

the world's highest density of seabirds, exceptionally large fish stocks and an estimated 5,000 polar bears. It also holds the world's largest untapped gas reserves and some of its biggest oil reserves. WWF is working to maintain and restore the ecosystems under the following action plan:

- Identify areas of high conservation in the Russian part of the Barents Sea and plan for protected areas and sensitive sites where development should be forbidden;
- Promote adoption of Marine Stewardship Council sustainable fishing standards;
- Develop management plans for the most valuable coastal ecosystems through surveys and baseline data collection;
- Campaign for a continued moratorium on oil drilling outside the Lofoten Islands and train volunteers to combat oil spills;
- Develop guidelines for sustainable whale watching in Norway.

Saturday 29th November.

With 85 Transition communities now up and running in the UK, Australasia and North America, and over 800 others working their way to recognition, what is distinctive about the movement is its emphasis on local empowerment in meeting the challenges of peak oil and climate change. Many local authorities are co-operating with Transition groups in working out Energy Descent Plans. The Sustainable Communities Act could prove a useful tool in this exercise. Somerset County Council with the cities of Bristol and Edinburgh are at the forefront. Success for the Transition movement will mean localisation of energy supplies, food provision and transport, reduced carbon output and increased resilience to environmental and economic shocks. The movement has a long way to go. Websites: www.transitiontowns.org and www.transitionculture.org

Sunday 30th November.

We thank you, Lord God, that you have given humanity such power to create, to nurture, to construct, to mould and to adapt. Give us also the strength to acknowledge our weaknesses and ever to use our creative powers for your glory and for the spread of your Kingdom here on earth. Amen.

Additional prayers:

Sources: Earthmatters (FoE)
The Ecologist
Green Futures
Resurgence
www.edie.net
www.wwf.org.uk

The December edition of the Prayer diary will be put online at the end of September 2008.

If you would like to receive the prayer diary each month by [email](mailto:prayer-guide@christian-ecology.org.uk) (free), please email prayer-guide@christian-ecology.org.uk

Picture on front cover: Looking in bog pool near Ingleborough in the Yorkshire Dales. Peat bogs are a carbon store. Pools contain fascinating animals and plants.

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Prayer guide for the care of creation



November 2008

“Jesus said: I am the vine, you are the branches. If a man remains in me and I in him, he will bear much fruit. Apart from me you can do nothing.”

(John 15.5)

“If the chosen soul could never be alone
In deep mid-silence, open-doored to God,
No greatness ever had been dreamed or done:
The nurse of full-grown souls is solitude.”

(James Russell Lowell)

Saturday 1st November.

Ed Milliband, the new Secretary for Energy and Climate Change, has committed the Government to a legally-binding cut of 80% in greenhouse gas emissions by 2050 from a 1990 base level. He also accepted the need for a feed-in tariff – as practised in many continental countries – to encourage the uptake of small-scale renewable energy, though the announcement was short on details. Philip Wolfe of the Renewable Energy

Association commented: “It is vital to give energy users the incentives to become part of the solution. The new tariff will give a big boost to communities, householders and businesses that want to contribute to our sustainable energy targets.”



Sunday 2nd November.

Lord, give us grace to know when to speak and when to be silent; and if we are misunderstood or wrongly judged, help us to commit our cause in perfect confidence to you, who judge men's hearts and not their words, through Jesus Christ our Saviour.

Monday 3rd November.

An EU-commissioned study headed by a Deutsche Bank economist and titled "The Economics of Ecosystems & Biodiversity" (TEEB) finds that the annual cost of the loss of world forests comes to between \$2 and \$5 trillion. By comparison, the current banking crisis has until now cost the financial sector between \$1 and \$1.5 trillion. The TEEB figures include the value of the services that forests perform such as providing clean water and absorbing CO₂ emissions. A key to understanding the conclusions is that, as forests decline, nature stops providing services which it used to provide for free. So the human economy has either to provide them instead e.g. by building reservoirs or sequestering carbon dioxide or farming foods that were once provided by nature, or we have to do without them. Either way, there is a financial cost. The calculations show that the cost falls disproportionately on the poor, because the greater part of their livelihood depends directly on the forests, especially in tropical regions. Commented Andrew Mitchell of the Global Canopy Programme: "The numbers in the Stern Review enabled politicians to wake up to reality. TEEB will do the same for the value of nature, and show the risks we run by not valuing it adequately."

Tuesday 4th November.

Forest destruction accounts for one-fifth of the world's CO₂ emissions. The Government-commissioned Eliasch Review believes that forest destruction could halved within 12 years and the world's forests could be carbon-neutral by 2030.

"Saving forests is critical for tackling climate change. . . Deforestation will continue as long as cutting down and burning trees is more economical than preserving them. Access to finance from carbon markets and other funding initiatives will be essential for supporting forest nations to meet this challenge." But FoE comments: "Allowing rich countries and businesses to offset their CO₂ emissions by buying up huge tracts of forest is riddled with problems and will do little to tackle climate change. The industrialised world must rapidly cut its dependency on fossil fuels if we are to prevent catastrophe. The Eliasch plan will simply create a smokescreen allowing us to carry on polluting – it's the climate equivalent of sub-prime mortgages. Forests and forest communities urgently require protection. Financial packages are needed – but we must also address the underlying causes of deforestation, such as biofuels, excessive meat consumption and industrial logging."

Wednesday 5th November.

The Kyoto-style approach to carbon emissions assigns permits on a nation-by-nation basis. This, argues Oliver Tickell in "Kyoto2; How to Manage the Global Greenhouse" is a recipe for disputes. Better by far to agree on a single global auction of permits to emit greenhouse gases. The total number of permits would reduce year by year. The emissions would be monitored at the source i.e. at the oil refinery or the coal washing facility. The auction would raise about \$1 trillion a year which would be used to finance a huge expansion of renewable energy, energy efficiency, forest conservation and climate-friendly farming. Funds would also be available to help poor countries to adapt to climate change and to address the health effects of climate change and for emergency relief.

Kyoto2 would thus be three-pronged:

- Carbon pricing under a cap which would reduce year-on-year;

Foundation Project is part of a proposed international electricity supergrid that could join up offshore windfarms across Europe, so maximizing the use of wind power. For details, go to: www.aircity.ie/england/wind_farms/supergrid/10g_w_foundation_project

Tuesday 25th November.

A research paper called "Voodoo Economics and the Doomed Nuclear Renaissance" by Paul Brown, Fellow of Wolfson College, Cambridge, describes what happens at Sellafield, Britain's largest industrial complex, employing 10,000 people, with armed police guarding its perimeter, because it contains the world's biggest stockpile of plutonium and uranium. Sellafield produces no electricity. Instead it re-processes spent fuel to produce more unwanted plutonium and uranium. Some of this could be turned into fuel, but the MOX plant built to do this at a cost of £400 million has produced, in the seven years since it was built, only 7 tonnes of fuel compared with a production target of 840 tonnes. Much of the nuclear waste comes from other countries that send their spent fuel to Sellafield to be re-processed and sent back home so that Britain would not become "the nuclear dustbin of the world". Instead, it remains at Sellafield, going nowhere. Paul Brown believes that the Government will step in, using taxpayers' money, to save the nuclear industry whatever the cost. Yet "the cost of building new, untried nuclear designs, and the time taken to do so, means that any contribution that nuclear power could make to easing the problem of climate change would be too little too late."

Wednesday 26th November.

A joint WWF/RSPB/IPPR report examines the implications of the Government's new commitment to an 80% reduction in carbon emissions by 2050. The report excludes nuclear generation and limits the use of biofuels to reflect concerns about their

sustainability. It also places an upper limit on wind generation, to address problems of intermittency and impacts on wildlife. Rapid decarbonisation would be achieved by major investments in wind power and a significant role for carbon capture and sequestration (CCS). Emissions from heat generation would be reduced through a programme of energy efficiency. Transport emissions would be reduced by improvements in vehicle efficiency and by the use of second-generation biofuels derived from sustainable sources. The new Climate Bill must be amended to include emissions from aviation. The cost of meeting the 80% target, including our share of aviation emissions, would be 2-3% of GDP per year by 2050. These costs would be dwarfed, as the Stern Review indicated, by the costs of unmitigated climate change which would reduce global GDP by 5-20%.

Thursday 27th November.

Ireland's state-owned Electricity Supply Board is about to announce an *Electric Transport Programme* under which electric vehicles would use off-peak times to recharge their batteries. To make electric travel viable, changes were needed to the grid system, battery exchange facilities and charging points around the country. ESB officials had visited Israel to study the \$200 million grid project set up by software firm Better Place. Meanwhile EirGrid, which manages the Irish National Grid, plans to double the capacity of Ireland's electricity transmission network at a cost of 4 billion euros, which will be raised in part by the introduction of a 'transmission tariff' of 0.25% up to 2025.

Are there lessons here for Britain?

Friday 28th November.

The Barents Sea in the Norwegian and Russian Arctic is one of the richest marine ecosystems in the world, with the largest deepwater coral reef,

to help employers set up and promote can recycling, following pilot schemes run by Npower and Stella Artois. One of the elements of the programme is the communications campaign that advises employees how to recycle, and what difference their efforts are making. For example, the energy saved by recycling one can is enough to run an office computer for one day.

Thursday 20th November.

Japanese Knotweed has spread throughout the UK since its introduction in Victorian times. It can grow more than a metre a month and can force its way through tarmac and concrete. DEFRA estimates it would cost £1.56 billion to control it using traditional methods. More than 200 natural controls have been tested in Japan, and one – a sap-sucking psyllid bug – is receiving safety testing by the Centre for Agricultural Bioscience International before being released into Britain. Scientists say it would take between five and ten years before the results could be seen, and even then the bug would be unlikely to eliminate the weed altogether.

Friday 21st November.

The cost of photo-voltaic solar cells is a major barrier to the wider take-up of the technology. Now the Massachusetts Institute of Technology has developed a window glass coated with a special paint which traps the sunlight in the pane and emits it at different wavelengths, so the light travels to the edge of the window, where solar cells convert it into electricity. The crucial point is that expensive solar cells only coat the edge of the glass, so fewer are needed. The sunlight trapped by the paint can be re-emitted at whatever wavelength you like, so windows can be made fluorescent green or blue. For more details, go to: www.mit.edu

Saturday 22nd November.

The Church of Christ the Cornerstone, Milton Keynes, is the venue for a CEL conference entitled “Transport – A Journey to a Fairer Future”. Stephen Potter, Professor of Transport Strategy at the Open University, will speak on the design processes for cleaner transport and vehicle technologies, low carbon transport systems and more sustainable travel behaviour. Professor Michael Northcott, author of “A Moral Climate”, will speak on the ethics of climate change, technological ethics and theological approaches to utopianism. In the afternoon Stephen Potter will address the question “Are roads evil? And Michael Northcott will speak on “Rhythm of the Earth” followed by discussion, refreshment and a devotional session. The CEL annual members’ meeting takes place at 10.00 immediately before the conference. The booking form can be downloaded from the CEL website and should be sent with a cheque for £15 to Lisa Pye, c/o St. Mary’s Church Office, Church Green Road, Bletchley MK3 6BJ.

Sunday 23rd November.

Give us, dear Father, a deeper understanding of your purposes, that we may be steadfast amid the turmoil of our times. May our faith never fail, nor our love grow cold, nor our hope become faint. May we look up and lift up our heads as we look for the promised redemption of your world, through the love of Jesus Christ, your Son and our Redeemer.

Monday 24th November.

As different European nations develop a variety of energy resources, it becomes ever clearer that we need an electricity supergrid linking European countries together to enable us all to benefit from offshore wind farms, Scandinavian hydro and the huge potential of solar power drawn from the deserts of North Africa. Airtricity’s North Sea

- Funding to address the causes and consequences of climate change;
- A regulatory system (similar to the Montreal Protocol) to monitor emissions at source.

As the cap contracts, improved energy efficiency and the large-scale deployment of renewable technologies will leave the world less dependent on fossil fuels.

Thursday 6th November.

Britain has now become the world’s largest generator of offshore wind power – 5 gigawatts in total. Five more offshore wind farms are to be built within the next year. But FoE points out that Britain is still near the bottom of the European league for harnessing renewable energy, despite having the biggest renewable resources in the form of wind, wave and tidal energy. The EU Renewable Energy Directive commits Europe to generating 20% of its energy from renewables by 2020. Britain’s target is 15%, but is attempting to wriggle out of this commitment by giving credit for carbon capture & storage and investments outside the UK, while excluding aviation altogether.

Friday 7th November.

A German demonstration project that burns coal in the presence of oxygen captures and stores 100,000 tonnes of the resulting CO₂ each year in a depleted gas field. But new research at Utrecht University suggests that burying CO₂ could lead to a build-up of sulphur and nitrogen compounds leading to the formation of acid rain. This is because, in order to strip out the CO₂, one-third more coal must be burnt to produce the same amount of electricity as a conventional plant. This raises doubts as to whether carbon capture and storage (CCS) can ever be economical.

Saturday 8th November.

A poll for ICM taken in June found that, when asked whether, given global economic problems, the Government should prioritise the environment or the economy, 52% said the environment and 44% the economy.

The IPPR/British Gas initiative ‘Green Streets’ found that the UK could save more than £4.5 billion on energy bills, cutting energy use by 30% and CO₂ emissions by 20%. If the Government spent £500 million a year on 10,000 neighbourhood energy advisers, this would produce potential savings of £4.5 billion.

A study from the New Economics Foundation called “Green New Deal” calls for every home and office to become a renewable energy power station, for the creation of new green-collar jobs and a ‘carbon army’ to bring about the changes needed in renewable energy and energy efficiency.

Sunday 9th November.

We thank you, Father, for the men and women of determination who have taken the lead in the struggle to protect your creation from exploitation and degradation. Help us, in our turn, to give of ourselves, not counting the cost, for the sake of your dear Son, who died to save not just us, but the whole of your creation. Amen.

Monday 10th November.

Hilary Benn, the Environment Secretary, is to set up a Council of Food Policy Advisers to advise the Government on the affordability, security of supply and the environmental impact of food production. He said the growing world population, climate change and rising fuel costs were all leading to an unprecedented threat to Britain’s food supplies. “Our food supply needs to be liable and resilient and able to withstand shocks and crises.” The

Council will consist of experts from every stage of food production from farmers to retailers and will advise on improving food production at home, ensuring people on low incomes have adequate levels of nutrition and maintaining cheap foods through trade. The make-up and timetable of the Council has yet to be decided. Professor Tim Lang, a Government adviser, said recently that we should be growing more of our own food to counter the impending food crisis.

Tuesday 11th November.

An "Any Questions" panel, considering a Government proposal to limit Britain's population to 70 million (it is now nearly 61 million), failed to even contemplate any environmental limits to population growth – despite the setting-up of the Council of Food Policy Advisers because of an "unprecedented threat to Britain's food supplies" due to population growth and other factors. There appears to be a conspiracy of silence on the key question: "What is the optimum population level for a country with limited natural resources of land, water and energy?" If, as some say, we are already close to those limits, it is surprising, to say the least, that neither our politicians nor our media appear willing to recognise the problem. For further details, visit: www.optimumpopulation.org

Wednesday 12th November.

Today a conference for church leaders on "Mission in a Changing Climate" meets at St. Barnabas' Church, Cambridge, from 9.30 to 4 under the auspices of A Rocha. The main speakers are: Revd Dr David Wilkinson, Principal of St. John's College Durham and author of "The Message of Creation", Professor Bob White FRS, co-author of "Christianity, Climate Change and Sustainable Living", Dr. Simon Stuart of IUCN, and Revd Margot Hodson, co-author of "Cherishing the Earth".

Entry fee: £20. Contacts: Lynda Taylor on 01223 575172 or Hilary Martin on 01223 369050 or email: arocha.cambridge@googlemail.com

Thursday 13th November.

Why, in a world where, according to the Director-General of the FAO, "our planet produces enough food to feed its entire population", is there a growing food crisis leading to food riots in many countries? The Government says we waste 4.1 million tonnes of food each year (worth £420 per household). Others point to global trade deals which force developing countries to produce food for over-fed Western markets while putting local farmers out of business. Others again see the growth in biofuel production as a cause of rising food prices. A new FoE report called "Hoofprints: Livestock and its environmental impacts" focuses on the growing demand for cheap meat, eggs and dairy products – a demand which drives the clearance of tropical forests for yet more grain and soya plantations to feed livestock. So far the meat and dairy trade has failed to make production sustainable.

FoE is campaigning:

- To support farmers growing their own local feeds and rearing extensive and organic livestock;
- To ensure that no public finance is used to support intensive livestock farming;
- To press Government intervention to ensure that schools and hospitals buy only sustainably-grown food.

A new book, "Eat Your Heart Out" by Felicity Lawrence, spells out how the current food business is bad for the planet and our health.

Friday 14th November.

From next January British farmers face tighter controls on nitrate pollution and DEFRA has launched a helpline to advise farmers. Anaerobic

digestion of manure is a possible solution, with the resulting biogas being used as a fuel to provide additional income. Treated manure could be returned to the soil and provide a valuable source of nutrients. The use of sewage sludge, after liming, as a fertiliser on agricultural land has seen great success elsewhere. A useful paper on this is available at: www.elsevier.com/locate/pedosphere

Saturday 15th November.

UK produces about 25 million tonnes a year of wet sewage sludge. Each tonne produces 9 cubic metres of methane. At least 45% of this is needed to heat and run an anaerobic digestion process and to clean up the gas. If the remainder were substituted for grid natural gas (roughly 7p per kWh), it would be worth £100,237,500. Anaerobic digestion reduces the dry solids content of human waste by 30%, meaning that as many as 15 million tonnes of 'digestate' could be produced each year. Dr. Stephen Smith of Imperial College estimates that the nitrogen and phosphorus content of this 'digestate' could be worth £20 million in terms of the artificial farm fertilisers it would replace. The main obstacle? Our deeply-ingrained fear of human waste.

Sunday 16th November.

Father, we thank you for your great gifts of wisdom and ingenuity. Help us to place them wholly in your service as we search for technologies that will protect the world you created for us and for all the creatures that live in it.

Monday 17th November.

Today the conference of the Agricultural Christian Fellowship meets at the National Agriculture Centre, Stoneleigh, on "Cherishing the Earth: Challenges in Farming, Food & Climate." The morning speakers will be Martin Hodson,

environmental biologist at Oxford Brookes University, and Revd Margot Hodson, Chaplain of Jesus College, Oxford, and author with Martin of "Cherishing the Earth: How to Care for God's Creation." Afternoon workshops will be on:

- Appropriate Crops and Technology for the Future
- The Future Role of Fertiliser and Manure
- Biofuels
- The Impact of Climate Change on Third World Farming
- Local Food
- The Role of Government – Partnership or Control?

To attend, please send a cheque for £20, or £30 for a couple, in favour of Agricultural Christian Fellowship to Manor Farm, West Haddon, Northampton NN6 7AQ.

Tuesday 18th November.

The Government has chosen six places in England to be the country's first "Zero Waste Places", the scheme to be run for DEFRA by the BREW Centre for Local Authorities. For example, Peterborough will run a Zero Waste City initiative covering more than 200 retailers around the Town Hall. The West Midlands will create a Zero Waste Region focusing on businesses and other organizations. Said the Minister: "These six places will test what can be done to make it easier for people and businesses to change the way they view and deal with waste."

Wednesday 19th November.

Drinks cans can be recycled over and over again, but 30% of the 8 billion cans sold each year are used at work or in public places where there are no facilities to recycle them. The Aluminium Packaging Recycling Organisation (ALUPRO) has launched a programme called *Every Can Counts*