical warheads of as little as one kiloton. Moreover, from its submarine launch platform it can be targeted anywhere in the world. All this makes for a highly 'usable' weapon which could be employed against 'rogue states' or other groups perceived to be hostile, without necessarily killing hundreds of thousands of civilians.

Since the first Gulf War, the UK has followed the US lead in envisaging the possibility of sub-strategic nuclear strikes against non-nuclear states. Post-9/11, following loyally in the wake of the developing US posture of global power projection and military pre-emption, the UK has confirmed its willingness to use Trident for a first strike.

Nonetheless, the dependency of the UK Trident system on US technology and maintenance means that there is no serious prospect of our using it independently of US authorisation. So this pre-emptive capacity effectively sets the seal on the UK military's status as a tool of US foreign policy objectives – which are likely to include the securing of long-term access to Middle East oil supplies by all available means.

The Cold War military threat from the Soviet Union no longer exists, and with it goes the official justification for Trident. It is inconceivable that Trident's replacement would be a purely strategic weapon without tactical capacity. To replace Trident would thus not only show the UK's continuing scorn for the disarmament pledges we have made under the Nuclear Non-Proliferation Treaty, undermining the prospects for further international negotiation and fuelling a new arms race – it would also lock us into the USA's aggressive vision of achieving foreign policy objectives by intimidation and, where necessary, unprovoked military action of the most terrifying kind.

Greenpeace believes there is one clear alternative to this dismal prospect. The Government should take the existing Trident submarines off patrol and place their warheads in internationally monitored stores; and it should cancel plans to replace the Trident system. This would open the door for the UK to take a global lead in kick-starting stalled nuclear disarmament negotiations.

Such a return to the tried and tested policy of multilateralism would not only help to make the Earth a safer place in nuclear terms (negotiations have already successfully got rid of half the global nuclear arsenal), but would also show the way towards a more collaborative and peaceful approach to the great environmental and social challenges that the world faces over the coming century such as climate change – decisively rejecting the US vision of a global politics of fear and coercion.

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From its submarine launch platform, Trident can be targeted anywhere in the world.

London Mayor timber apology

London's Mayor, Ken Livingston, has issued an apology after a Greenpeace investigation revealed that plywood used in scaffolding planks for the ongoing restoration of Nelson's Column was made from a tropical hardwood, bintangor, illegally obtained from the rapidly disappearing Papua New Guinea rainforests.

The Greater London Authority has developed strong policies for the use of sustainable timber. When confronted by Greenpeace with evidence of this breach, Mayor Livingston openly acknowledged the problem and promised to tighten up enforcement of the policies. 'My vision is for London to be a sustainable world city', he said, 'which is why I have taken action to raise standards.' Since the discovery of the bintangor wood, the UK Timber Trade Federation has alerted its members that products made of timber from Papua New Guinea or the Solomon Islands carry a 'high risk' of illegality.

Liberian timber trader guilty

In a verdict that will have far-reaching implications for the international timber trade, a judge in The Hague has found a former timber trader and arms dealer guilty of breaking the UN arms embargo in Liberia, and sentenced him to eight years in prison. Dutchman Gus Kouwenhoven was at the centre of the timber-for-arms trade in Liberia between 2000 and 2003. This 'blood-timber' funded the purchase by former Liberian President and warlord Charles Taylor of weapons which were used in a war that claimed over 250,000 lives.

The wood was bought by some of Europe's biggest timber traders, who refused to stop buying from Kouwenhoven despite increasing evidence of the link between the timber and the smuggling of weapons in violation of an international arms embargo. Between 2000 and 2003, Greenpeace investigations revealed that timber traders across Europe, including Danzer, DLH Nordisk, Wijma, Shelman, Feldmeyer and Tecnoalp, were buying timber from Kouwenhoven's two companies in Liberia. Only after 7 July 2003, when the UN Security Council imposed sanctions on Liberian timber exports, were the ties with the European timber trade finally terminated; France and China had previously blocked these sanctions for three years. A month after the ban on timber exports came into effect, the civil war ended and Charles Taylor fled to Nigeria.

USA Treasury nominee backs Kyoto

President Bush's Treasury Secretary nominee, Goldman Sachs Chairman Henry M Paulson Jr, has endorsed the Kyoto Protocol to limit greenhouse gas emissions, arguing that the United States' failure to enact it undermines the competitiveness of US companies. Paulson says that the Protocol is a key first step to slowing the onslaught of global warming and aiding conservation efforts. Until the USA passes its own limits on emissions, innovative US companies will lose out on opportunities to sell reduced emission credits to companies complying with the Kyoto Protocol overseas.

Paulson's Treasury nomination is strongly opposed by a coalition of right-wing groups seeking to cast doubt on climate science.

Meanwhile, America's first offshore wind project, located in Nantucket Sound off Massachusetts, has been given the go-ahead by the US Senate. It will provide 75% of Cape Cod's energy needs and set an important precedent for future wind projects.

Toxic Free Fashion Show

Working with 16 top fashion designers, Greenpeace Spain created the 'Moda Sin Toxicos' fashion show in Madrid to display new toxic-free fabrics. The show was sponsored by Inditex, the largest Spanish retail designer, and brought commitments from companies such as Mango and Camper to phase out toxics in their products. They join other high street names including H&M, Marks & Spencer and Puma in going toxic-free. Top fashion houses including Carmen March, Antonio Pernas and Jocomomola, also committed to a toxic-free future.

The catwalk show was created as a well-dressed wake-up call to EU politicians, who this autumn will vote on new rules to govern the chemical industry, deciding the fate of the new chemicals regulation regime known as REACH. At the heart of the debate is the question of whether or not the new law will give a clear signal to industry to replace hazardous chemicals with safer alternatives. Currently, thousands of chemicals are used in consumer products with little or no health and safety assessment, leading to widespread health risks. A baby may now be exposed to 100 man-made chemicals before it is even born. See www.greenpeace.org/international/news/ toxicfreefashion190606.

Swiss drinking water polluted

The dump sites of four major Swiss pharmaceutical and chemicals companies – Novartis, Ciba, Syngenta and Clariant – are polluting the drinking water of Basel, according to a new study published in June by Greenpeace and the French laboratory Suez Environment. The water supply of over 100,000 people in the region contains toxic chemicals that were initially found in the groundwater around Novartis dump sites. Water suppliers and government officials came under heavy criticism for claiming to politicians that the water was clean when they knew it was polluted. Greenpeace has demanded immediate measures to ensure clean drinking water, including access to published data, systematic investigation of all drinking water wells and the total clean-up of the leaking dump sites.

Philippine coal plant project abandoned

In a decisive defeat that attests to the growing opposition to coal in the country, the Philippine National Oil Company (PNOC) has agreed to withdraw its plans for an integrated coal mining and mine-mouth power plant project in Isabela province, after massive opposition from local communities and Greenpeace. The move came less than two weeks after Isabela community leaders and Greenpeace activists protested in front of the PNOC compound and delivered a petition against the project signed by 15,000 citizens. PNOC President and Chief Executive Officer Eduardo Mañalac admitted that the company was pulling out of the project because of the lack of community support.

The coal project was to have been constructed in the municipalities of Naguilian and Benito Soliven, and the city of Cauayan. All three communities had rejected the PNOC's request for endorsement of the project, arguing that coal, as the dirtiest fossil fuel, is a menace to the environment and human health, and that the plant's acute and long-term environmental and social costs would make it an expensive and unacceptable burden to its host communities. The project would have been the Philippine's first coal-fired power plant located on a mine site.

If President Arroyo is serious about achieving a 'Green Philippines' in five years, the Government should now initiate a shift to clean, renewable energy with a clear target of at least 10% of total energy needs generated from sun, wind, and modern biomass by 2010.

Meanwhile, Greenpeace continues to campaign against coal. On 27 June, activists in Denmark presented a 20x30-metre Danish flag, impregnated with coal, to the Danish Parliament. Denmark still uses seven million tonnes of coal a year, all of which is imported. On 13 June, activists also confronted the Czech Ministry of Environment. The Czech Republic has one of the highest per capita levels of CO_2 emissions in Europe.

Spanish green electricity

Greenpeace entered the Madrid Stock Exchange to announce a 'green takeover' (OPA Verde). Unlike conventional corporate bids, the OPA Verde is a bid from consumers who want to purchase clean electricity. In Spain consumers are theoretically allowed to choose their electricity supplier, but in practice there is no alternative because of the artificially low tariffs set by the Government. Greenpeace is working with consumer organisations to increase pressure on the Government to remove the barriers to consumer choice, and has published a report, Choosing clean electricity, available in Spanish at www.greenpeace.org/espana/reports/resumen-del-informe-elegir-el

Asian Development Bank funding

Greenpeace has called on the Asian Development Bank (ADB) to spearhead the global energy revolution by advocating stronger, more ambitious renewable energy policies and targets among its developing nation members.

Greenpeace International Executive Director Gerd Leipold, during a visit to Manila last June, declared that the bank should take the lead in demonstrating to Asia the need for national policies to take into account the risks posed by climate change to the region's economies, and the importance of energy security; and that promoting the uptake of renewable energy would be a major step towards meeting these objectives. The ADB has so far done little towards renewable energy projects and energy efficiency, despite its strong stance on climate change and sustainable energy.

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