

of the world's 15 biggest cities including London and New York. Nick Reeves, director of CIWEM, comments:

"An alarming prospect of climate change is its impact on coastal urban areas. It is of great importance to plan ahead on the basis of good science and analysis. Altering current population, urbanisation and coastal migration patterns requires a proactive approach that is rarely found, given the priority placed on economic growth."

Saturday 29th August

Last year the US added 50% to its installed wind power capacity, outpacing Germany which till then had been top of the league. US Interior Secretary Ken Salazar reckons that offshore wind turbines could provide enough power to supply the whole country's electricity demand. The draft Clean Energy & Security Act, if passed by the Senate, requires utilities to source a rising percentage of their power from renewables year on year. The controversial 420 MW. Cape Wind scheme off Massachusetts was passed by state authorities in May and could be operational by 2012/13.

Sunday 30th August

Lord, we are all yours – conceived in your mind long ages ago, brought to birth through the patience of evolution and redeemed by the love of Jesus.

Help us to realise the neighbourliness of creation. Forgive us our desire to exploit and destroy. Bring us to new horizons of kindness and service. Restore in us reverence for all your works, for you are the same God, yesterday, today and for ever. Amen.

Monday 31st August

One third of all the people that ever lived are alive today.

Commenting on the UN projected rise in global population from 6.5 billion today to 9.2 billion in 2050, Sir David Attenborough said: "I've never seen a problem that wouldn't be easier to solve with fewer people, or harder (and ultimately impossible) with more.

The solutions?

- Better education for women
- Availability of family planning to all who want it
- A reduction in infant mortality through better water supply and sanitation.

None of the above requires costly technological inputs. There is therefore little perceived profit for global businesses – that is, until they understand that to allow nature to take its course would ultimately ruin their businesses.

Sources:

CIWEM Business Briefing
Green Futures
Green Health Watch Magazine
www.edie.net
www.scidev.net

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 For further information and requests for prayer, please write or email: Philip Clarkson Webb, 15 Valley View, Southborough, Tunbridge Wells TN4 0SY Email: pcw@christian-ecology.org.uk

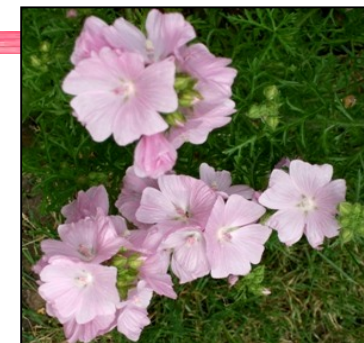
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Prayer guide for the care of creation

August 2009



"We know that suffering produces perseverance; perseverance, character; and character, hope. And hope does not disappoint us, because God has poured out his love into our hearts by the Holy Spirit, who he has given us." (Rom. 5.4-5)

"Hope is not the same as optimism. It is not the conviction that something will turn out well, but the certainty that something makes sense regardless of how it turns out. It is Hope, above all, which gives us the strength to live and continually try new things." (Vaclav Havel)

"The work of keeping the gnawing dogs of truth at bay takes far more energy than admitting the awful truth. When we are committed to honesty, to seeing things as they are, without denial or distortion, we have only to knock at the door of truth to find it ready open and the Bread of Life deposited in our hands.

(Selwyn Hughes)



Saturday 1st August

In just four months' time world leaders will gather at Copenhagen for their, and our, last opportunity to save the world from the worst effects of climate change. The Prince of Wales, while acknowledging the role of individuals, has stressed the role of deforestation. "If we lose the battle against tropical deforestation, we lose the battle against climate change." To pledge support for the Prince's campaign, go to:

www.rainforestsos.org

Sunday 2nd August

Save us, loving Father, from over-reliance on human ingenuity and quick fixes as we strive to repair the damage we have wrought to your world. Acknowledging our reasoning powers as your great gift to us, inspire us to put our trust in you alone, who gave your Son for us and for all your creation.

Monday 3rd August

Lord Stern in "A Blueprint for a Safer Planet" sees six necessary elements in a global deal on climate, but he warns: "If negotiations take the form of 'I will drop this if you drop that', the deal would be unlikely to deliver on the scale required and would probably be inefficient and inequitable."

- 1) Developed countries to take on binding commitments to a 20-40% reduction in emissions by 2020 and at least 80% by 2050. Developing nations to reach a peak in emissions by 2030 and to decline to 2 tonnes per capita per year by 2050.
- 2) A \$15 bn. a year funding programme to halve deforestation *plus* \$5 bn. a year for developing and sharing existing & new technologies *plus* the \$75 bn. a year pledged for development by the G8 at Gleneagles, but now with climate change integrated into development goals.

- 3) Carbon trading. Stern argues thus: "If the cost of emissions reduction is lower in country A than in country B, then the total reductions can be achieved at lower cost by doing more reduction in A and a little less in B. In these circumstances B could pay A to do a little more and both countries would be better off."
- 4) A halt to deforestation which now contributes 20% to global emissions.
- 5) Technological advance and sharing of technologies.
- 6) Overseas assistance to support development goals. "Without this element, the perceived injustice will jeopardise the willingness of developing countries to take on targets."

The target for global emissions needs to be 2 tonnes per capita per year by 2050. The current average is 7-8 tonnes. Stern would allow carbon trading to even out the differences between developed and developing nations. Some see this as a cop-out from the domestic responsibilities of developed nations while admitting that a big-bang reduction to a certain figure by a certain date would be impracticable.

Tuesday 4th August

Whatever the outcome of the Copenhagen negotiations, it is clear that action at local level will be crucial. "If we wait for governments, it'll be too little, too late. If we act as individuals, it'll be too little. If we act as communities, it might be just enough, just in time." (The Transition Handbook)

The Government's announcement of a feed-in tariff for households that generate their own electricity could be a useful incentive to those wanting to go off-grid for their power supplies. Now the planning process needs to be simplified to ease the path of homeowners seeking renewable energy solutions.

Oceans teeming
Nations at peace.
Creator, Sustainer, Redeemer,
Alert nations, inspire churches,
Receive our commitment, so that
Earth and heaven will glorify you.

Monday 24th August

Scientists at the Washington-based Woodrow Wilson International Centre for Scholars have been carrying out field trials on "nanoremediation" of contaminated sites. Its Project on Emerging Nanotechnologies has identified 45 sites in 7 countries and 12 US states where nanomaterials have been used for soil and groundwater remediation. The authors of the project conclude that the technology could be an effective and economical alternative to some clean-up practices, but potential risks remain poorly understood. "More research is needed to understand and prevent any potential adverse environmental impacts, particularly studies on full ecosystem-wide impacts."

Tuesday 25th August

Forests act as carbon sinks: trees and soils absorb carbon from the atmosphere and store it away. If forests are left intact, they could play a crucial in offsetting our carbon emissions. Under the Reducing Emissions from Deforestation & Forest Degradation programme (REDD) developing countries will be paid for reducing emissions, but much remains to be decided before the scheme is finalised at Copenhagen in December. For example,

- How can REDD projects be monitored and verified in remoter parts of developing countries?
- How can agroforestry contribute to a solution?
- What are the real costs to developing countries in avoiding deforestation?

- Should greater emphasis be put on reforestation and growth in forest carbon stocks?
- Have developing countries the capacity to trade effectively in carbon markets?

There is an urgent need for prayer on all these issues. Copenhagen is our last chance for an effective climate agreement.

Wednesday 26th August

Staffordshire County Council has signed a formal partnership with Tuvalu, the Pacific island state most at risk from rising sea levels. The agreement commits both bodies to work together to raise the issue of climate change globally. Tuvalu is a nation of nine coral islands in the South Pacific. All the islands are expected to be completely submerged by 2050.

Thursday 27th August

A report from 400 scientists of the International Assessment of Agricultural knowledge, Science & Technology for Development (IAASTD), commissioned by the World Bank and FAO, concludes that while some agricultural technologies have contributed to productivity increases, those same technologies – such as pesticides and fertilisers – now threaten the social and environmental sustainability of agriculture. Greenpeace commented: "The conclusion of hundreds of scientists around the world is that the future of agriculture depends on ecological farming. In order to address the food crisis, G8 governments must follow UN advice and increase dramatically their investment in smallholder ecological farming systems, while ending subsidies that promote unsustainable industrial agriculture."

Friday 28th August

There is a major risk that climate change will cause many coastal areas of the world to be inundated in the next few decades, affecting 11

with biological control of pests. Chemical use has fallen by about 40% and artificial fertilisers by 30%.

Thursday 20th August

Biochar is a soil management strategy for making nutrient-poor soils more fertile while turning them into stable carbon sinks. A pilot project in Cameroon involves 75 groups of subsistence farmers producing char from palm fronds, cassava stems and three types of wood. Six weeks into the project, the maize in the char plots has already begun to tassel despite erratic rains, while plants in the control plots are barely past the 8-leaf stage. The Biochar Fund and Key Farmers Cameroon are now studying whether the use of biochar can help solve food insecurity, soil depletion, energy poverty and help slow the rate of deforestation. Website: www.biocharcameroon.org

Friday 21st August

According to Rattan Lai in an article in Science for 2004, good carbon sequestration practice could reduce atmospheric CO₂ levels by 0.144 – 1.08 gigatonnes a year (i.e. 5-15% of global emissions from burning fossil fuels), while increasing the soil's ability to store CO₂ by 1 tonne per hectare. It could increase wheat yields by 22-44 kg. per hectare, and maize yields by 11-22 kg. per hectare.

Australia has lost up to 50% of its topsoil since Captain Cook landed in 1770. The Australian Government has set up a Soil Carbon Accreditation Scheme to examine possible benefits of storing carbon in soils, such as: Increased soil resilience through increased humus

- Decreased soil salination through improved water retention
- Increased fertility through providing the right mixture of CO₂ and moisture

- Increased biodiversity since more plant cover means more insects means more birds
- Reduced pollution through reduced demand for synthetic fertilisers.

Saturday 22nd August

So-called "ornus elements" are non-metallic forms of precious and semi-precious metals and are most abundant in volcanic soils, in seawater and in seaweed. They have long been known as powerful fertilisers. Anyone with access to seawater can extract ornus by one of the methods described on the website www.subtleenergies.com or purchased from Ocean Grown UK by ringing 01749 812652 or emailing enquiries@oceangrown.co.uk Ornus elements could be a cheaper, non-toxic alternative to synthetic drugs and dietary supplements. Additional benefits include

- Higher crop yields allowing people to grow more food on less land
- Reduced need for artificial fertilisers and pesticides leading to reduced costs and health risks for farmers and consumers
- Reduced carbon emissions from the manufacture of synthetic alternatives
- Increased carbon absorption, especially in managed tropical forests.

The 2004 tsunami devastated crops in South East Asia, but a year later UN surveys found that the fertility of 81% of Thailand rice fields had returned and some yields were higher than before. "The sea water turned out to be a great fertiliser" said one rice farmer.

Sunday 23rd August

Creator God, you have given us a new vision of:
Resources conserved
Earth tended
Atmosphere cleansed
Trees planted
Injustice ended

Wednesday 5th August

Past societies have tended to fall apart under the stresses of food shortages and other environmental pressures. Unity is easier to achieve when times are good. The Abrahamic religions can look back to the example of Joseph, who under God's guidance prepared for the lean times.

Today we are fortunate to have many authoritative voices telling us we must prepare for unprecedented disasters unless we take precautions now. Will world leaders assembled at Copenhagen play to the natural desire of us all to provide better material conditions for ourselves and our children? Or will they take the long view and prepare us for the inevitable consequences of climate change?

Thursday 6th August

A small-scale test of post-combustion carbon capture is running until the end of the year at Scottish Power's Longannet coal-fired station, operating on just 1 MW. of its total capacity of 2.3 GW. It is hoped to scale up the carbon capture element to 300 MW. and to link it to North Sea storage sites. Next year the Government proposes to launch commercial trials of pre-combustion methods of carbon capture. Critics fear the outcome could be a fudge that gives coal a long-term future even though CCS remains just an uncertain promise.

Friday 7th August

Capturing the carbon in forestry, horticultural and domestic waste by the process known as 'biochar' has been taken a step nearer with the building of a 1.4 MW. pyrolysis CHP plant at the University of East Anglia funded by the Carbon Trust. The South East alone has over 15,000 hectares of under-used coppiced woodland which could be used to create 'biochar' for use as a fertiliser and a carbon sink. Besides storing

the carbon permanently in the soil, 'biochar' has a useful water-holding capacity. However, questions remain about its effectiveness in different soil types and its capacity to absorb heavy metals. Website: www.geos.ed.ac.uk/biochar

Saturday 8th August

Today is the UN International Day of the World's Indigenous Peoples. There are at least 5,000 groups of indigenous peoples in over 70 countries who have some of the smallest carbon footprints, yet are suffering the worst impacts of climate change. CIWEM is calling for the international community to include these peoples in any agreement reached at Copenhagen. Nick Reeves, its director, said: "Indigenous people are a vital part of many ecosystems, often helping to enhance their resilience. But they are rarely considered in public discourse on climate change." Website: www.ciwem.org

Sunday 9th August

Dear Father, we cannot spread care for your creation throughout the world, but help us to begin where we are. Make us honest and careful in all our dealings, true in our words and actions. We cannot alter the course of a suffering and unjust world, but help us to light candles in the darkness in the name of your Son, Jesus Christ, who at his glorious Day of Justice and Judgement will herald the triumph of righteousness and peace.

Monday 10th August

The RSPB has dropped its objections to a new wind turbine at Rainham Marshes to power its visitor centre. A new RSPB study urges the building of more land-based wind farms while proposing a wildlife sensitivity map for intending developers. Most significantly, it now supports the 175-turbine London Array. "We badly need

schemes like the London Array. Above all, we need to show how we can have clean power and wildlife. There has to be a world left saving after all."

Tuesday 11th August

Recent reports from the National Grid, energy consultants Poyry and a coalition of NGOs have finally dispelled fears that the variability in wind strength is a major problem for the wider use of wind power. The more turbines there are, the less likelihood there is of adverse effects from lulls in wind strength: it is like spread betting. Also, the EU has called for greater grid connections across Europe to take the sting out of variable weather patterns. The NGOs claim that breakdowns in coal and gas plants pose more of a threat to the stability of electricity networks than the relatively benign variations in the output of wind plants. The BWEA adds: "As a source of energy, wind is free and manageable. Integration costs will be more than offset by the inevitable rises in fossil fuel prices. We could be looking at net savings as we deploy more wind."

Wednesday 12th August

Kevin McCloud, host of the Grand Designs TV series, has joined thousands of homeowners in urging the Government to unlock the potential for energy savings in the UK's 26 million homes. By insulating the existing housing stock, 9 million tonnes of CO₂ emissions could be saved – equal to the average CO₂ output of over 1.5 million homes a year. The market for green improvements could be worth between £3.5 and £6.5 billion a year and thousands of new jobs could be created. Improved heating and insulation in our homes would save an average of £300 a year on household bills. The Grand Designs Great British Refurb petition can be found at: www.greatbritishrefurb.co.uk

Thursday 13th August

Four eco-towns are to be built under the Government's £60 million programme, each development to be zero carbon and water neutral. The Prime Minister said: "Eco-towns will help to relieve the shortage of affordable homes and to minimise the effects of climate change on a major scale. They will provide modern homes with lower energy bills, energy-efficient offices and brand-new schools, community centres and services." The Housing Minister said: "If Britain is going to be safe from climate change, we have to change the way we live now. More than a quarter of carbon emissions come from houses, so we are establishing pioneering places that in ten years' time will set the standard for every new town and community. We are leading the way on the world stage with these developments by radically re-thinking how we design, plan and build our homes to create zero carbon developments which combine affordable housing with green infrastructure and a higher quality of life."

Friday 14th August

Britain's biggest anaerobic digestion plant has received planning approval. It will be able to treat 165,000 tonnes of food waste a year and will generate enough electricity to power Selby's 10,800 homes. The £20 million project will create 120 new jobs directly and another 80 indirectly. Construction will begin next month and be completed next year. Selby Renewable Energy Park, the developers, said: "Everyone wins as the waste is treated in a sealed process, reducing the generation of greenhouse gases; a clean, renewable fuel is produced which can be used to generate electricity and heat; and we are returning a green, sustainable fertiliser to the land which will, in turn, grow our crops for food. This project will give a significant boost to the local economy and make available a cheap

non-fossil fuel heat source that will attract businesses to the area."

Saturday 15th August

Nissan UK has announced an investment in new plant at Sunderland to make advanced lithium-ion batteries and later to produce electric vehicles, creating up to 350 jobs and safeguarding hundreds more in the supply chain. The project is shared between Britain and Portugal, which already has a nationwide charging network for electric vehicles. 43% of Portugal's electricity is generated from renewable sources.

Sunday 16th August

Dear Lord, increase the sense of community that binds us one to another. Bless the work of your church, that it may provide

- A sense of identity
- A refuge for those who feel threatened by lawlessness or polluted surroundings
- A place of belonging where people know they are welcomed, remembered by name and valued as individuals
- A faith that, in your Word, proclaims that we are forgiven and accepted, in the Name of your dear Son, Jesus Christ.

Monday 17th August

Kingsland Primary School in Stoke on Trent has invested £11,000 in a decommissioned S-360 commercial aircraft to provide a new classroom. The project, called "Kings Wings" not only provides more learning space but also teaches the pupils about recycling. The head teacher said: "The children's imagination has been fired up by the idea. They are enthused and motivated and we are sure this will lead to improved attendance, give better opportunities for speaking and listening and will raise attainment. The project has caught the wider community's interest and our aim is to use the

aeroplane as a community learning resource too."

Tuesday 18th August

It is generally accepted that some countries least responsible for climate change will suffer the worst consequences. For example, a report from the Refugees Studies Centre finds that 40 million people live in coastal areas of Bangladesh. The whole country averages only 10 metres above sea level. Ainun Nishat, Bangladeshi representative on the IUCN, says that roughly 20% of the country will be under water if sea levels rise by 89 centimetres, displacing around 18 million people. The population of the capital, Dhaka, is growing by 3% a year, many of the newcomers being climate refugees. The UN 1952 Refugee Convention does not recognise environmental refugees. "Future Floods of Refugees", a report by the Norwegian Refugee Council, advocates a new international convention to protect the rights of climate refugees. It also recommends an international migration fund with contributions from industrialised countries under the 'polluter pays' principle. The IPCC says there are already 25 million climate refugees and there could be as many as 150 million by 2050.

Wednesday 19th August

Cotton is a notoriously thirsty crop requiring large amounts of water and 20-30 applications of chemicals per season. WWF and IKEA run a project in Andhra Pradesh to find ways of reducing water use, chemical spraying and pesticides while increasing family incomes. One test area includes a yellow plastic screen coated with a fragrant pheromone to attract insects away from the crop. The cotton growers have formed co-operatives to discuss matters such as bulk purchasing and how to by-pass middlemen. They now tend to use plant-based preparations from the Neem tree and extract of Vitex together