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Prayer guide for the care of creation



July 2018

“The creation waits with eager longing for the revealing of the children of God... We know that the whole creation has been groaning in labour pains until now; and not only the creation, but we ourselves, who have the first fruits of the Spirit, groan inwardly while we wait for adoption, the redemption of our bodies.”

(Romans 8. 19,22 &23)

“Then I saw a new heaven and a new earth; for the first heaven and the first earth had passed away, and the sea was no more. And I saw the holy city, the new Jerusalem, coming down out of heaven from God, prepared as a bride adorned for her husband.” (Revelation 21. 1-2)

Sunday 1st July

Heavenly Father, have mercy on us in our perplexity as we confront the challenges of climate change. Help us to look at our consumer choices in the light of your biblical truths, to determine where we stand, and then to take whatever action seems necessary to protect your precious earth, for which your Son gave his life.

Monday 2nd July

All this week people will be contacting their MPs as part of the Climate Coalition's 'Speak Up Week'. Resources for the actions, including how to talk to your MP, can be found at: <https://theclimatecoalition.org/speakupweek>.

Tuesday 3rd July

A study published in 'Nature' summarising the conclusions of 84 international scientists finds that Antarctica has lost 3 trillion tons of ice since 1992. Two-

fifths has occurred in the last 5 years, suggesting that the pace of loss is accelerating. If global warming continues unchecked, the earth's coastlines and low-lying coastal cities could be inundated by the end of the century.

Wednesday 4th July

"Drawdown" is the title of a symposium by 67 international scientists examining ways in which various human actions can reverse the onset of global warming. Carbon dioxide is released when we burn fossil fuels, manufacture cement, plough soils and destroy forests. Methane is released from rice fields, cattle, landfills and natural gas operations. Other greenhouse gases are seeping from agricultural land, industrial sites, refrigeration systems and urban areas. Solutions must therefore be found for each of these situations. In 2016, 36 gigatons

since pollution, climate change and habitat loss always hit the poorest hardest. Zac Goldsmith MP commented: "Our fate is inextricably linked to the health of the planet, and the sheer scale of the damage we are doing is terrifying. Whole ecosystems are being destroyed, causing misery to some of the world's people who depend on them. Meanwhile species are being brought to the brink of extinction in a global wildlife trade that breeds violence and corruption."

Sources:

"Drawdown" ed. Paul Hawken Environment (CIWEM)
Hope for the Future
Business Green

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Picture on front cover: White admiral, Philip Clarkson-Webb

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selfish ulterior motives. Be kind anyway. What you may spend years building, someone may destroy overnight. Build anyway. The good you do today, people will often forget tomorrow. Do good anyway. Give the world the best you have, and it may never be enough. Give the world the best you have anyway.
(Mother Teresa)

Monday 30th July

Ninety percent of the world's traded goods are carried by shipping, and if shipping were a country, it would be the world's 6th largest emitter of greenhouse gases. At April's meeting of the International Maritime Organisation, member states agreed to cut shipping emissions by at least 50% by 2050. However, if the industry were to align itself with the Paris Agreement, it would need to cut its emissions by 70-100%. The Clean Shipping Coalition

welcomed the decision but pointed out that member states have yet to agree on how to deliver these cuts "Progressive states must keep the pressure on for full decarbonisation by 2050 in order to avoid the catastrophic climate change that a temperature increase of more than 1 °C. would bring."

Tuesday 31st July

A report from the centre-right think tanks Bright Blue and the Conservative Environmental Network calls on the Government to allocate money from the international aid budget to tackle illegal wildlife trade, deforestation and climate change. It should channel £1 billion of the £14 billion international development fund into a new 'Global Nature Conservation Fund' aimed at halting the crisis in global nature. The gains made in recent years in combatting poverty risk being reversed

of CO₂ – the main greenhouse gas – were emitted into the atmosphere. One gigaton is the equivalent of 40,000 Olympic-sized swimming pools.

Thursday 5th July

Although refrigerants containing CFCs and HCFCs were phased out of use following the 1987 Montreal Protocol, huge volumes of them remain in circulation, retaining their potential for damage when the appliances containing them are scrapped. Substitute refrigerants such as HFCs do little damage to the ozone layer, but their capacity to warm the atmosphere is 1,000-9,000 times greater than CO₂. In 2016, representatives of more than 170 countries gathered in Kigali, Rwanda, and agreed to begin phasing out HFCs from 2019 onwards to 2028. Substitute refrigerants such as propane and ammonia are already on the market. Ninety

percent of emissions from refrigerants happen at the end of their life. However, if carefully removed and stored, they can be purified for re-use or transformed into other chemicals that have no global warming effects. It is ironic that, as global temperatures rise, the air conditioners we use to ameliorate the heat actually add to global warming.

Friday 6th July

Dealing with refrigeration ranks top of the 80 solutions proposed in 'Drawdown'. Next is the management of tropical forests which, even though now reduced to 5% of the earth's land area, still absorb 11% of the world's annual greenhouse gas emissions. Destruction of tropical forests accounts for 16-19% of greenhouse gas emissions caused by human activity. According to the World Resources Institute, more than 4.9 billion acres of cleared or

degraded forest land offer opportunities for restoration. Techniques vary from simply releasing land from non-forest uses, and allowing natural regeneration, to planting and cultivating native seedlings and removing invasives. Restored forests also need to be socially and economically viable – a source of pride, profit, play and provisions for local communities.

Saturday 7th July

Tropical forest restoration is vital for development. Forests are a source of income from timber, tourism, food, crop pollination, energy, health from clean water to mosquito control and safety from landslide prevention to flood control. Restoring 865 million acres of forest by 2030 could cost over \$350 billion. Yet, according to estimates by the IUCN, achieving this goal could generate \$170 billion per year in

net benefits from watershed protection, improved crop yields and forest products, while sequestering up to 1.7 gigatons of CO₂ equivalent annually.

Sunday 8th July

Heavenly Father, we face hard choices as we confront the realities of climate change and the depletion of natural resources. Help us to understand the opportunities offered by a return to a simpler lifestyle. Help us to fulfil our responsibilities to those suffering from our careless use of natural resources, and give us the resilience to adapt to a lifestyle that is fairer to others and gentler on your world.

Monday 9th July

Preventing loss of forests is always better than trying to bring them back. Stopping all deforestation and restoring forest resources could offset up to one-third of all global carbon

and alternatives needed to reverse the impact our use of plastics is having on the planet. Exchequer Secretary Robert Jenrick added: “We are also looking at how the tax system can support our ambitions.”

Friday 27th July

A modern waste stream includes textiles, packaging, plastic, glass, metals, concrete, steel, wood, ashes, tyres and all the electronic waste generated in this Information Age. Extended producer responsibility (EPR) is an approach that makes companies responsible not just for creating goods, but for managing them post-use. EPR could also help to reduce e-waste. Some companies such as Interface voluntarily seek to retrieve their products for recycling. Formalising this into law would encourage companies to think *now* about what will happen *then* and to

make their products longer-lasting, easier to fix and as recyclable as possible.

Saturday 28th July

In 2012 carpet tile manufacturer Interface, in partnership with the Royal Zoological Society of London, began purchasing discarded fishing nets strewn on reefs and atolls – a small part of the 640,000 tons of abandoned fishing gear that continues to catch and kill marine life. The discarded nets are processed by Aquafill, which converts the nylon into 100% recycled carpet yarn. This initiative, called Networks, had by 2016 been established in 35 communities, collected 137 tons of waste nets and given 900 families access to micro-loans and banking.

Sunday 29th July

People are often unreasonably illogical and self-centred. Forgive them anyway. If you are kind, people may accuse of

Wednesday 25th July

A report from the Aldersgate Group entitled 'No Time to Waste: An Effective Resources and Waste Strategy' calls for the government to set new standards of resource efficiency and waste management post-Brexit at least as high as those being adopted across the EU. In particular it advocates new tax incentives to encourage businesses to develop more resource-efficient products, step up funding to tackle waste crime, introduce metrics that encourage businesses to focus on re-use and recycling, and extend to more sectors the obligation to cover the cost of product disposal. "Resource-efficient business models are proven to generate significant financial, material, natural resource and greenhouse gas savings – all essential to deliver the Government's goals in its Industrial Strategy, Environment Plan and Clean Growth

Strategy. It's high time for government to use public procurement, regulatory and fiscal levers at its disposal to make the UK economy a world-leading resource-efficient economy."

Thursday 26th July

The Government has launched a £20 million Plastics Research and Innovation Fund to support new ideas that can curb the environmental impact of plastics manufacturing and consumption. The fund will be managed by UK Research & Innovation, whose chief executive said: "Although plastics have transformed the way we live and play an important role in many aspects of modern life, we are increasingly aware of the devastating damage plastic waste can inflict on the environment and people's health. This fund will help create the range of new approaches

emissions. In 2015 Brazil earned the final \$100 million of a \$1 billion grant from Norway to reward countries that reduced their rates of deforestation. One study finds that for \$50 billion spent each year on forest protection (about 3% of the world's military spending) tropical deforestation could be reduced by 2/3rds. By protecting an additional 687 million acres of forests, we could avoid CO₂ emissions totalling 6.2 gigatons by 2050.

Tuesday 10th July

Twenty-three nations including the UK, Sweden, Canada, New Zealand, the Marshall Islands and Germany have together promised to boost their climate targets by 2020. Their joint declaration says: "We commit to exploring the possibilities of stepping up our own ambition in the light of the forthcoming IPCC Special Report on 1.5 °C. and we emphasise the

importance of the Talanoa Dialogue at COP24." This is the Fijian presidency's initiative to encourage nations and businesses to showcase their climate actions.

Wednesday 11th July

Claire Perry, the Energy and Clean Growth minister, has announced an instruction to the Climate Change Committee "to explore whether the UK should set a 1.5 °C net zero emissions goal for 2050." The CCC is expected to warn the Government that it needs to deliver much faster progress on cutting emissions from transport, heating, industry and agriculture if it is to meet its binding carbon targets. Speaking at the same event, Ed Miliband called for the setting of zero-carbon homes standards and for the adoption of rules to ensure that only zero-emission vehicles are sold much earlier than 2040.

Thursday 12th July

A report from Energy UK at <https://www.energy-uk.org.uk/publication.html?task=file.download&id=6609> reaffirms that the provision of heat in buildings contributes around 25% of UK greenhouse gas emissions. The Renewable Heat Incentive (RHI) was designed to incentivise the adoption of low-carbon heat solutions, but 86% of RHI payments are awarded to biomass installations which could, at best, only supply 5% of the UK's demand for heating. Also, the RHI has failed to address the high capital costs of many low-carbon heat installations, so that only higher-income businesses and customers can afford to apply for an RHI grant. Energy UK recommends a new version of the RHI which would allow for the assignment of rights from high-income businesses to lower-income businesses and

customers. Also, current domestic RHI applications are focussed on Air Source Heat Pumps and Biomass installations. The technologies allowed should include other technologies available for low-carbon heating.

Friday 13th July

Gwyn Prins of the London School of Economics describes the addiction of Americans to air-conditioning (AC) as “the most pervasive and least noticed epidemic in the USA”, where the amount of electricity used to keep buildings cool is equal to what the whole of Africa uses for everything. A top aspiration of people around the world – especially those living in the hotter climates of Africa and Asia – is the comfort of air-conditioning. In China between 1995 and 2007, the percentage of air-conditioned homes in its cities increased from 7% to 95%. China will soon surpass

Monday 23rd July

According to UNICEF, more than 4.5 million children in the UK are growing up in areas with toxic levels of pollution. Tests have suggested that children walking along busy roads are exposed to one-third more pollution than adults as their height places them closer to passing car exhausts. Half of all children walk to school, but research has shown that being driven to school can actually result in greater exposure for those inside the vehicle. Some experts advise parents to use quieter routes to school. Others suggest using covers on prams and buggies. Professor Jonathan Grigg of Queen Mary University said: “My research has shown that exposure of young children to higher amounts of air pollution from traffic has a major impact on their lungs. Although parents can reduce this by walking on less polluted roads, the UK

government must take further steps to reduce toxic emissions on all roads.”

Tuesday 24th July

From next April, when London's Ultra Low Emission legislation takes effect, all vehicles, including local authority vehicles, will have to meet stringent air-quality standards or pay a daily charge. In response, Greenwich Borough Council has refitted a diesel refuse collection lorry with an electric motor to prolong its life and cut air pollution. This zero-emission vehicle can run for 14 hours without recharging. Over 64,000 commercial vehicles across Greater London will be affected by the legislation and it is hoped that the 26-tonne Greenwich prototype will be the solution to the challenge of decarbonising more than 800 large city vehicles.

solution appropriate for cities in hot parts of the world as the earth heats up. Everywhere it is city authorities who are the essential catalysts for collectively and efficiently heating and cooling the world's cities. According to 'Drawdown', by replacing existing stand-alone water- and space-heating systems, DHC can reduce CO₂ emissions by 9.4 gigatons by 2050 and save \$3.5 trillion in energy costs.

Saturday 21st July

A joint report from the House of Commons Committee for Environment, Food & Rural Affairs, the Environmental Audit Committee, the Health & Social Care and the Transport Committees concludes that air pollution is a national health emergency. Commenting on the report, James Thornton of ClientEarth said: "The car industry has got off incredibly lightly in this country, yet much

of the illegal pollution in our towns and cities is of their making, and yet the government is failing to hold them to account. People are going to need help and support as they move to cleaner forms of transport. The car industry should be fronting a large chunk of those costs, yet we see no commitment from the government to an industry-backed Clean Air Fund. We need a new, modern law from the UK government. A Clean Air Act fit for the 21st century is a must as the UK prepares to leave the EU.

Sunday 22nd July

Father God, grant us the serenity to accept the things we cannot change, the courage to change the things we can, and the wisdom to know the difference.
(Reinhold Niebuhr)

the US as the leading consumer of AC.

Saturday 14th July

Today from 10 to 4 an ecumenical day of worship, talks, workshops and conversations takes place at The Priory Rooms, 40 Bull Street, Birmingham B4 6AR under the title "A Future for All: Implementing the Christian Imperative to care for our world". Organised by Birmingham Anglican Climate Action and Central England Quakers, its speakers include Bishop David Atkinson, author of 'Renewing the Face of the Earth', Paul Parker from the Quaker Yearly Meeting, and Rich Bee from A Rocha. For further information, go to: <http://centralenglandquakers.org.uk/events/a-future-for-all/>

Sunday 15th July

Help us, dear Lord, so to deal with the things we possess that

they may never possess us. May we use all that you have given us in your service and to the glory of your Kingdom. Amen.

Monday 16th July

The building sector uses about 32% of all energy generated in the UK, and more than half of that is used for heating or cooling. Small-scale solutions such as smart thermostats can reduce energy consumption, but one solution stands out above all others – heat pumps. Like refrigerators, heat pumps transfer heat from a cold space to a hot one. The source of heat in winter, and the sink of heat in summer can be the ground, the air or water. In areas such as Scandinavia and northern Japan, ground-source heat pumps are the technology of choice, taking advantage of the earth's constant temperature below ground. Heat pumps can supply indoor heating, cooling

and hot water – all from a single integrated unit. According to the International Energy Agency, a 30% penetration of the building sector by heat pumps could reduce global CO₂ emissions by 6%. The global demand for space heating and cooling is estimated to increase by 50% by 2050. Heat pumps can reduce fuel consumption to zero. Current adoption is just 0.02% of the market but, as with solar and wind, rapid growth in take-up could see the costs plummet by 2050.

Tuesday 17th July

High brightness LED bulbs were invented in 1994 by three Japanese scientists and won them a Nobel prize in 2014. An LED bulb uses 90% less energy for the same amount of light as an incandescent bulb and half as much as a compact fluorescent bulb, but without the toxic mercury. An LED bulb will last for 27 years if turned on for

5 hours a day. Lighting accounts for 15% of global electricity use – more than that generated by all the nuclear plants in the world – and LEDs will be vital in meeting that demand, while drawing down energy use and CO₂ emissions. According to 'Drawdown', on the assumption that by 2050 LEDs will provide 90% of household lighting and 82% of commercial lighting, 7.8 gigatons of CO₂ could be avoided in residences and 5 gigatons in commercial buildings.

Wednesday 18th July

Heat in buildings always moves from warmer areas to cooler areas until an equilibrium is reached. During summer, hot air infiltrates indoor spaces, making air conditioners work overtime. In winter, warm air seeps out via unheated attics and basements, chimneys and gaps around windows and doors, so heating systems must

work harder. By better insulating our buildings, heat exchange can be reduced, energy saved and carbon emissions avoided.

Thursday 19th July

Insulation is the most practical and cost-effective way to make buildings more energy-efficient. Materials used vary from fibreglass, polystyrene, by-products from basalt or blast furnace slag to recycled newsprint and natural products such as hemp, sheep's wool and straw. The Passivhaus standard created in Germany focuses on constructing an airtight envelope building, so hermetically sealed that warm air cannot leak out when snow is on the ground and cool air cannot escape when the dog days arrive. Some Passivhaus dwellings are so efficient that they can be heated with the equivalent of a hairdryer. Most buildings will not reach this

standard, but, encouraged by financial incentives, enlightened building regulations and simple self-interest, insulation can play a key role in lightening the load our buildings place on the planet.

Friday 20th July

District heating and cooling (DHC) systems channel water (hot or cold) from a central plant via a network of underground pipes to many buildings. Rather than having boilers and air conditioners whirring away in every building, DHC provides thermal energy collectively and more efficiently. Copenhagen now meets 98% of its heating demand with the world's biggest DHC system, fuelled with waste heat from coal-fired and waste-to-energy plants, though in the future biomass will replace the use of coal. The city has now added district cooling, using seawater sent through pipes parallel to thermal pipes – a