
Re: u3a Second Nature 011 (Jan 2024)

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Bulletin 011

Second Nature is sent by the Subject Adviser on Climate Change & Environment to subscribers in the u3a Climate Network. It should be second nature to think about our impact on the environment when we take decisions, and as instinctively as we think about the impact on our bank balance.

The greatest threat to meaningful climate action today is no longer denial, but despair and doomism, premised on the flawed notion that it is too late to do anything.

*- Michael Mann
Our Fragile Moment*

Big Chimp is Watching You

These newsletters are sent using Mailchimp. It gives great stats on how many times the email is opened, and what links are clicked. The last issue was delivered to 439 subscribers; and 327 of them opened it. If you are reading this I'm guessing that you are one of the 327, so thank you. There were only 62 clicks on links.

A Click Map shows me how many times each link is used: by far the most popular link was this one:

we don't have one). The pieces of towelling here are hand-made toilet towels, to which Mrs B is a convert. Delicacy prever 43 (38.1%) oing into detail, but you can find more than you probably want to know [here](#). Our use of toilet paper is certainly much reduced, so much so that New Loo Roll Day has become a event in our house. One

Only one of you was interested in the EU hydrogen strategy:

1 (0.9%)

You can find the EU hydrogen strategy [here](#).

A generous interpretation then is that the strategy is cautious and pragmatic; a less-generous one that we are favouring blue hydrogen to protect our fossil fuel industry.

This is the line taken by c 1 (0.9%) entist Kevin Anderson and his co-author Kevin Oldridge [in a recent article](#).

Know your audience.

If all the newsletters about climate change were laid end to end

Where numbers are used, their meaning is often obfuscated by enormousness.

Numbers are chosen to impress, to score points in arguments, rather than to inform.

- David MacKay

-

[Sustainable Energy without the Hot Air](#)

My campaign against wrapping paper failed to go viral. We didn't use any at Baxter Towers, but then I had the benefit of access to the recycling bin in the Oxfam shop. The grandchildren complain that presents that I wrap take too long to unwrap; they think it's too high a price to pay for delaying climate catastrophe by a nanosecond or two.

Search the 'net for *wrapping paper miles used UK* and you will find references to a 2018 report by waste management company Biffa. It estimated our wrapping paper usage at 227,000 miles (365,320 km) each Christmas - that's enough to reach 95% of the way to the Moon. It's 1.22 light seconds. (Interestingly I couldn't find this report on the Biffa web site). 227,000 miles is supposed to shock us, and it did shock me - but divide 365,000 km by 20,000,000 UK households and you get 18m per household - six standard three metre rolls. That isn't quite so alarming. The point of all of this is that we need to look sceptically at numbers presented by journalists and press offices (and in newsletters): the two figures - 95% of the way to the moon and six rolls per household - present the same data in different ways. Taking the usage per household and multiplying by the number of households results in an impressively big number which gets a press release noticed.

I still think that we use too much wrapping paper though.

In the Press

Unless your new year's resolution is to avoid all news media you will know that globally last year [was the hottest year on record](#). According to the EU's Copernicus Climate Change Service 2023 was about 1.48C warmer than the long-term average before humans started burning large amounts of fossil fuels. Almost every day since July saw a new global air temperature high for the time of year, There are however a few hopeful signs:

- the Guardian reports 'cautious optimism among experts' that globally [emissions from energy use may have peaked](#)
- Carbon Brief tells us that [the amount of UK electricity generated from fossil fuels fell 22% year-on-year in 2023](#) to the lowest level since 1957. Fossil fuels made up just 33% of UK generation, of which 31% was gas was 31%, just over was 1% coal, and just below was 1% oil
- Carbon Brief also reports that wind and solar capacity in SE Asia climbed by 20% last year. If hydropower capacity is added the region looks [likely to hit or even surpass its target of getting 35% of its energy capacity from renewables by 2025](#). However, increasing demand means fossil-fuel capacity is also expanding in SE Asia
- [Germany's emissions hit a 70-year low](#) as it reduces its reliance on coal
- [Installation of rooftop solar panels in UK](#) hit a 12-year high in 2023, with 190,000 installations. A record number of heat pumps were installed.
- [Heat pumps are getting hotter](#), with new models being able to deliver 80C heat. This raises the prospect of homeowners being able to swap a gas boiler for a heat pump without having to made major changes to their central heating system.

UK supermarkets continue to nibble away at their plastic footprint, with [Tesco](#) wrapping its pocket tissues in paper and [Sainsbury's](#) putting mushrooms in cardboard punnets, after moving to paper packaging for its own brand toilet paper back in October. This makes good PR but what we really want I think is for these companies to manage down their *carbon* footprint.

I read an [interesting interview](#) in the Guardian with Michael O'Leary CEO of Ryanair. I suspect that me and Mr O'Leary don't agree on very much as regards things environmental, although he now says that he is concerned about climate change and thinks that we need to decarbonise. We are however both sceptical about Sustainable Aviation Fuels (SAF) - O'Leary is quoted as saying *unless governments get in behind the production and sourcing of SAF - and they're only going to come from, ultimately, the oil majors, the only ones who are going to make them - I don't see where we will get the supply in the volumes we need. You want everybody running around collecting [expletive deleted] cooking oil? There isn't enough cooking oil in the world to power more than one day's aviation.* Ryanair has signed deals for oil majors to supply up to 9.5% of its fuel needs in SAF by 2030 but, he says, *we have no idea that they'll be able to make those kinds of volumes.*

Elsewhere in the oil industry, Shell is under pressure from a coalition of investors which includes Europe's largest asset manager Amundi to improve its environmental targets. A resolution at the AGM will call on Shell to align its medium-term emissions target, including its scope 3 emissions, with the Paris agreement. [The FT tells us](#) that the coalition owns about 5% of Shell and includes *London pension fund CIV, international managers Rathbones, Candriam and Edmond de Rothschild, Swedish pension fund AP4 and Ethos Foundation, representing Swiss investors.* If you or your pension fund owns a slice of Shell and you want to influence how it behaves there may be valid alternatives to divestment; non shareholders can have little influence.

(For those not familiar with the jargon: the widely-used [Greenhouse Gas Protocol Accounting Standard](#) defines three types of emissions :

- *Scope 1 emissions come from sources owned or controlled by the company, for example from boilers, furnaces, vehicles, etc;*
- *Scope 2 emissions come from the generation of purchased electricity;*
- *Scope 3 covers other emissions that are a consequence of the activities of the company (things that it buys and sells).*

By asking Shell to include its Scope 3 emissions investors are in effect asking it to take some responsibility for emissions resulting from burning the oil and gas that it produces.)

Climate Science in a Nutshell

Reader David M asked me to comment on the statement *carbon is heavier than air and so what's the fuss about carbon going into the atmosphere?*, which he heard on a podcast. My immediate reaction is that I can't comment because this is gibberish. It made me wonder though whether there is a need for a basic exposition of the science of climate change, so here goes. If you are already up to speed you are allowed to skip this section.

There are a number of steps to this explanation:

1. since the start of the industrial age we've burned a lot of coal, oil, and natural gas - these are the fossil fuels (some would also include peat in this category).
2. carbon dioxide (CO₂) is produced as a waste product when these fuels are burned. This is school science.
3. some of this CO₂ has been absorbed by plant life, a lot of it is dissolved in the surface waters of the ocean, and the rest of it remains in the atmosphere. (Ocean acidification due to dissolved CO₂ is another unwanted side-effect of burning these fuels). CO₂ levels in the atmosphere now are around 420 parts per million (ppm), up from 280 ppm in pre-industrial times. Various observatories around the world measure CO₂ levels, continuously.
4. the basic energy balance of the planet is that sunlight heats the ground, and the ground re-radiates some of that energy back into space as infra-red radiation.
5. greenhouse gases such as CO₂ are strong absorbers of infra-red radiation: this is nineteenth-century science. These gases trap some of that energy and keep it in the atmosphere. If this did not happen the Earth would be very cold. Ground-based instruments can look up and see this absorption; satellite-based instruments can look down and that the sky is darker at the frequencies where the absorption happens.
6. the overall effect of trapping the extra heat is to warm the Earth by about a watt per square metre - think of each 10m x 10m square as having an old-fashioned 100 watt bulb in the middle of it, permanently on. One watt isn't much, but there are a lot of square metres up there. This warming is called radiative forcing.

There is impressive evidence for all of this, documented by IPCC and others. Arguably what is less certain is what effect radiative forcing has - for that you have to go to a

computer model. These models are very sophisticated now, and take a lot of processing power. They have been developed independently by various groups of researchers such as the UK Met Office. What we can say is that changes in the real world (for example, ice melt at the poles, increased frequency of extreme weather events) are taking place in way that is consistent with expert predictions.

If it's this cold, climate change can't be happening one of my neighbours said this week. She's confusing climate with weather - climate is the medium-term average of weather, and one cold spell doesn't mean that the climate is not changing. (In fact, it could be a symptom that the climate *is* changing). By the same token though we shouldn't declare every summer heatwave to be proof of climate change - we should leave it to the statisticians to confirm what is going on.

This has been my attempt at a very simple exposition of the science. If you want a more erudite explanation (and you can spare a hour) I'd recommend [Lawrence Krauss's lecture on YouTube](#); or you could read the man's book *The Physics of Climate Change*.

Feedback and Groups News

Any emails that you send me in response to content in Second Nature may be used here, and edited in the interest of brevity (or occasionally levity). Please make it clear if you don't want me to do that. I keep your emails in a Gmail folder to which only I have access. I delete them when I don't need them any more.

Tom W emails me to say:

Many thanks for your regular newsletter. It really helps to have a supply of ideas to help maintain our monthly discussions. We have reviewed this recently: <https://www.theclimatecoalition.org/community-open-letter>. Although we are very supportive of the letter our group carries very little 'clout'. Do you think it would be feasible for this to be circulated for comment and then signed on behalf of all the climate groups that are associated with u3a?

I am happy to share the link, but we must tread carefully here. Third Age Trust has to protect our charitable status, and the object clause in our constitution says that we exist to promote learning, not to campaign on green or other issues. Each local u3a probably has a similar statement. I am advised that we can't actively campaign for any political action, or anything that can be interpreted as political action. Members can of course campaign as private individuals, or as members of groups not under the u3a umbrella.

Starter pack Sue W is considering setting up a u3a climate group and emails to ask for a starter pack. My reply:

I've produced a [discussion note](#) on possible objectives for a new group, and there is other useful content on the website on pages [Toolkit](#) and [Resources](#).

There are various approaches to start up, for example:

1. Start with a talk - there is [a list of previous talks](#) on the website; some of the u3a speakers may be available to repeat their talks.
2. Ask people to measure their footprint, using perhaps the [WWF footprint calculator](#), and build a discussion on that.
3. Compile a list of four or five topics and build a discussion around those - maybe starting with these newsletters.

I think there is an opportunity here for a 'buddy system' where established groups could support new ones. If you can help with this please contact me.

Green gardening I've been asked twice recently for advice on green gardening, not a subject on which I am particularly well informed. I think that gardening is overall an environmentally benign activity as long as you don't go mad with the chemicals. We should do more of it rather than less of it. Like any activity to be more sustainable you need to look at your inputs (chemicals, plastics, peat etc) and think about whether you can do without them, or cut down, and look at what you're throwing away. At Baxter Towers we grow edibles in a smallish back garden, don't use chemicals (much), and tolerate a bit of pest damage and relatively low yields. We eat almost everything that we grow, and we have a hotbox composter which loves garden and kitchen waste.

Gardeners have buying power - as a group you can write to your garden centres and urge them to more sustainable practices (taking back plant pots, fert bags etc). It is a competitive business, they will listen although not necessarily act. Gardeners (especially celebs like Monty Don) were prominent in the campaign to stop sales of peat, and that seems to have worked.

I use The Conversation a lot for source material, so I looked up a few of their articles that looked relevant. I include the links here in case anybody else is interested (and it helps fill up the newsletter).

[A slacker's guide to climate-friendly gardening](#)

[How to make your lawn wildlife friendly all year round – tips from an ecologist](#)

[Urban gardens are crucial food sources for pollinators - here's what to plant for every season](#)

[Green front gardens reduce physiological and psychological stress](#)

[Anxiety and depression: why doctors are prescribing gardening rather than drugs](#)

[You can rewild your garden into a miniature rainforest – Imagine newsletter #4](#)

[Four steps to make your lawn a wildlife haven – from green desert to miniature rainforest](#)

[Bees and butterflies are under threat from urbanisation – here's how city-dwellers can help](#)

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(ends)



See also the [u3a Climate Change & Environment website](#).

A note on sources: I am a Guardianista (and a Guardian Supporter) and I frequently forward links to content from that newspaper. This is for practical reasons, not political ones - unlike your favourite newspaper Guardian content is not behind a paywall (you may have to register, but you won't have to pay). I also link to content from The BBC, [The Conversation](#), [Ensia](#), Nature, and other sites that I like and feel are credible.

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