Sustainable Blewbury
www.sustainable-blewbury.org.uk

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For the latest news and more information, please see our website

Planetary climate and biodiversity emergency

Glen Meadows (Chair, Sustainable Blewbury)

We are living in changing times, with major impacts on the Earth's physical and biological systems on a scale not seen for millions of years. Greenhouse gas emissions are at record highs and still increasing rather than falling. Global temperature continues to rise. The polar ice caps are disintegrating. Sea level rise will impact the lives of millions of people. It's estimated that about a million species face extinction. We must act very soon to start effective actions.

However positive changes are happening. The UK has reduced its greenhouse emissions by 40% since 1990. Recently the UK went a whole week without using coal (see item on page 2). Nevertheless, you still may think that these problems are too big for an individual. However, there are everyday things we can all do to help mitigate the impacts of climate change and biodiversity. The environmental adage "think globally, act locally" has never been so apt, and we in Sustainable Blewbury are here to help in the changes that we all need to make.

Some of the interesting links and short pieces later in this newsletter are ideas for things we can do locally towards these ends.

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Sustainable Blewbury news

Blewbury Garden Market – Saturday mornings at Blewbury Garage

We've started with a bang and will be **open from 9.15 to 11.15 am** (unless we sell out earlier) until the end of September. We sell bedding plants and seedlings, fresh local garden fruit and vegetables, flowers, home-made bread, cakes and preserves, and local honey.
Helpers: Would you like to help out on the stall every few weeks? Contact us at the email address or phone below.
Producers: Please bring items to sell from 9.00 am. You set your own prices, we only take 10% commission. For sales forms see www.sustainable-blewbury.org.uk/food.htm.
For more information: Email bgm@sustainable-blewbury.org.uk or phone Eric at 07935 232 296.

Green drinks – Monday 3rd June, from 7.30pm at The Blueberry

Green drinks are a friendly chat over a drink, to ask questions or tell us what you think about green topics. At this session we'd like to discuss what Sustainable Blewbury can do in the coming year about climate change and biodiversity loss. Everyone is welcome, we'd really like to hear what you think. It's completely informal, there's no agenda, just come and chat.

Annual General Meeting

Our AGM was held on 23 April 2019 at James and Janet Morgan's house and was attended by twenty people. Our activities over the past year were summarised by our chair, Glen Meadows, and our finances by our treasurer, John Ogden.

All of our officers were re-elected: Glen Meadows as chair, John Ogden as treasurer, Jane Kinniburgh as secretary, and Hugh Osborn and Stephen White as trustees.

Glen suggested that our priorities for the next year should be climate change and biodiversity loss. Other points mentioned included the future of our village bus service, running a repair cafe and the sustainability of the proposed Oxford–Cambridge expressway. Our thanks to everyone who attended for contributing to the lively, friendly and constructive discussions.

Community Orchard

The Mike Edmunds Community Orchard on Tickers Folly Field has come through the winter pretty well and we've had a fair amount of blossom, although there are also signs that the trees suffered during last year's drought despite the best efforts of the Orchard Group to do some watering during the driest period. This season we will try to reduce the problem by mulching around the trees to maintain moisture and reduce evaporation. To this end we will organise a working party in a few weeks' time to clear weeds and turf around the trees and to apply mulch – if you haven't already joined the Community Orchard Group and would like to get involved then please email us at jogden@blewbury.net.

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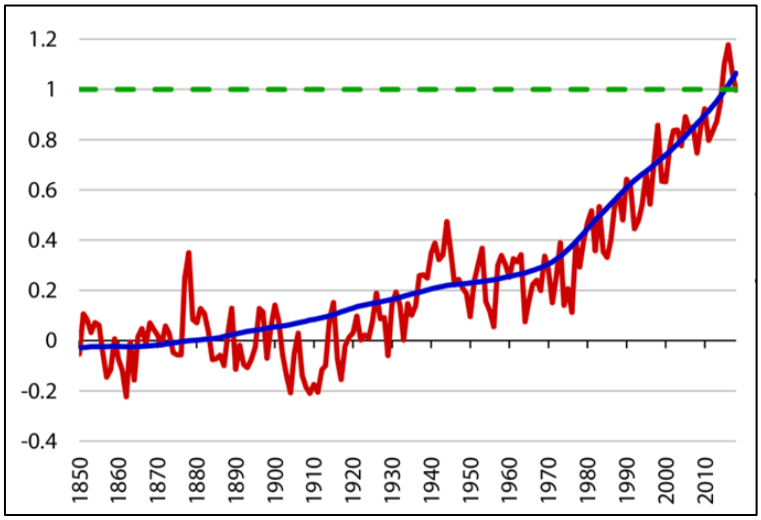
Interesting and useful items and links

The IPCC's SPECIAL REPORT on global warming of 1.5°C: a summary for non-specialists

This report was adopted by all IPCC member governments in October 2018, and it is important that we understand what it is about. But it is extremely long, and difficult for non-specialists to follow.

But I (Jo) accidentally came across a 24-page Summary for Teachers produced by the Office for Climate Education. This includes an explanation of what the IPCC is and why they produce reports, and chapters on understanding global warming, comparing climate change impacts at 1.5°C and 2°C, how warming might be limited to 1.5°C, and addressing climate change and sustainability simultaneously. You can download a copy from here. If you can ignore the fact that it includes school activities it really is very readable, and I think it provides an incentive for us all to do *something*.



Global temperature (°C) relative to 1850–1900
Red: observations; Blue: human-induced warming

Coal-free electricity for an entire week, but …

Didcot A power station, closed 2013 due to pollution

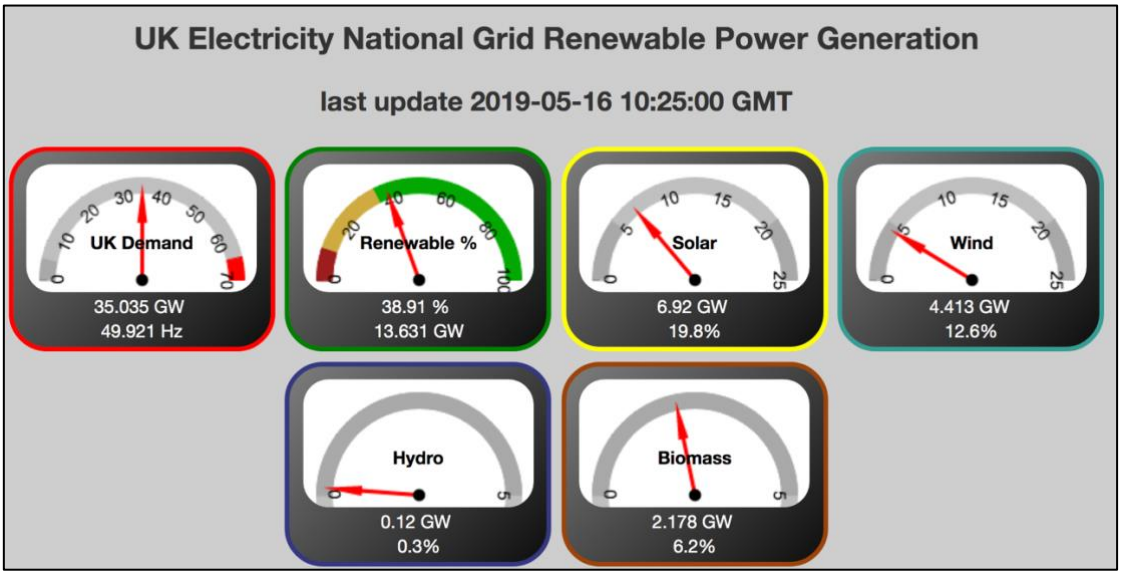
Burning coal is bad for two reasons. It emits carbon dioxide, and it produces polluting sulphur dioxide unless expensive scrubbers are used to clean up the flue gas. The UK aims to eliminate coal-fired power stations for generating electricity by 2025, and many coal power stations have already been closed.

We've recently had our first full week since 1882 of electricity using no coal generation at all, from 1st to 8th May. (For example see this.) And on the few occasions coal has been used recently it's only been small contributions for short periods. Overall, only about 7% of our electricity now comes from coal, and coal-generated electricity has halved since 2013.

However, government sometimes moves in contradictory ways. In March, Britain's first new deep coal mine in 30 years was approved by Cumbria County Council, aimed at producing coking coal for the steel industry. There are also proposals for new open-cast coal mines in Northumbria currently up for approval.

National Grid display

To see a very interesting live display of what's supplying our electricity at the moment, as well as the mixture of fossil fuels, nuclear and renewables for the whole of the last day, month and year, go the Mark Stolworthy's Gridwatch website: gridwatch.co.uk. (A small sample is shown below.) A display of meters showing current generation by renewables has now been added to the home page of our own website, www.sustainable-blewbury.org.uk, at the bottom of the left-hand sidebar.



London's hydrogen-powered buses: cleaner air and lower carbon

In 2004 London began a trial of three single-decker hydrogen-powered buses, and in 2010 it obtained eight improved models that continue to operate. Hydrogen buses have also been used in Brighton and Aberdeen.

Transport for London (TfL) has just announced that it will be introducing 20 double-decker hydrogen buses into regular service next year. This is a world first. They cost about £500,000 each, and about 40% of that will come from the EU. The buses are being made by Wrightbus in Northern Ireland, and will service three routes in west London. See this article for more information.

The buses are powered by hydrogen fuel cells driving electric motors. Running costs are expected to be similar to diesel, but the crucial difference is that their exhaust is just water vapour – no nitrogen oxides or particulates at all, so a big improvement for London's illegally polluted air.

Until now, a serious criticism of hydrogen-powered vehicles has been that the hydrogen is usually extracted from natural gas, which of course is a fossil fuel. However, TfL says that the hydrogen they will be using will be produced by North Kent offshore wind farms, presumably by electrolysing water.

TfL also began using electric double-decker buses in 2015 and expects to be running 68 electric double-deckers later this year, but the hydrogen buses have a longer range and need just one five-minute stop each day to refuel.

Hydrogen fuel-cell bus

Wilding your garden: RHS advice on how to make your garden a haven for wildlife

Our last newsletter included an article about the Wildlife Trusts' #WilderFuture Campaign, one of whose aims is to create a network of safe havens for wildlife that will allow them to move from one haven to another to live and to find food. The Royal Horticultural Society's website is a marvellous free source of advice for everything to do with gardening, including how to make your garden more wildlife friendly, no matter how small it is. See their advice here. This page includes a video called "Urban wildlife in your garden", which is applicable to villages as well as towns!.It does start by showing an entire lawn turned into a wildlife meadow, but it does not have to be the entire lawn: even a small area would encourage wildlife and include bee-friendly flowers.

The RHS suggests that if you do only one thing to attract wildlife your garden, it should be to put in a wildlife pond. (Look here) A pond can be as child friendly as a bubble fountain or birdbath with only a thin film of water that will still attract birds. Or if you are concerned about the safety of older children (and hedgehogs) a small pond (as small as a large plastic bucket, provided it is more than 20–30 cm deep) can be made safe with a pegged-down bit of clematis netting. Ponds can be havens for all sorts of wildlife. "During the past century, nearly 70% of ponds have been lost from the UK countryside, meaning garden ponds and water features have an increased importance for wildlife".

North Wessex Downs Walking Festival

We live in the North Wessex Downs Area of Outstanding Natural Beauty (AONB), but if you are like me (Jo), you don't see enough of it.

The North Wessex Downs Walking Festival runs from 8th to 23rd June, and includes several walks near to Blewbury. The walks are all led by a guide, so places are usually limited to 20 people. About half are free, so if you want to join any of the walks, *book online as soon as possible.* The very first walk, on 8th June, is "A 'venerable' Nordic walk from Blewbury" for experienced Nordic walkers, 11 miles and strenuous, but on 13th June "Discovering Aston Tirrold's History and Wildlife" is marked as easy, only 3 miles. Even if you are too late to get onto a walk, the Festival does give ideas of where you could go on your own.

Look here for more information about the festival walks, and here for the AONB's walks leaflets.

Coca-Cola most common source of packaging pollution on UK beaches

Coca-Cola bottles collected on a beach in Mull, Scotland (Greenpeace)

A study by Surfers Against Sewage* (SAS) showed that Coca-Cola's products made up nearly 12% of litter found in a series of 229 beach cleans organised by the anti-pollution campaigning group in April, which found close to 50,000 pieces of waste. More than 45,000 volunteers took part in the biggest ever survey of beach litter in the UK.

About 20,000 of the pieces of waste carried identifiable brands, of which Coca-Cola was the leader. When other brands owned by Coca-Cola were taken into account, the company's share of the waste found rose to more than 15%. PepsiCo was the parent company to more than 10% of the branded waste found. The findings have been submitted to the government, which is "considering ways to reduce the UK's littering and packaging pollution problems through the Extended Producer Responsibility regulations". See more results in a Guardian article, read the original report, or if you want to support Surfers against Sewage find out how at www.sas.org.uk.

SAS history: 1980s protest

* **Surfers against Sewage:** You may never have heard of this organisation, but it was set up in May 1990 at St. Agnes in Cornwall by people "who were sick of seeing sewage in their seas and on their beaches … and they were also fed up of becoming ill when doing the sports they loved – surfing, sea swimming, windsurfing and anything else that involved being in the sea." But SAS has expanded to become one of the UK's leading marine conservation charities. SAS today deals with a wide spectrum of marine conservation issues, from marine litter and single-use plastic to climate change. Not just surfers – not just sewage.

Oxford Bus Company's PickMeUp *initiative*

The Oxford Bus Company introduced PickMeUp in June 2018 and it looks like becoming a success. It enables passengers to request a minibus pick-up within 15 minutes at a virtual bus stop, using the PickMeUp mobile phone app. Passengers can choose both the start and end point of their journey *but only in the "eastern arc" of the city within the ring road* – there's a map of the area covered here. They are matched with others wishing to make similar journeys, which allows ride sharing. The scheme was designed to help reduce congestion and complement traditional services.

The scheme has an average response time of 10 to 15 minutes and the introductory fare of £2.50 is still being charged. There is a surcharge of £2.50 if the journey could be made using an existing Oxford Bus Company bus route and the walk to the nearest stop is 200 metres or less. This should encourage people to use a regular bus if it is available, which in turn makes PickMeUp more sustainable. Two additional ultra-low emission mini-buses were added to the fleet in March 2019. The sustainability of PickMeUp has meant that the Oxford Bus Company has been longlisted for the 2019 Ashden Awards, in their "UK clean air in towns and cities" category. (Details of the longlist are here.) The names of the winners in each of the ten national and international categories will be announced on 3rd July at the Ashden Awards Ceremony, during the first London Climate Action Week.

It's good news from our local bus company, but also another example of a new sustainable transport initiative operating *within a town or city.* If you know of a plan to make a rural transport service more sustainable do let us know so that we can publicise it!

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Net-Zero: updated plans for decarbonising the UK

Eric Eisenhandler

Introduction

The climate crisis, biodiversity loss and air pollution have been at the forefront of news recently. In October 2018 we had the IPCC Special Report on the impacts of global warming of 1.5°C, pointing out that stronger measures and a far more urgent timetable were required because even a 2°C temperature rise now looks like being more damaging than previously thought. At about the same time it became clear that global carbon dioxide emissions, which had briefly stopped increasing, are again on the rise.

Since it is our children and grandchildren who will be most affected, and inspired by the Swedish student Greta Thunberg, children in many countries began to stage school strikes to demand more action against climate change. David Attenborough presented a TV programme, "Climate Change – the Facts", which was far stronger than anything he'd said before. Then in April Extinction Rebellion staged dramatic protests aimed at triggering radical action. And Parliament, as well as many local government bodies, have been formally declaring a climate emergency.

Fighting climate change by replacing the use of fossil fuels with renewable sources of energy would also eliminate a great deal of air pollution, another huge global problem. Recent research has shown air pollution to be far more damaging to health than we had realised.

Then, at the beginning of May, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) issued a global assessment pointing out that nature is declining globally at rates unprecedented in human history. The rate of extinctions is accelerating and a million species could be lost. This will damage economies, livelihoods, food security, health and the quality of life worldwide. The main causes are a combination of climate change, how we produce food, and pollution. Major changes at both local and global levels are needed.

Decarbonisation: what's happened in the UK so far?

The UK was the first country in the world to have a law requiring reductions in greenhouse gas emissions, the Climate Change Act 2008. Things started well and the UK's carbon emissions have dropped – they are now about 40% lower than in 1990.

A major factor in the reduction has been closing down coal-fired power stations, which pollute as well as emitting carbon dioxide (see item on page 3). In addition, EU standards for more efficient electrical devices and low-energy lighting have reduced electricity consumption, and cars now emit less carbon dioxide.

Unfortunately, the UK's bold beginning has not been followed up. The government is not prioritising climate change and we are no longer on a path that will meet our future targets. Subsidies for extracting oil and gas from the North Sea have continued, and fracking for gas has been encouraged despite known fossil-fuel reserves already holding far more than can be burned safely.

The government's programmes to increase the use of clean energy sources and to make buildings more energy efficient have had a very mixed record:

- The feed-in tariff encouraged installation of wind turbines, solar photovoltaic panels, small-scale hydroelectric schemes and anaerobic digesters. It triggered a boom in solar PV panels as their prices dropped, but the government made several major reductions in the tariff at very short notice. It became so low that there were few new installations. Many new renewable-energy installation businesses folded. In April 2019 the scheme was closed to new applicants.

- The Green Deal was aimed at improving the efficiency of heating boilers and home insulation – including the millions of older homes with solid outer walls. But it was poorly designed and too complex. It did fund some new boilers, double glazing, and cavity wall and loft insulation, but there was much too little funding for expensive insulation of solid-walled buildings. Take-up was low and it was shut down in 2015. The government promised a new, better-designed scheme to replace it but that has not happened.

- The Renewable Heat Incentive subsidises heating systems using biomass fuel, air-source and ground-source heat pumps, and solar hot water. It is still running but take-up has been far lower than predicted.

The messy, expensive and delayed situation regarding nuclear power requires a long explanation, which you can find in the February 2019 edition of our newsletter.

Onshore wind power is now one of the least expensive ways to generate electricity. But the government has effectively stopped new installations on the grounds that wind turbines damage the landscape, despite polls showing that a majority of the population supports onshore wind.

The only renewable generation technology that *is* well supported by the government at present is offshore wind power. Offshore wind was initially very expensive, but with much bigger turbines, large-scale production and experience the cost has come down to the point that it is now roughly half the cost of new nuclear power and becoming competitive with gas.

The Committee on Climate Change's 2019 report

The UK Committee on Climate Change (CCC) is an independent body set up under the Climate Change Act 2008. Its chair is John Gummer, Lord Deben, who was environment secretary from 1993 to 1997. The CCC advises the government on targets to limit greenhouse gas emissions, and reports to Parliament on progress made in reducing emissions and preparing for climate change.

On 2 May 2019 the CCC released its report "Net-Zero: The UK's contribution to stopping global warming". This responds to the IPCC's Special Report on 1.5°C warming; it is a *major update* to the UK's targets and planning. Due to the new urgency, and the current sense of drift in UK policy, this is a key document for the UK so what follows is a brief summary of its main proposals. Note, however, that these have not yet been accepted as law. (Quotes are from the executive summary.)

The new CCC target

Up to now, the 2050 UK's main target has been for an 80% reduction in greenhouse gas emissions, relative to 1990. The report's headline goal is to change to *net-emissions of zero*, and this covers all greenhouse gases, not just carbon dioxide.

"A net-zero greenhouse gas target for 2050 will deliver on the commitment that the UK made by signing the Paris Agreement. It is achievable with known technologies, alongside improvements in people's lives. However, this is only possible if clear, stable and well-designed policies to reduce emissions further are introduced across the economy without delay. *Current policy is insufficient for even the existing targets*." (Italics added.)

The target "goes beyond the reduction needed globally to hold the expected rise in global average temperature to well below 2°C." … "If replicated across the world, and coupled with ambitious near-term reductions in emissions, it would deliver a greater than 50% chance of limiting the temperature increase to 1.5°C." (I think the "if" in the second sentence is a *very* big one.)

Due to rapidly falling costs of renewable energy, batteries and other green technology, this much tougher target could be achieved at the same cost as previously estimated for an 80% reduction: about 1–2% of GDP. And unlike some other countries, the target includes aviation and shipping.

The phrase "*net*-zero" is important: it is not possible to eliminate all emissions, most notably from aviation and agriculture. That means we must develop effective ways to remove carbon dioxide from the atmosphere. However, that does *not* mean net-zero can be achieved just by adding carbon removal to what was planned for the previous 80% target.

The CCC does not believe net-zero can credibly be achieved earlier than 2050. Note the serious disagreement with, for example, Extinction Rebellion, who are demanding zero emissions by 2025.

The CCC proposes special treatment for Wales and Scotland. "**Wales** has less opportunity for CO_2 storage and relatively high agricultural emissions that are hard to reduce. … Wales should set a target for a 95% reduction in emissions by 2050. **Scotland** has proportionately greater potential for emissions removal than the UK overall and can aim … for net-zero by 2045."

Some CCC comments on the current situation

"Delivery must progress with far greater urgency**.** Many current plans are insufficiently ambitious; others are proceeding too slowly, even for the current 80% target. … Clear leadership is needed, right across Government, with delivery in partnership with businesses and communities. Emissions reduction cannot be left to the energy and environment departments or to the Treasury. It must be vital to the whole of government and to every level of government in the UK."

- "2040 is too late for the phase-out of petrol and diesel cars and vans, and … plans for delivering this are too vague." Heavy goods vehicles must switch to low-carbon fuel sources.
- "There is still no serious plan for decarbonising UK heating."
- "Progress installing insulation and reducing emissions from buildings has stalled.
- "Carbon capture and storage, which is crucial … is yet to get started."
- "Afforestation targets … are not being delivered."

What's needed to achieve net-zero?

The CCC says net-zero Is technically feasible but highly challenging. Huge changes will be required to many aspects of peoples' lives. Here is a very brief summary of what the CCC proposes; for (much) more information the report's executive summary is well worth a look.

Energy efficiency: Reduce energy demand across the economy. Otherwise the required amounts of low-carbon electricity, hydrogen, and carbon capture and storage would be much higher. For buildings, how to achieve low-carbon heating (hydrogen or heat pumps) and energy efficiency

(notably insulation) must be overhauled. New homes should not be connected to the gas grid after 2025, and from 2035 replacement heating systems must be low-carbon.

Societal choices: Reduce demand for carbon-intensive activities. For example, accelerate the shift towards healthier diets with reduced consumption of beef, lamb and dairy products. Increase recycling rates to 70% and stop sending biodegradable waste to landfill.

Electrification: This is particularly needed for transport and heating (heat pumps), which will require around a doubling of electricity demand. All electricity generation to be renewable or low-carbon. All new cars and vans should be purely electric by 2035 at the latest, though 2030 would be desirable.

Hydrogen economy: Hydrogen is needed to replace natural gas for some industrial processes, long-distance lorries and ships, space heating, and to generate electricity at peak periods. The hydrogen would be produced cleanly, using methane (i.e. natural gas) reformation with CCS, and/or electrolysis of water.

Carbon capture and storage (CCS): Needed in industry, and combined with bioenergy with carbon capture and storage (BECCS) for greenhouse gas removal from the atmosphere. CCS is also very likely needed for hydrogen and electricity production. "CCS is a necessity not an option."

Changes in how we farm and use our land: More emphasis on carbon sequestration and *sustainable* UK biomass production. Changes enabled by healthier diets and reductions in food waste. One-fifth (or more) of UK agricultural land shifting to tree planting, energy crops and peatland restoration.

Other likely benefits

In addition to increasing resilience to climate change, the measures proposed would improve human health due to better air quality, less noise, more active travel and a shift to healthier diets. Water quality would improve, biodiversity would be enhanced and there would be recreational benefits from changes to land use.

My initial conclusions

I have not yet read the full technical detail of the report, but my initial impression is that this is a thorough and conservative analysis.

Their comments on the current situation cut through the usual hand-waving excuses.

They stick to known technologies and do not assume "miraculous" breakthroughs (e.g. cheap, lightweight batteries with much higher energy-density than lithium batteries). For possible solutions that need substantial further development, they seem to recognise possible problems and try to offer alternatives. For example, they discuss two possible routes for space heating: hydrogen replacing natural gas and electric heat pumps, and they say the future mix would depend on how things develop.

For electricity they conservatively assume no more than 60% variable renewables (i.e. wind and solar), and more nuclear than we have running at present. However, they realise that more than 60% might well be feasible and also recognise cost and other problems with nuclear. Their alternative is much more offshore wind power. They support a more favourable planning regime for onshore wind.

They should perhaps have been a bit tougher in places, for example set the electric car and van deadline for 2030 rather than 2035. Surprisingly, tidal power is barely mentioned.

I look forward to seeing the recommendations of the CCC being adopted in law and implemented.

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The Sustainable Blewbury newsletter is edited by Jo Lakeland and Eric Eisenhandler

We have a substantial programme of activities in and around the village. Getting involved is fun and can make a very positive contribution to village life and local environment. If you'd like to get involved in what we do, or to receive our free Newsletter, email us at info@sustainable-blewbury.org.uk or phone Eric Eisenhandler at 01235 850558.