No. 20 **Sustainable Blewbury** February 2018
www.sustainable-blewbury.org.uk

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

Sustainable Blewbury news

Two talks at the Manor Barn

Restoring England's threatened chalk streams: Paul St. Pierre (Environment Agency)

Monday, 5 March in Manor Barn, 8.00 pm

Paul will talk about work to restore chalkland rivers, with particular reference to the Kennet and Lambourn valleys, and also relevant to Blewbury's Mill Brook. Chalk streams are a unique and rare habitat, typified by crystal clear waters and abundant wildlife. Southern England has the highest concentration of these rivers in the world. However, in recent decades they have deteriorated due to man's involvement and climate change. Hear how we are restoring these natural wonders back to their full glory!
Profits will be donated to Water Aid.

Tropical forests, people and climate change: Dr. Catherine Long

Monday, 26 March in Manor Barn, 8.00 pm

Catherine (who grew up in Blewbury) will talk about her work supporting local communities and indigenous peoples in Africa and Latin America to secure their rights to control and manage forests – and to engage in global debates on climate change and other issues that affect their lives directly. This includes deforestation and its causes, along with some success stories about community and indigenous managed forests, as well as recent information about biofuels and wood pellets that affects the UK directly. *Profits will be donated to a charity of Catherine's choice.*

For each talk, tickets are £6.00 including wine & nibbles, and will be on sale at the Post Office, or on the door (if not sold out).

What next?

23 April: Sustainable Blewbury AGM

SB 25th Anniversary Celebration!

Blewbury Environment Group was founded 25 years ago, in 1993. It evolved into SB around 2009, so 2018 is our 25th anniversary. We are planning a celebration!

Interesting web links

- **Bees:** Friends of the Earth has been doing a Great British Bee Count in late spring/early summer for the last four years, and will do so again this year, from 17 May to 30 June. Why not prepare for it by looking at last year's results, reading about the Bee Cause and what you can do, including '10 easy ways to help bees in your garden'. And look at the Great Bee Identification Guide before signing up for the 2018 Great British Bee Count. You can also download the free Great British Bee Count App for your phone or tablet. This will get you off to a flying start in identifying and recording different species. See **friendsoftheearth.uk/bee-count.**
- **Efficiency rules for new boilers:** From April, the rules for new boiler installations in England will be tightened up to gain a bit of efficiency and in some cases increase comfort and/or save you money. Boilers must have an efficiency rating of at least 92% – about one-third of boilers now on sale don't qualify. All new gas and oil boiler installations must include a programme timer and a thermostat so that you can effectively control your heating. If you are buying a combi boiler, it must include at least one option from a short list of options to improve the controls. See **bit.ly/2DJRTEu** for more information.

Community Action Groups

By Jo Lakeland

Have you ever thought about why Sustainable Blewbury does so many different things?

SB consists of groups and individuals who have a wide variety of interests: apple juicing, thermal imaging, permaculture, monitoring climate change, keeping our bus service … all of which have one thing in common: sustainability. To put it into its simplest form, we are trying to adapt to climate change by adopting and promoting a more sustainable style of living, while at the same time retaining a good quality of life.

But we can't do everything. Sustainable Blewbury is a small village organisation, and we are very fortunate to be one of Oxfordshire's network of Community Action Groups (CAGs)

The CAG Project consists of over 60 groups across Oxfordshire, "at the forefront of community-led climate change action, organising events and projects to take action on issues including waste, transport, food, energy, biodiversity and social justice. Started in 2001, the network is the largest of its kind in the UK …" If you go to the CAG web site cagoxfordshire.org.uk you will see what a marvellous resource the CAG network is. We have benefited from their advice, expertise and mentoring, help with funding, insurance cover, training, a monthly newsletter, etc. But best of all is collaboration with the other CAGs in this part of Oxfordshire.

Other CAGs near us

Sustainable Wantage www.sustainablewantage.org.uk

They do a lot of different things in Wantage, including running the Wantage Mix, a community space in a converted shop at 15 Mill Street, Wantage. They run workshops and courses on patchwork, tree grafting and many other things there, and hold a craft night and a repair cafe once a month. You can hire the Mix, or hot desk there on several days each week.

They also hold a monthly Green Drinks (an informal meeting to chat about anything green), usually on the last Wednesday of the month, and produce an excellent monthly newsletter. You can read previous copies of this in the archive linked to 'Sustainable News,' next to the photograph on their home page: bit.ly/2EtRRNv. The latest newsletter, for February, features a useful update on the issues of plastic use. There are also links to the series of talks and meetings arranged by the Oxford Climate Society. ** Go to bit.ly/2o77Hqe to subscribe to their newsletter.

Sustainable Didcot sites.google.com/site/sustainabledidcot

Sustainable Didcot is going through a revival, doing lots of new things like repair cafes, seed swaps, Freecycle and vegcycle, thermal imaging and Dinner Time (a community kitchen event – using spare food to make and share a meal with other members of the community). Its aim is to reduce the amount of food we throw away.

**** Repair Café at All Saints Youth and Community Hall, Roman Place (opposite the barracks) ****
Saturday 17th February, 4.30 to 7.30 pm

We will try to fix broken household items in a collaborative and social way, serving tea, coffee and cakes throughout the evening

We will have expert volunteer fixers on hand to work with you to support repairs of household electrical items (incl. computers)

- advice with simple computer problems, and gluing broken items/toys
- mending clothes/up-cycling/fabric crafts, and clocks, watches and mechanical items
- sharpening knives, tools, etc., and PAT testing electrical items

Abingdon Carbon Cutters abingdoncarboncutters.org.uk

They hold an open meeting at 7.30pm on the third Wednesday of each month, usually at St. Ethelwold's House, 30 East St. Helen Street, OX14 5EB. These meetings are open to all and take a variety of forms. The aim is to develop our response to climate change and make the transition to a low carbon lifestyle. They have expert speakers, practical workshops, expert panel discussions, etc. dealing with relevant topics. Anyone can attend the meetings, and they often have very interesting

speakers. ACC are very good hosts – there is always coffee and cake! The next meeting is on Wednesday 21st February at St. Ethelwold's House. We are invited to swap seeds and and also to learn about their new projects. (A £3 donation towards costs is welcome!)

- A new group working towards a plastic-free Abingdon
- "Edible Abingdon" growing food in public places
- Cookery classes for children in South Abingdon's new children's centre

Edible Abingdon @ Old Station House grow vegetables in old recycling boxes outside Old Station house. Interesting for residents and for passersby. They also have active energy and education groups. If you join the ACC mailing list you will receive information about their monthly meetings, other events and news. ** Sign up in the right hand column of their home page.

Sustainable Wallingford www.sustainablewallingford.org

Wallingford Community Energy Ltd. encourages reducing use of fossil fuels by loaning meters, giving free one-to-one advice on reducing energy use and increasing the use of renewable technologies.

Fresh Air February is a local campaign to improve the poor air quality in central Wallingford, due to the sheer number of vehicles on the road. They want to encourage local residents to think about how they use their cars, and people 'cutting through' Wallingford going to and from work to use the bypass instead. Drivers should switch off their engines at the traffic lights if they can. All easy changes that could make a tremendous difference. Other local news is at the bottom of their home page.

Swap Shops are for passing on items that are clean, safe and genuinely reusable, once you have finished with them. They were started in 2003 and have been running regularly ever since. They are held four times per year at Centre 70 in the Kinecroft in Wallingford. Everyone is welcome to bring things for reuse, or to take things away; you need not bring anything before you can take anything, for free. No money changes hands, although donations are always welcome. The next Swap Shop will be on Saturday 14th April from 09:45 – 11:30. See bit.ly/2o3ahOM for more about Swap Shops.

Repair Café – These will begin soon; these have been successful in Wantage, Reading, and Oxford Volunteer expert fixers will be on hand to help you repair small electricals, computers, bikes, and clothes.

What do we face Tomorrow?

In conjunction with Sustainable Wallingford, the Corn Exchange is showing 'Tomorrow', the English language version of the French film Demain, an award-winning documentary with an emphasis on local activism.

Faced with a future that scientists say is a great cause for concern, the film has the distinction of not giving in to catastrophism. Optimistically, it identifies initiatives that have proved themselves in ten countries around the world.
Followed by a brief discussion on how to get involved in changing our Tomorrow.

Book your ticket for Wed 14th March 14, 19:00 - 21:30, at the Corn Exchange, at the reduced price

Plastics

By Jo Lakeland

There is increasing concern about pollution from plastic waste contaminating the oceans, and often a feeling of not knowing what the most important things that ***we*** can do to reduce plastic waste. We plan to feature plastics and recycling in a future newsletter, but for now here is some advice heard on PM on Radio 4.

Your main focus should be on single-use, throwaway items rather than larger things:

- Do not buy water, or any other soft drink, in plastic bottles.

- Invest in a personal coffee cup/mug designed for reuse, or if you want to keep your coffee warm, buy a small metal vacuum flask and ask to have your drink put into it.
- Refuse plastic bags, cling film or any other plastic wrapping. Most supermarkets sell fruit and vegetables loose. Take your own paper bags for the produce, or if it is a single item or several large-ish items like apples, you can stick the price label on one of them. If you have the nerve to do it, leave the wrappings of anything you have to buy wrapped at the checkout.
- Never ever use plastic straws! If you really need straws for a children's party, buy paper ones.
- Read labels carefully. Look for omissions of what an item is made of, as well as the word plastic. If enough people tell shops why they are not buying their plastic products, they will eventually change.

And finally, Roger Harrabin, one of the BBC's environmental correspondents, will be answering listeners' questions about plastics on Radio 4's PM every day next week.

Can renewables generate most of our electricity?

By Eric Eisenhandler

We used to think that low-carbon, renewable energy sources could only supply up to 20–30% of our electricity. This limit was mainly due to the problems of dealing with the intermittent nature of wind and solar power ("the sun doesn't always shine and the wind doesn't always blow"), currently the most affordable renewable energy sources. But that no longer seems to be the case – the UK National Grid is now planning for scenarios in which the majority of our electricity would come from renewable sources, and this matches a global boom in renewable electricity installations.

Renewable sources of electricity

Westmill wind and solar co-op, Watchfield, Oxon

- **Onshore wind** is now one of the cheapest sources of renewable electricity, comparable to or cheaper than fossil fuel. Huge amounts of onshore wind power now exist and much more is being installed in, for example, China, US, Germany, India and Spain. Wind already supplies more than 40% of Denmark's electricity. But in the UK the government has made it nearly impossible to install more onshore wind, even though a majority of the public support it.
- **Offshore wind** has recently become much more affordable and the cost continues to drop, mainly due to using much more powerful turbines. A recent, huge contract will supply electricity nearly 40% cheaper than the Hinkley Point C nuclear reactors, as well as the price only having to be guaranteed for 15 years rather than Hinkley's 35 years. Offshore wind is mainly being installed by the UK and Germany. It is the only renewable technology that currently has substantial support from the UK government.
- **Solar photovoltaic panels** are now one of the most inexpensive renewable sources, and in sunny places no longer need subsidies. Leading countries are China, Germany, Japan, the US and Italy. The UK's initial burst of enthusiasm for solar was quickly undermined by huge drops in the feed-in tariff at very short notice, and this has wiped out many new businesses and jobs.
- **Hydropower** is good where suitable sources exist. In addition to large dams, small-scale installations using weirs etc. can be useful; there are local examples at Osney and Sandford Locks on the Thames.
- **Anaerobic digestion** of farm and food waste produces methane, which can replace natural gas to generate electricity or for heating via the gas mains. This is how all of Oxfordshire's food waste is processed. (See *Green electricity from our food waste* in Newsletter 15.)

Agrivert food-waste digesters and 2.4MW generators, Crowmarsh, Oxon

This is not a complete list – other interesting technologies include various types of tidal power, biomass and concentrating solar.

Intermittent sources

The electricity grid already has the difficult task of managing its energy sources so they exactly match demand, includng sudden changes. (The classic example is millions of people switching on kettles for a cuppa during a break in a big televised event.) Dealing with fluctuating demand requires being able to switch predictable electricity generators on and off at short notice.

But some renewable energy sources, most notably wind and solar, are also hard to predict, and these are what's currently being installed most widely. Output varies with the weather, but even with very accurate weather forecasting there can be sudden changes, for example when the sun is suddenly blocked by a cloud over a large solar farm or the wind is gusty. These variable sources add a further challenge for operating the electricity grid. How can we use them to the highest possible capacity?

Dealing with intermittency

We must have a **diverse mix of renewable technologies** – if the wind isn't blowing the sun might be shining, or vice versa. It also helps if the electricity grid covers a **very wide geographical area**, so things 'average out' – the sun might be shining or the wind blowing elsewhere.

International grid interconnects broaden the area and give access to other technologies. The UK already has links to France and the Netherlands and more are planned, for example to Norway so that Norway can benefit from the UK's wind energy and we can benefit from Norway's hydro power.

However, what's also needed are ways to **store energy**, so that the intermittency is smoothed out at or near the source.

- **Batteries** are an obvious solution, but research and development is needed to reduce their cost, increase capacity, and if possible avoid the use of rare materials such as lithium and cobalt. Better batteries are also crucial for electric cars as well as storage for the grid.
  Arrays of batteries are beginning to be used to smooth out and store the output of wind and solar farms. On a smaller scale, such as domestic solar systems, battery packs similar to the ones used for electric cars would allow buildings with solar panels to utilise far more of the power they generate themselves (e.g. at night) rather than exporting it to the grid, and for ups and downs in solar energy to be smoothed out. Such systems are now available, though still expensive.

14kWh battery for domestic solar panels

- **Pumped hydro** has existed for many years, e.g. at Dinorwig in Wales and Cruachan in Scotland, and is mainly useful for providing bursts of power when needed at short notice. Such facilities use relatively simple technology but are big civil engineering projects.

As more solar and wind power becomes available, there will be times when they produce more electricity than is needed. Surplus energy from renewables can be used to produce **hydrogen gas**, to use directly via the gas mains as a fuel for heating, or for road vehicles, trains, etc. (most likely via electricity-generating fuel cells). Hydrogen would be produced by electrolysing water into hydrogen and oxygen, rather than from natural gas as done at present. Hydrogen might also be combined with carbon dioxide, extracted from the atmosphere, to make methane for heating or liquid fuels that might replace petrol and diesel.

ITM Power hydrogen refuelling station, using electricity to electrolyse water

To manage and match rapidly changing demand to rapid changes in supply from different energy

sources, **smart electricity grids** are needed The grid also has to evolve to handle a big structural change, from having a relatively small number of massive power stations to a huge number of much smaller, widely distributed sources.

Managing demand works on the other side of the equation, by reducing what's required rather than simply trying to match it. For example, on a domestic scale some household appliances such as fridges and freezers could be told to wait a few minutes before turning on the cooling. Electric cars don't always have to be charged immediately (and indeed might even have their batteries used as storage, to supply electricity to the grid when they are not in use). On a larger scale, industry can often delay turning something on, or doing things like reducing the use of air conditioning for short periods. There are many other ways demand can be tailored to reduce big spikes and troughs.

If we all switch to electric cars they will have to be recharged, and it's generally assumed that demand for electricity will increase greatly. But in the past few years electricity usage has dropped, rather than rising as predicted, despite the plethora of new "gadgets", and this might also prove to be the case with predictions for the new age of electric cars. That's because too little is said about **energy efficiency and conservation**, which has already made a huge difference.

EU energy regulations have helped a lot with this – electrical gadgets and appliances offer a lot of scope for more energy-efficient design. Lighting, in particular, consumes a surprisingly large fraction of our electricity – replacing incandescent bulbs, initially with so-called 'low-energy bulbs' and now with more efficient light-emitting diodes (LEDs), greatly reduces electricity demand. And of course there are many ways we can change our lifestyles to use less electricity and more efficient transport. Continuing these sorts of improvement could help compensate for a switch to electric cars.

Can we generate most of our electricity with renewables?

The UK National Grid has studied various scenarios for mixes of electricity sources, including large amounts of renewable generation. It looks as if *some* fossil-fuel generation will still be needed for a few decades, until new or improved technologies are developed for generation and storage.

What's needed to deal with varying supply and demand is some generators that can be switched on and off rapidly, and at short notice. If they must use some fossil fuel the obvious solution is gas, which emits less carbon dioxide than coal or oil. In time the natural gas could be replaced by increasing amounts of biogas from anaerobic digestion of waste, and/or hydrogen made using spare renewable capacity to electrolyse water.

Does nuclear fit in?

It has often been said that intermittent renewables need to be supplemented with reliable, always-on power from nuclear reactors. However, the reactors currently planned for the UK (assuming they are actually built[*]) will not be easy to turn on and off at short notice, they will work best running flat out. Nuclear has also become very expensive, requiring big government subsidies, and to get the most return from the huge, initial capital investment they would have to run nearly all the time. But their always-on nuclear electricity will be very expensive – the 35-year subsidy to Hinkley Point C is estimated to cost UK consumers £30–50 billion. In addition, even the first of the new reactors will not be available for at least ten years. Combined with long-standing problems of nuclear power (safety, how to dispose of nuclear waste, and decommissioning of old reactors), it appears that nuclear does not fit well into a future in which most electricity comes from renewables.

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We have a substantial programme of activities in and around the village and we urgently need more volunteers in all areas. 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 John Ogden at 01235 850372.

[*] The two Hinkley Point C reactors are a new design called EPRs. No EPRs are working yet; there are four being built elsewhere. The first is now 10 years late, the second is 7 years late, and their cost has more than tripled. Even with one-third support from China General Nuclear and the UK's promise of a very high, guaranteed price for Hinkley Point's electricity for 35 years, EDF's financial situation is precarious.