
Re: u3a Second Nature 010 (Dec 2023)

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Bulletin 010

Second Nature is sent by the Subject Adviser on Climate Change and 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.

This is the winter solstice edition; now the days start getting longer again. If you are at Stonehenge, be sure to wrap up well. It's the time of year when we send broadcast letters to people that we don't normally write to, informing them about our achievements and awards and the impressive educational and sporting attainments of the younger family members. On instructions from Mrs B I have bought a tree: she says it is necessary for when the grandchildren visit, but it's worth it just to see her little face light up when I switch the decorations on. We also had our first recreational shipping expedition for quite a few months, looking back to the time when we could shop without guilt. Seasonal felicitations to you all.

In the Oxfam shop, I have put the disco bath light on sale for £3, but it hasn't sold.

Altogether elsewhere, we have had Cop28 and a Hydrogen Strategy Delivery Update from DESNZ.

Cop28

I'm reluctant to add to the torrent of words already written about Cop28; for a summary of the outcome read [Fiona Harvey in The Guardian](#), or this [editorial in Nature](#). The world has agreed to 'transition away from' fossil fuels. It made me think of Saint Augustine and his famously insincere prayer, "grant

me chastity and continence, but not yet". He wanted to transition away from fornication, but he was in no hurry.

The UAE, host of Cop28 climate summit, has ambitious plans for oil and gas expansion. Only Saudi Arabia and Qatar plan to do more.

It was encouraging that the petrostates failed to stop the words ' fossil fuels' appearing in the final statement. These National Oil Companies (NOCs) - Adnoc, Saudi Aramco, National Iranian Oil Company, China National Petroleum Corporation, Petroleos de Venezuela - produce 90% of the world's oil, while the Independent Oil Companies (IOCs) like Exxon, BP, Chevron, and Shell pump only 10%. While +there is a case from divestment in the IOCs we need to remember that we're only talking about 10% of the problem I am on the fence about divestment after having read arguments against it (see for example [Stefan Andreasson](#) or [Bell & Brooks](#), both in The Conversation). It seems to me that we need to repurpose the IOCs and the use their expertise in big scale engineering for renewables, hydrogen, and carbon capture. Sorry, but I don't know how we do that. I'm sure that subscribers will have opinions on this: please send them over.

Hydrogen Strategy Update

The ink was hardly dry on my hydrogen presentation when this month DESNZ issued a [Hydrogen Strategy Update to the Market](#). The [original strategy](#) was criticised by some as too unambitious - see for example Chris Goodall [here](#), in a blog from August 2021. The key points of his argument:

- whereas most countries are taking the green hydrogen route the UK plans to make significant use of blue hydrogen
- UK's projections for cost of hydrogen are much greater than those published by EU and US.; EU estimates for 2030 are 60% lower than UK estimates for 2050, 20 years later; US targets for 2030 are 70% less than UK 2050 costs
- if UK costs are correct that there is no point in us having our own hydrogen industry, it will be cheaper just to import the stuff
- for green hydrogen the UK strategy sees us using small (10MW) electrolyzers even in 2050 where others are talking about much bigger devices.

(For those unfamiliar with the jargon: pundits talk about three 'colours' of hydrogen - grey (hydrogen is made from natural gas and the resulting CO₂ escapes to the atmosphere), green (where hydrogen is made by electrolysis using renewable electricity), and blue (hydrogen is made from natural gas but the CO₂ is captured and stored permanently underground).

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 climate scientist Kevin Anderson and his co-author Kevin

Oldridge [in a recent article](#).

The vision [set out in the 2021 UK Strategy] has expanded since 2021 DESNZ says in the update, with our ambition increasing to 10 GW of low-carbon hydrogen production capacity by 2030 ... [with] at least half of this capacity comprising electrolytic hydrogen. We have ... also set a stretching ambition to have up to 1 GW of electrolytic and up to 1 GW of blue hydrogen production operational or in construction by 2025. ("Up to" could be seen as get out, of course.) 'Electrolytic' rather than green here because I assume that these devices will use grid electricity - UK wind averaged only 7 GW this year.

This capacity will be procured via Hydrogen Allocation Rounds analogous to the ARs already used to procure renewable electricity. The results of [HAR1](#) were also released this week; There are 11 contracts, a total of 125.2 MW at a strike price of £241/MWh. Of course we know from the electricity market that contract award does not guarantee that this capacity will get built.

| HAR1 | Project | Lead Developer | Region | Capacity (MW) |
|------|------------------------------|--------------------------|---------------|---------------|
| 1 | Bradford Low Carbon Hydrogen | Hygen | Yorkshire | 24.5 |
| 2 | Barrow Green Hydrogen | Carlton Power | North West | 21.0 |
| 3 | Wales West Hydrogen | H2 Energy, Trafigura | Wales | 14.2 |
| 4 | Cromarty Hydrogen | Scottish Power, Storegga | Scotland | 10.6 |
| 5 | Green Hydrogen 3 | HYRO | South East | 10.6 |
| 6 | Trafford Green Hydrogen | Carlton Power | North West | 10.5 |
| 7 | HyMarnham | JG Pears, GeoPura | East Midlands | 9.3 |
| 8 | Whitelee Green Hydrogen | Scottish Power | Scotland | 7.1 |
| 9 | Langage Green Hydrogen | Carlton Power | South West | 7.0 |
| 10 | HyBont | Marubeni Europower | Wales | 5.2 |
| 11 | Tees Green Hydrogen | EDF Renewables Hydrogen | North East | 5.2 |
| | | | Total | 125.2 |

In other hydrogen news, the government has [abandoned plans for a 'hydrogen village'](#) in Redcar, in face of local opposition. It is also supporting a move to [ban hydrogen boilers for home heating](#), which will presumably annoy the companies that have been developing them. An [article](#) on the BBC website discusses the use of hydrogen as aviation fuel.

The China Question (contd)

World [CO2 emissions from fossil fuels](#) will peak this year at an estimated 36.8 bn tonnes. Another article in [The Conversation](#) reports on China's energy boom - 53% of its electricity generating capacity is renewables or nuclear, a third of the world's renewable capacity; but China is also planning 106 GW of new coal generation - that's more than twice UK peak demand. The light at the end of the tunnel may be an oncoming coal train.

In the Press

December saw the welcome return of Chris Goodall's Carbon Commentary Newsletter. He describes it thus: *a weekly newsletter about low-carbon energy generation and efficiency. I summarise the blog posts I have published during the previous week and comment on news stories that have interested me in the last few days.* You can subscribe at www.carboncommentary.com.

In the UK the government announced [plans for a carbon tax on imported steel and iron, ceramics, and cement](#), to protect home industry as it decarbonises. The tax will apply from 2027, a year after the planned introduction of similar measures by the EU. There are calls for [tighter regulation of imported biofuels](#), prompted by fears that some 'used' cooking oil imported to make aviation fuel may in fact be virgin palm oil. In Cambridge, [King's College has installed more than 400 solar panels on the roof of its chapel](#), against opposition from Historic England. In Lincolnshire [the first crop of UK-grown baked beans](#) was put into tins.

Just One Green Thing

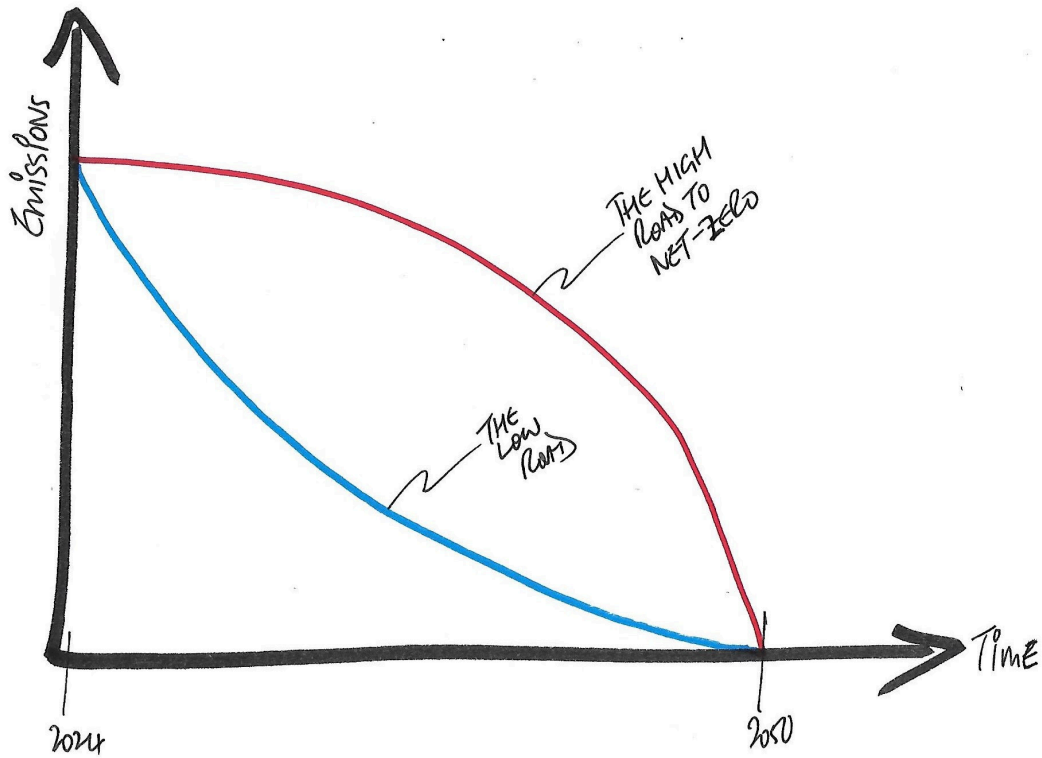
The title *Just One Green Thing* has been stolen from the title of Michael Mosley's book and Radio 4 series. This is the part of the newsletter that covers small (some might say trivial) changes to our own lifestyle. We will retreat from three degrees of heating one nanokelvin at a time.

The photo shows recent acquisitions at Baxter Towers. I am pleased with the two thermos cups - plastic and aluminium, obviously, but I'm hoping that each will avoid the use of 50-60 disposable coffee cups this year, with associated plastic and cardboard accessories. And they keep coffee warm. For a few years now we've been using shampoo bars (not shown) rather than liquid shampoo in bottles, and we're pleased with those as well. At home and in the shop I'm moved away from plastic tape to paper - it is much easier to use, and doesn't do that thing where the end of the tape welds itself back to the roll (yes, I know that tape dispensers are available, but we don't have one). The pieces of towelling here are hand-made toilet towels, to which Mrs B is a convert. Delicacy prevent me from going 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 an event in our house. One nanokelvin at a time.



Correction

In the last issue I showed the diagram below and said that it shows that we emit a lot more greenhouse gas by following the blue curve than by following the red one. I should have said the opposite - that we emit a lot more greenhouse gas by following the red curve than by following the blue one. Thanks to readers who pointed this out. I shall book myself on a proofreading course.



Feedback and Groups News

Jenny B from Croydon says *I find your information about the environment and climate crisis most interesting and useful, even when somewhat disheartening at times, not your fault.* Thank you for not shooting the messenger, Jenny. Commenting on planetary boundaries Graham S says *I have long been an advocate of the ideas presented in the book *Doughnut Economics* by Kate Raworth, which uses similar diagrams to that presented by the Stockholm Resilience Centre.* I read the book a few years ago and didn't get much out of it, but I've put it back on the reading pile to give it another go.

Any emails that you send me in response to content in Second Nature me may be recycled here, and edited in the interest of brevity. . 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 will delete them when I don't need them any more.

Groups in Bristol and in Ayr have been working with Council Climate Scorecards. If you would like to know more please get back to me. I am likely to pass your message on to my contacts in these groups; again, please make it clear if you don't want me to do that.

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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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