

ways of feeding cattle, Rothamsted hopes to reduce the need for imported cereals and grains. Likely benefits may include the reduced need for fertilisers, increased production and nutritional quality, lower gas emissions and the support of biodiversity. The research is being carried out in collaboration with the universities of Bristol, Exeter and Reading, and it is hoped to mount an exhibition at the Royal Society to show what sustainable agriculture should look like.

Sources:

“In Time for Tomorrow?” by Rosemary Randall and Andy Brown (The Surefoot Effect)
Resurgence and Ecologist
www.edie.net

Additional prayers:

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Picture on front cover: Knapweed by
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Prayer guide for the care of creation

July 2015



“The one who received the seed that fell among the thorns is the man who hears the word, but the worries of this life and the deceitfulness of wealth choke it, making it unfruitful. But the one who received the seed that fell on good soil is the man who hears the word and understands it. He produces a crop, yielding a hundred, sixty or thirty times what was sown.”
(Matthew 13.22-3)

“Anyone who listens to the word but does not do what it says is like a man who looks at his face in a mirror and, after looking at himself, goes away and immediately forgets what he looks like. But the man who looks intently into the perfect law that gives freedom, and continues to do this, not forgetting what he has heard, but doing it – he will be blessed in what he does.”
(James 1.23-25)

“I stand at the door and knock. If anyone hears my voice and opens the door, I will come in and eat with him, and he with me.”
(Revelation 3.20)

Wednesday 1st July

Pray and Fast for the Climate, as always on the 1st day of the month, is holding events around the country including meetings in Tring, Holy Trinity Wenlock and Cumbria University in Lancaster. For more details, go to:

www.prayandfastfortheclimate.org.uk/events

Thursday 2nd July

The Methodist Church meets today, and the General Synod of the Church of England will meet on July 12th, to consider proposals to disinvest from fossil fuels. The policy of both is to continue engaging with Shell and BP in order to persuade them of the need for change – in spite of their long-standing policies to extract the full potential from existing reserves and to invest in new projects including drilling in the Arctic and tar sands extraction. To contact your church representative at these meetings, go to:

<http://brightnow.org.uk/action/urge-church-england-methodist-church-representatives-support-disinvestment-summer-2/>

A General Synod fringe meeting organised by Operation Noah takes place at 1 pm on the 12th in the James

Hall Room. RSVP:
ellie.Roberts@operationnoah.org

Friday 3rd July

The Pope's Encyclical on climate change has raised much interest and controversy, around the world. He shows, above all, that Christians are deeply concerned for poor and vulnerable communities everywhere who are bearing the brunt of extreme weather caused, at least in part, by the over-use of fossil fuels by wealthy nations. The Pope's leadership is an inspiration to all who care for global justice and is a great boost to all efforts to secure a just global deal at the Paris talks later this year.

Saturday 4th July

For everyone who feels concerned, but lost, angry or powerless about climate change, a new book called "In Time For Tomorrow?" offers encouragement and practical solutions on how to minimise our personal impact and to confront everyday objections, such as: "I don't think it's that serious."
"It's not my responsibility – it's down to the government."

Long-distance coach	80
Short-haul flight	416
Cruise/car ferry	640

Thursday 30th July

"Human beings transform raw materials into commodities, and commodities into garbage."
(Former World Bank economist Herman Daly)

The Carbon Conversations book looks at big questions concerning consumption and waste, such as:

- Can we reduce our CO2 emissions without reducing our current levels of consumption?
- Can the ecosystems we depend on survive in an expanding economy?
- Does continued economic growth create the kind of society we want?

Herman Daly puts an argument for a steady-state economy – one that doesn't keep growing and is stable in its throughput of resources. It would be governed by four principles:

- 1) Maintain the health of ecosystems and the life support services they provide

- 2) Extract renewable resources (like fish and timber) at a rate no faster than they regenerate
- 3) Consume non-renewable resources (like fossil fuels and minerals) at a rate no faster than they can be replaced by renewable substitutes
- 4) Deposit wastes in the environment at a rate no faster than they can be safely assimilated.

Not surprisingly, many business leaders cannot imagine a world without economic growth. Yet "Steady State Manchester" has mapped out a path to just such a society in a study called "In Place of Growth: Practical Steps to a Manchester Where People Thrive without Harming the Planet"
<http://bit.ly/Burton-2012>

Friday 31st July

Scientists from Rothamsted are set on finding sustainable solutions to combat the environmental impact of livestock. The aim is to reduce greenhouse gas emissions from cattle by up to 50% at a model farm in Devon. Research so far suggests that it is inefficient to produce beef using grains that humans could otherwise eat, wasting food resources and increasing the animals' carbon footprint. By finding less polluting

Monday 27th July

The Carbon Conversations book “In Time For Tomorrow?” addresses many of the questions asked by those of us who try to make their lives and homes more carbon-efficient. For example:

“Are wood and other forms of biomass a sustainable energy solution?”

“Is it worth fitting a solar water heater?”

“What are the best energy-efficient light bulbs?”

“Is it better to replace my fridge with a more energy-efficient model, or just to wait until it breaks down?”

“How should I dry the washing in winter?”

Other questions are dealt with in the sections on transport, food and waste.

Tuesday 28th July

The book questions carbon-offsetting schemes to compensate for emissions from air travel. They shift the burden of reducing CO2 emissions to other people, other places or other times. “If you fly to New York, your trail of gas starts warming the planet immediately. A tree planted today will take 50-100 years to absorb enough CO2 to offset

the emissions resulting from your flight. Surprisingly, in 2012, 43% of UK flights were for holidays, 35.4% were to visit relatives or friends and only 19% for business. Tourism has been found to be a net loss to the UK economy since air travel is heavily subsidised in the form of untaxed fuel and by everyone having to pay the costs of the pollution it causes.

Wednesday 29th July

In research for her book “Car Sick: Solutions for our Car-Addicted Culture” transport analyst Lynn Sloman found that 40% of car journeys could easily be made by bike, on foot or by public transport. A further 40% could be made this way if facilities were improved. There would be clear benefits for health. Enforcing the current 70 mph speed limit could reduce the UK’s carbon emissions from transport by 5% and, by avoiding harsh acceleration and braking, could knock 30% off a car’s fuel consumption. Typical CO2 emissions per driver/passenger (in grams per mile) are:

Medium car	360
Small car	280
Urban bus	170
Train	100

“I’m not bothered – I’ve got more important things to worry about.”

“We can adapt. Science will sort it out.”

The findings of the book are based on Carbon Conversations, an alliance of groups meeting to discuss ways of reducing our personal impacts on climate change.

www.climateconversaations.org

Sunday 5th July

Father, we know that in all creation only the human family has strayed from the sacred way. We know that we are the ones who, working together, must come back to walk in the path you have set out for us. Dear Father, teach us love, compassion and integrity, that we may heal the earth and heal each other.

Monday 6th July

Just 24 hours after 9,000 people lobbied their MPs to do more for the environment, the government announced an early end to subsidies for onshore wind farms and changes to planning rules that would make it more difficult for local authorities to approve wind installations, even if local communities wanted to build and

run them. In future, local communities will have to accept fracking developments, whether they like them or not, but if they want wind power, they may be disappointed.

Tuesday 7th July

A typical British house uses 26,000 kWh of energy a year and emits 6 tonnes of CO2. However, in order to fulfil our obligations under climate legislation, all the 20 million homes built before 2008 will need to be upgraded to the point where they use just 5,000 kWh of energy a year and emit 1 tonne of CO2. This can be done by a combination of:

- Draught-stripping throughout
- Super-thick insulation
- Triple glazing
- Heating from renewables
- Heat-recovery ventilation
- Solar PV panels
- LED lights
- A+ or A++ appliances
- Energy-conscious owners.

The biggest gains will come from efficient insulation and adopting less wasteful behaviour.

Wednesday 8th July

To achieve this, there will have to be both 'sticks' and 'carrots'. The sticks may include stiffer Energy Performance Certificates to deter sales or leases of the worst houses, personal carbon allowances, carbon taxes and higher energy prices. The carrots may be grants and loans such as the Green Deal for insulation and for installing renewable energy, tax relief on energy-efficiency measures and schemes such as the Feed-In Tariff to enable householders to sell energy back to the grid.

Groups like Carbon Conversations exist for the many who want to reduce their carbon footprint, but sometimes feel overwhelmed and need assurance that it can be done and will not 'cost the earth'

Thursday 9th July

In several European cities, nearly all the required heating and cooling is supplied via district networks. Modern energy systems pipe steam, hot water or cold water around a city for use in buildings for heating or cooling, and can also produce electricity locally. A transition to such systems, combined with energy-efficiency measures, could contribute up to 58% of the emissions reductions required by the energy sector by 2050 to keep global

temperature rises within 2-3 degrees C. District energy can be integrated with municipal systems such as sanitation, sewage treatment, transport and waste.

Friday 10th July

District heating can be a key component of climate action plans. Denmark has seen a 20% reduction in CO2 emissions since 1990 due to its district heating. Paris's waste-to-energy plants avoid the emission of 800,000 tonnes of CO2 annually and help the city towards a 75% reduction in emissions by 2050. Tokyo's district heating and cooling systems use 44% less energy and emit 50% less CO2 than individual heating and cooling systems. Britain's cities have much to learn.

Saturday 11th July

Space heating and cooling plus hot water supply are estimated to account for half of global energy use in buildings. Inefficiencies in the energy consumption of cities have economic and social costs and are a major barrier to access to modern energy. The UNEP publication "District Energy in Cities" sets out the case for greater

in Britain, milled locally and manufactured by contractor Harvey in its joinery workshop in Bristol. "Not only has it prevented thousands of miles in transportation of imported wood, it saved money for the client and significantly reduced the project's carbon footprint."

Friday 24th July

Used car batteries are notoriously difficult to recycle. Now Nissan LEAF lithium-ion car batteries are being re-sold to commercial customers who can use them to store electricity by charging them up at night and using them to deliver power at peak times. In America, Chevrolet Volt batteries are being used alongside a solar array and two wind turbines to power one of the company's data centres. The batteries can provide up to 4 hours of energy for use when the sun is not shining and the wind not blowing. GM manager Pablo Valencia said: "This secondary use application extends the batteries' life while delivering waste reduction and economic benefits on an industrial scale." GM said it was working with partners to test systems for other commercial and non-commercial uses. Earlier, the International Renewable Energy

Agency warned that the world must triple its energy storage capacity by 2030 so as to smooth the transition to renewable energy.

Saturday 25th July

Energy Secretary Amber Rudd will lead the UK team at the climate talks in Paris later this year. At an event hosted by the Climate Coalition she confirmed the UK commitment to the global goal of making \$100 billion available by 2020 to help developing countries adapt to and mitigate the worst effects of climate change. She said: "The people who are really suffering are those in the poorest countries. The Pope is making that point. The answer is that we can't expect poorer countries to miss out on industrialising because we want everybody to address climate change, and so we have to address it with climate finance."

Sunday 26th July

Look down on our suffering world, dear Father, and inspire our leaders to act with determination and integrity as they seek to unite the world in a strong climate agreement at the Paris talks in December. Amen.

amounting to \$870 billion spent on renewables and \$435 on energy efficiency – equivalent to 1.5% of GDP. The impact on this increased spending in 5 countries – Brazil, Germany, Indonesia, S. Africa and S. Korea – shows that employment benefits could be shared by advanced and developing nations. In the UK, according to the Renewable Energy Association, green jobs are growing seven times faster than the national average.

Tuesday 21st July

With the recent inauguration of the Gwynt y Mor wind farm off N. Wales, there is now an installed capacity from offshore wind of 5.054 gigawatts, producing enough electricity to meet the needs of 3.5 million households and saving 6.3 million tonnes of carbon emissions each year. According to Renewable UK: “There’s a healthy pipeline of projects still to come, as long as Government policy remains supportive. Today’s record capacity translates into decades of clean energy, thousands of green jobs and less dependence on fossil fuels.”

Wednesday 22nd July

Representatives of Tesco, Sainsbury’s Asda and the British Retail Consortium have agreed to collaborate on distributing more of their surplus food to charities. The head of sustainability at Sainsbury’s said: “The best commercial decision I can make with a waste product that I cannot sell is to donate it to charity. I want to dispel any myth that it is more cost-effective to put it into anaerobic digestion than it is to partner with a charity, because it’s not.” FairShare, which organised the conference, has launched its FairShare Food Efficiency Framework which is designed to help businesses to ensure that surplus food can be made available to charities for redistribution.

Thursday 23rd July

More than 80% of the timber and timber products used in the UK are imported. The aim of “Grown in Britain” is to reduce this reliance on imported wood and increase the use of home-grown timber to help expand our woodlands as well as bringing unmanaged woodlands back into use. As an example of best practice, the Ashton – a 17th century pub in Bristol – was recently rebuilt with 95% of its hardwood sourced from timber grown

use of district energy in helping to meet climate targets.
<http://www.unep.org/energy/districtenergyincities>

Sunday 12th July

Father God, we begin to see the challenges ahead of us as the end of cheap fossil-fuel energy approaches. We remember with thankfulness how you protected us from hunger and tyranny nearly seventy years ago. Give us now the same resilience, the same comradeship, the same mutual trust as we embrace a lifestyle which no longer damages the earth. Help never to forget the poor, the old and the vulnerable as we together face a very different future.

Monday 13th July

A paper from the Lancet Commission on health and climate change warns that the “potentially catastrophic” risks of climate change have been underestimated. Its chairman, Professor Anthony Costello, said: “Climate change has the potential to reverse the health gains from economic development that have been made in recent decades – not just through the direct effects on health from a more unstable climate, but through indirect

means such as increased migration and reduced social stability. Direct risks include the increasing frequency and intensity of extreme weather events, such as heat waves, floods, droughts and storms, while indirect impacts come from changes in infectious disease patterns, air pollution, food insecurity and malnutrition, involuntary migration, displacement and conflicts.” The paper proposes the formation of a new global independent body to monitor and report every 2 years on the health impacts of climate change. It also calls for the rapid phase-out of coal power stations, a transition to walking-friendly cities, the introduction of an international carbon price and a global agreement on the transition to a low-carbon economy. Archbishop Justin Welby commented: “In addition to highlighting the effects of climate change, we must address the root of the problem. In so doing, we will discover how the benefits of assuming moral responsibility and taking immediate action – not just on health, but also world economy and global policy – far outweigh the costs of remaining indifferent and passive.”

Tuesday 14th July

A report from the universities of Stanford, Princeton and Berkeley and published in the Science Advances Journal finds that vertebrates are becoming extinct at a rate 114 times faster than normal. Since 1900 more than 400 vertebrate species have disappeared. Such a loss would normally occur over a period of up to 10,000 years. The study cites causes such as climate change, pollution and deforestation, but, curiously, makes no mention of population growth. Professor Paul Ehrlich said: "There are species all over the world that are essentially the walking dead. We are sawing off the limb that we are sitting on."

Wednesday 15th July

A marked omission from the Pope's Encyclical was any reference to population growth, yet according to sir David Attenborough "All environmental problems become harder – and ultimately impossible – to solve with ever more people." Yet population growth is one of the easiest to solve of all global problems. So what can we do?

- 1) Remove every taboo on discussing the subject

- 2) Support charities which offer family planning
- 3) Support girls' and women's education
- 4) Encourage major agencies to conduct surveys to assess the demand for family planning and then provide the means to meet that demand
- 5) Support charities such as Population Matters which provide information and campaign on population policies.

Thursday 16th July

According to Professor John Guillebaud, Emeritus Professor of Family Planning & Reproductive Health at UCL, "Family planning can provide more benefits to more people at less cost than any other technology available to the human race." In Genesis 1, God commands plants and animals to increase and multiply. Later He gives the same command to humans. Can the Creator really have intended us to multiply to the extent that we threaten the existence of countless other creatures?

Friday 17th July

Denial that population growth affects climate change often takes this form: "The key factor is not population itself, but the resources that people consume. Countries with high population growth consume very little, and anyway the rate of population growth is falling and should eventually stabilise at around 10 billion." But the UK population is expected to grow from over 64 million now to 77 million in 2100. The growth in the US population is even faster. Furthermore, immigration to affluent countries in search of better living conditions inevitably raises the carbon footprint of that country and the world. If we take seriously the global demand for family planning, surely this should form part of every aid package. www.populationmatters.org

Saturday 18th July

"Living Responsibly" is the title of a Christians Aware Summer School taking place at Abbey House, Glastonbury, from next Monday the 20th to Saturday the 25th. Speakers from Green Christian, Hope for the Future, the John Ray Initiative, Global Justice Now, Climate Works and the Soil Association will address subjects such as Sustainable Farming,

Shrinking the Footprint, Operation Noah, the Climate Change Campaign, Fracking and economic exploitation of the Developing World. Fee for the week: £400. For the programme and booking form, please go to: www.christiansaware.co.uk/

Sunday 19th July

Heavenly Father, guide us in our perplexity as we confront the manifold challenges of climate change. Help us to look at all our choices in the light of your biblical truth, to determine where we stand, and then, by word and deed, to take whatever action seems necessary to protect your precious creation, for which your dear Son died on the Cross. Amen.

Monday 20th July

A study from the UN Industrial Development Organisation provides evidence of gains in employment generation from investing in clean energy rather than in the fossil fuel industry, so trumping conventional wisdom that cutting greenhouse gas emissions is incompatible with economic growth. In order to meet IPCC emission targets, investment in clean energy must triple by 2030,