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Our first Repair Cafe

Saturday 29th February, 2 to 4 pm, in the Melland Room, Blewbury Clubhouse

You will be able to get something fixed, save money, help save the planet, and have a cup of coffee and home-made cake all at the same time. If it's worn out, torn or has just stopped working, don't throw it away – bring it to our Repair Cafe and we'll try to fix it. We aim to have volunteers who can sharpen tools and knives, do electrical and mechanical repairs, help with sewing and upcycling clothes, fix bikes, and stick things back together. All repairs are free, but a donation to cover expenses would be appreciated.



The mind-blowing truth about our food – a talk by Anthony Simpson

Monday 9th March, 8.00 pm, in Blewbury Manor Barn

Anthony gave us an excellent talk on electric cars a year ago. This talk results from his extensive reading of reports and research from around the world: he will look at the surprising range of impacts of our food choices. Food figures highly in what we are told we can do to reduce carbon emissions, and this talk will help us to make reasoned choices.

Anthony's research also produced some facts that will surprise us, with answers to questions like:

- Is food responsible for more greenhouse gas emissions than all forms of transport?
- What proportion of agricultural land do we use for meat and dairy produce?
- Do we grow enough food to feed the world?
- How do our food choices impact fires in the Amazon, ocean dead zones and water shortages?
- Is our diet sustainable in a net-zero carbon world?
- Do we need to eat animal produce for protein and calcium?
- Local food is much better, isn't it?



All this and more!

Tickets £6 including a drink and nibbles, on sale in February at the Post Office.

Love Food Hate Waste

Saturday 14th March, 10 am to 12 noon, in the Melland Room, , Blewbury Clubhouse

Would you like to save food, save money and help the planet? **Love Food Hate Waste** is a morning of talks and activities designed to help busy people make the most of their food and the bits left over! It is being put on by Blewbury Climate Action with the help of the WI. The final details have not yet been decided, but it will be a completely free event with free coffee and home-made soup and bread afterwards. But you will need to pick up a ticket from the Post Office after March 1st so that we know how many people to cater for.



Save the date and look out for more details on posters, BVS Facebook, etc. later in February. Apologies – the event is not suitable for young children or toddlers.

Blewbury Climate Action



Our Ideas meeting on January 8th was a great success. Plenty of people came and they had masses of ideas about what we should do. I ended up with well over 150 ideas on post-it notes that I grouped in categories. The next step was to give the people who came to the meeting the opportunity of deciding which ideas they were most concerned about and which they want to follow up. I am doing this by email and now waiting for their responses.

Jo Lakeland

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Short articles and links

Davos

By the time you read this the World Economic Forum (WEF) in Davos will be a memory. To be honest, I am not sure whether the outcomes are a reason for a little hope, or for despair at how little it achieved.

President Trump's opening speech was depressing (see blewburyclimateaction.com for details) but at that point there seemed to be hope that big business would recognise the need to change the way they operate.

In the lead-up to the conference the WEF announced a big tree planting initiative: "an ambitious goal of growing, restoring and conserving one trillion trees over the next 10 years." Which sounds good, but it is not a solution. Yes, trees do absorb carbon dioxide, but if we continue to increase our carbon emissions at the current rate (up by 0.6% in 2019, 4% since the 2015 Paris agreement) then planting a trillion trees will be much too little and too late.

Teenage activist Greta Thunberg was in Mr Trump's audience, and soon after his speech she spoke herself. She warned that net-zero carbon emissions is not enough and that while planting one trillion trees is good, much more needs to be done. "We cannot continue to offset our own emissions by paying people to plant trees in places like Africa while trees in the Amazon are being slaughtered."

She also quoted the 2018 report by the IPCC scientists, which warned that there is very little room left to emit more carbon dioxide without dire consequences for the world. "I know you don't want to hear the report about this. You don't want to talk about this. But I assure you I will continue to repeat these numbers until you do."

But there is also good news: more big businesses and organisations are divesting from fossil fuels, sales of new and second-hand electric cars are up, and people are changing their diets – go into any

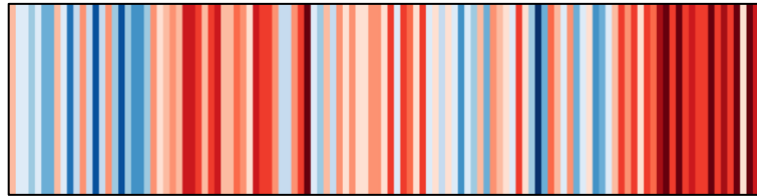


supermarket and look at the vegetarian and vegan meals on the shelves – they are there because people are buying them. And Sainsbury's has pledged £1bn to cut their emissions to zero by 2040 (see blewburyclimateaction.com for details).

There is a thoughtful analysis by Joseph Stiglitz of this year's Davos conference at bit.ly/2OEQPFc. It's a bit heavy going, but he is a Nobel laureate in economics, and University Professor at Columbia University, so is a good source.

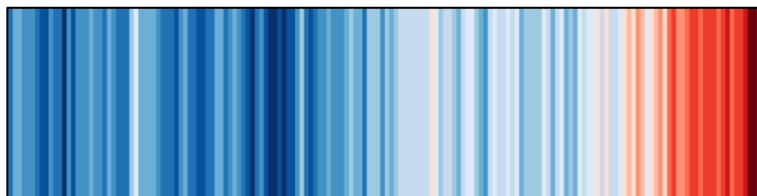
Jo Lakeland

Warming Stripes

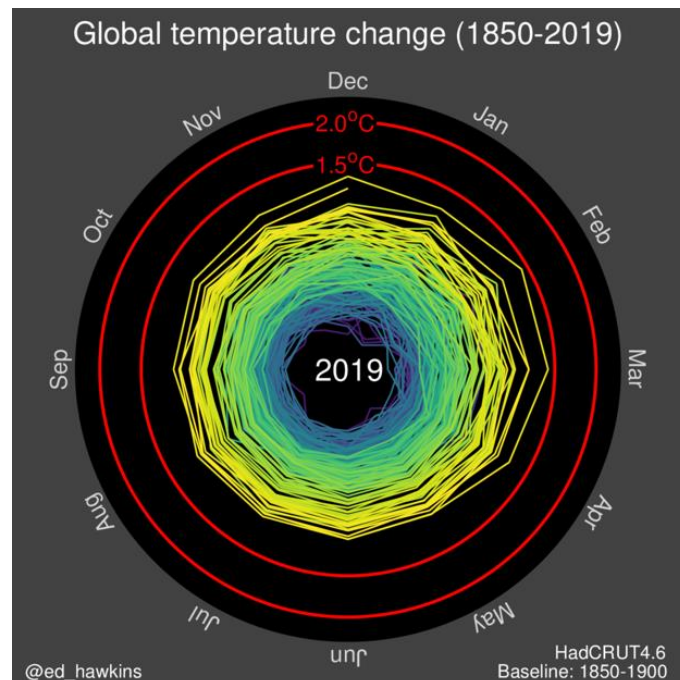


Annual global temperatures from 1850–2017: the scale represents the change in global temperatures covering 1.35°C

Climate change is a complex global issue, which often needs explaining in a simple way, and this graphic is a good way to do this. The colour of each stripe represents the temperature of a single year, ordered from the earliest available data to now. Warming stripes are now available for countries all over the world at #ShowYourStripes. Below is Greenland, from 1901 to 2018:



They were first used by Professor Ed Hawkins of the Department of Meteorology at the University of Reading, who is also editor of the Climate Lab Book blog: www.climate-lab-book.ac.uk. And they have now reached the US Senate – see the short video, featuring Ed Hawkins, at bbc.in/3boay68.



Even more interesting than the Climate Stripes are the Climate Spirals, animations that show how temperature is changing from month to month over the years. This animated spiral, which builds out from the centre as the temperature increases, can be found at www.climate-lab-book.ac.uk/spirals/.

Jo Lakeland

Replacing natural gas with hydrogen: a first step

A crucial element in achieving net-zero carbon emissions is to stop using natural gas to heat our homes and businesses, and for cooking our food. Heating homes and businesses accounts for half of the UK's energy consumption and a third of its carbon dioxide emissions.

Switching cooking to electricity is easy; many of us already do it. For heating, future new houses and other buildings can be built to use heat pumps, and the government has said that no houses built after 2025 should have heating based on fossil fuels. District heating systems can also contribute. But that still leaves many millions of existing buildings that are currently heated by gas.

Converting all existing houses to heat pumps would be expensive, especially ground-source pumps, and heat pumps only work well in houses and buildings that are very well insulated. One possibility for existing buildings is to use the existing gas-grid infrastructure to supply hydrogen, biogas (such as already being made from our food waste in anaerobic digesters, like the ones at Agrivert, near Benson) or a mixture of the two. Hydrogen is especially attractive because when it burns it only emits water, with no carbon dioxide at all.



The gas grid in its present form can already handle gas mixed with some hydrogen. An initial trial, just started, uses 20% hydrogen mixed with natural gas to heat 100 homes and 30 faculty buildings at Keele University in Staffordshire. If used nationwide, a mix like this would already be the equivalent of taking 2.5 million cars off the road. And at this level the mixture can be used without having to modify the gas pipes or the existing boilers and cookers, because all gas appliances sold since 1996 must be able to run with up to 23% hydrogen.

Currently, there is a 0.1% limit on hydrogen in the UK gas network, but Keele University was granted an exception after careful checks and because its gas network could be isolated easily from the main gas grid. The Keele trial will run for ten months, until August 2020. If it is successful a larger-scale trial will start using the 20% hydrogen blend to supply 670 domestic and commercial properties near Gateshead, in the north-east.

At present hydrogen is usually produced from natural gas, but that isn't acceptable for the future – that process actually emits several times more carbon than simply burning the gas. So for the Keele trial the hydrogen is captured using an electrolyser, which uses electricity to split the water into hydrogen and oxygen. For large-scale production of hydrogen in the future, electrolysers could be run using surplus renewable energy from wind, hydro or solar sources.



ITM electrolyser

What would be needed to change to 100% hydrogen? All gas appliances would need to be modified, much as they were in the switch-over to natural gas in the 190s and 70s, when 14 million appliances were converted from town gas to natural gas. Converting boilers would be more complicated than that change was, but hydrogen-ready boilers that can also burn gas could go on sale in the next few years. Another problem is that some of the gas pipe infrastructure uses iron pipes, and pure hydrogen makes iron brittle, so it can crack. However, the iron pipes are already being gradually replaced by polypropylene.

For more information see bit.ly/2S4HQ1c and hydeploy.co.uk/

Eric Eisenhandler

Almonds are out. Dairy is a disaster. So what milk should we drink?

This article by Annette McGivney was featured in the Guardian in late January. There are now so many plant-based alternatives to dairy to choose from, but they all impact people and native habitats to some degree, and there is also their carbon footprint and water consumption to consider.

The real shock is that almond milk is particularly bad for the planet, needing 130 pints of water to produce a single glass of almond milk, and 50 *billion* commercially produced bees died last year while fertilising almond trees in the vast southern California almond orchards –an area with very serious water supply problems.



From left to right: hazelnuts, almonds, coconut, oats, soy. Photo: Luigi Giordano/Getty

Read the original article (which despite being US-orientated is very interesting) at bit.ly/3bn0kCV. And “Like sending bees to war: the deadly truth behind your almond milk obsession” is at bit.ly/39gWKZ6.

So what *are* the best choices for plant-based milk? Hazelnuts seem acceptable, but the overall winner for sustainability (less damage to the environment, and hopefully fewer food miles) seems to be oat milk. But what is also certain is that all milk alternatives are far better for the planet than dairy: research has shown that milk produces almost three times more greenhouse gas emissions than any plant-based milk and it also uses nine times more land than any of the milk alternatives.

Jo Lakeland

A few words about meat and methane

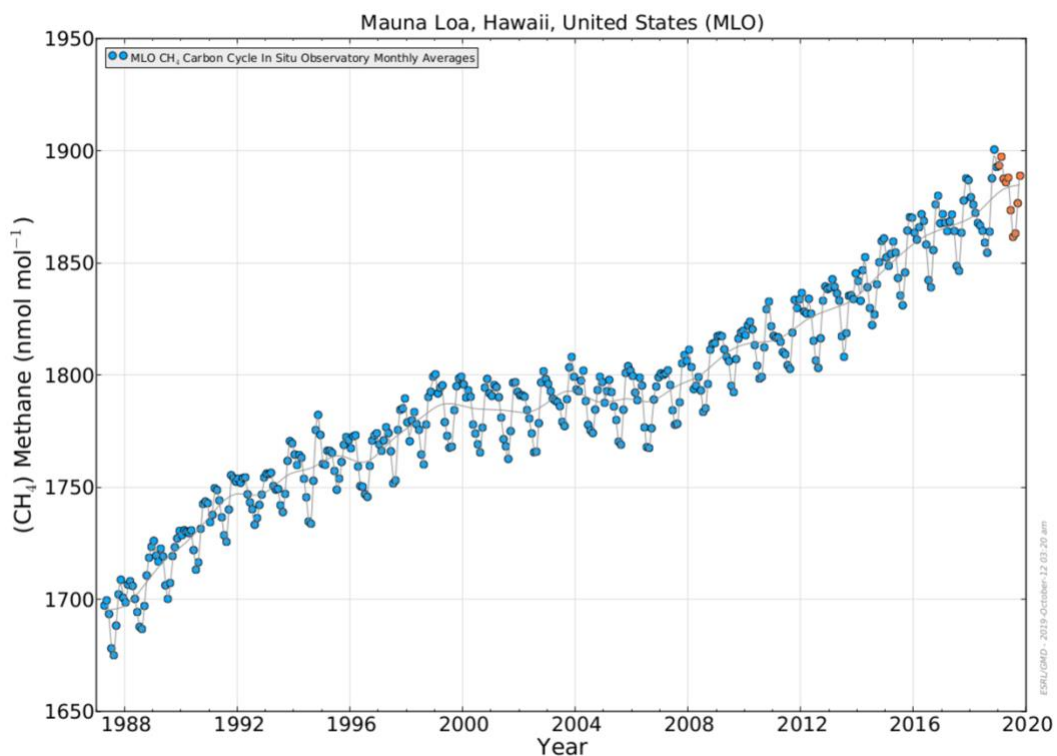
Cows and sheep belch out methane – it’s part of how their digestive systems work. Methane, which is also the main component of the natural gas most people use to heat their houses and many use to cook their food, is a potent greenhouse gas. Tonne for tonne it’s roughly 30 times as potent at warming the world as carbon dioxide, and the amount of methane currently in the atmosphere causes about 20% of global warming. That’s one of the reasons why people are encouraged to become vegan, or at minimum to eat a lot less meat.



Raising livestock for meat and dairy produces roughly a quarter of methane emissions; other sources include wetlands, leaks from producing and using fossil fuels, human waste and landfill (including food waste), and rice production. A fear for the immediate future is that thawing Arctic permafrost could release huge amounts of methane.

Recently, representatives of the livestock farming industry have been in the media, including TV and radio, claiming that methane emissions from raising cattle and sheep for meat and dairy are not as harmful as environmental campaigners are claiming. They point out that methane stays in the atmosphere for far less time than carbon dioxide. That's correct – once emitted, carbon dioxide remains there for centuries, while methane is removed within about a decade. So if we could stop emitting methane the amount in the atmosphere would go down.

But that misses the point! What they aren't saying is that both carbon dioxide and methane emissions are still increasing, and what actually warms the planet is how much of each gas is present in the atmosphere at any given time. The amount of carbon dioxide is widely publicised: it has increased by about 45% since pre-industrial times, from 280 parts per million (ppm) to more than 410 ppm. But the amount of methane in the atmosphere has increased much more, by about 2.5 times, from about 720 parts per billion (ppb) to 1860 ppb. It's still rising steadily (see graph), and that is what we must change. (On the graph below, the pre-industrial methane level is very far below the bottom.)



For people who still wish to eat meat or dairy, but in much smaller quantities, It would be better if the representatives of the meat industry pointed out that there is also some interesting research being done: to find feed plants that cattle and sheep can eat that emit less methane (examples include sain foin for cows and seaweed for sheep), and also to find breeds of cattle and sheep with digestive systems that emit less methane.

For more information see phys.org/news/2019-03-methane-atmosphere-surgin-scientists.html.

Eric Eisenhandler

UK progress (?) towards net-zero by 2050

This article is based on a report in by the UK Committee on Climate Change (CCC, the government's statutory advisers) in July 2019, and on newspaper articles about their advice since the report appeared. For more information see the report itself at bit.ly/382N9oo and articles at bit.ly/2OjEDK3, bit.ly/2RObhWg and bit.ly/394gGP0.

The CCC says that far too little is being done, and we are not even on track to meet the old targets that were set to achieve an 80% reduction by 2050. The government keeps proclaiming that emissions have dropped by about 40% since 1990, which is of course good, but this is almost entirely due to electricity generation switching from coal to natural gas and renewables. Nor does it include

aviation, shipping and all the goods that we import from elsewhere. Electricity generation is relatively easy to decarbonise, but we must also decarbonise many other, more difficult areas.

There is currently no cabinet minister with responsibility for achieving the net-zero target (though the imminent government reshuffle might change that), and no intermediate goals before 2050 are set, apart from the CCC's advice on carbon budgets. The government had promised a plan for spring 2020, but it has now been delayed to the autumn.

At the same time, some government actions work directly *against* reducing emissions. A new deep coal mine is being opened in Cumbria (see our previous newsletter at bit.ly/2Om81PJ), Heathrow airport plans to add a third runway, and the UK is supporting new fossil-fuel power plants outside the UK as well an unnecessary big, new, gas-fired one in England at Drax (bit.ly/2UhkMz4).



Here are some of the things covered in the CCC report:

For electricity, we must continue to add more renewable electricity generation, including more onshore wind power. Renewable energy should be made cheaper for consumers. We must have virtually 100% low-carbon electricity generation by 2050.

In the short term, there should be stronger incentives for people to buy cleaner cars, government-funding for a big expansion in charging facilities, and roll-out of zero-emission HGVs. The ban on sales of conventional vehicles, currently set for 2040, should be advanced to 2030–2035.

Buildings must be made more energy-efficient. There has been no replacement for the failed Green Deal to insulate old houses, and it is badly needed to fill the policy vacuum. The Renewable Heat Incentive should be continued (and hopefully improved). New houses should be ultra-efficient from 2025. Low-carbon heating must be introduced and fossil fuels phased out. A decision on the future of the gas grid must be made by 2025.

An “air miles levy” to discourage excessive flying by the 15% of the UK population estimated to be responsible for 70% of flights is proposed. Frequent flyer reward schemes should be banned, and the tax should be higher for the much higher emissions of business and first-class flights. Aviation and shipping must be included in government targets.

Landfill of bio-degradable waste should be banned by 2025, and emissions from non-bio waste must be limited.

Agricultural greenhouse gas emissions must be reduced. At least 100 million trees a year should be planted; the trees could be paid for by new carbon levies on oil companies and airlines.

Industry has to start decarbonising their processes, converting to use electricity and hydrogen. Systems to capture and store carbon dioxide are needed, but previous government attempts to kickstart this technology over the past two decades have been abandoned.



Anaerobic digester near Benson: turns our food waste into biogas

Strategy should be informed by Citizens' Assemblies (such as the one currently underway) and Youth Climate Steering Groups. The costs of decarbonisation must be fairly distributed.

Eric Eisenhandler

Building a green refugee camp with UNHCR

A press release from the United Nations Refugee Agency on 24th October 2019 announced: **“UNHCR launches sustainable energy strategy, strengthens climate action”**. See bit.ly/2Owj8oP. “In recognition of the growing climate crisis and to boost refugees’ access to safe and sustainable energy, while minimizing its own environmental impact, UNHCR launched a four-year Global Strategy for Sustainable Energy.

... “There is no escaping the fact that climate change is contributing to underlying causes of conflict and displacement. From drought and famine to more frequent extreme weather events, *the impacts of climate change are being most acutely experienced by the world’s most vulnerable and marginalised, including refugees and their host communities.*”

It's sad to say that this is something we often hear, but there is hope that things are changing. The UNCHR Green Refugee Camp project is in north-east Cameroon, near its border with Nigeria. Violent attacks of the Islamist group Boko Haram since 2013 have displaced over 3 million people within Nigeria and neighbouring countries. 240,000 of them have fled to other countries, living in refugee camps for years.

In 2017 the UNHCR joined forces with the Land Life Company (funded by the Dutch National Postcode Lottery) to build the Green Refugee Camp. Together with refugee and local communities, they have reforested more than 100 hectares of severely degraded land in and around Minawao Refugee Camp, where 63,000 refugees who fled violence in Nigeria now live. This initiative is providing jobs, shade, health and food for hundreds of refugee and local families.



That is the background to an initiative that is showing the refugees how to make mud bricks that they can use to build better houses, and how to make more efficient cooking stoves which use less wood or charcoal. They are also helped to grow and plant tree seedlings using a method that conserves water, and will allow them to develop into forests in desperately poor and unstable parts of the world.

As the trees grow they will absorb carbon dioxide and erosion be reduced. The forests include cashew nut and neem oil trees that will eventually provide both food and an income for the refugees. Go to bit.ly/2CS2r1E to read the details, and in particular to watch the 10-minute video “It Will Be Green Again” about the initiative, and a shorter video about Land Life’s project to plant *one million trees* in 35 countries in 2019.

Jo Lakeland

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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.