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**Re: u3a Second Nature 009 (Nov 2023)**

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John Baxter <u3asecondnature@gmail.com>  
To: John Baxter <u3asecondnature@gmail.com>

4 April 2024 at 08:18

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## Bulletin 009

*Second Nature is a newsletter sent by the Subject Adviser on Climate Change and Environment to subscribers in the u3a Climate Network. I use the name because it reminds us that 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.*

## Other midwinter festivals are available

I'm not going to write at length about a greener Christmas - you know what you have to do. Enjoy your friends and family, buy things that will still be in use this time next year. Don't go for glitter and tinsel, it's just plastic pollution waiting to happen. Turn the TV off when nobody is watching it.

As well as my taxing role as Subject Adviser I am also an Oxfam volunteer. Charity shops are where the unwanted presents end up - the ones that don't go straight to landfill. This device came in this week:



It comprises at least two different types of plastic, steel fasteners, an integrated circuit of some kind, and LEDs, the whole lot boxed in cardboard. *This is not a toy* the packaging says. When alien archaeologists land and dig through our ruins they will no doubt be baffled that a species that calls itself intelligent could spend time and resources producing this sort of junk.

## Groups News

There's a new u3a climate group in Bath: you can find their 2024 programme [here](#). It offers a nice mix of learning activities and practical action. Contact details are on the poster.

For Croydon u3a I zoomed in to a joint meeting of the Environment and Climate Crisis Group and the Science Group - a good way to broaden the discussion I think. You can find slides from my talk, together with slides and recordings from other talks, on the [u3a climate website](#).

I attended a meeting about starting groups in Hertford and Ware (at times it felt more like an interview - I think I did OK, I'm just pleased that they didn't ask me where I expect to be in five years' time). if you are interested in those groups please let me know and I will pass on your details. At the meeting I was asked if I could suggest a reading list, so I sent them this:

*I wouldn't necessarily start with books: there's a lot of content online and free. I'd subscribe to The Guardian's [Down to Earth](#) newsletter; it might not be your newspaper of choice but its content is free. I'd also take [Nature Briefing](#), the recently-launched [Nature Anthropocene](#) newsletter, and the [Sustainability](#) newsletter from Which?. (Be warned, articles in Nature do tend to disappear behind a pay wall within a few days of them being posted in the newsletters).*

*For a 'big picture' view I go to [Project Drawdown](#) and its solutions library.*

*For renewables, especially UK renewables, I go to David JC MacKay's book 'Renewable Energy without the Hot Air'. It's a little dated now but still reliable I think. You can buy the book, read it [online](#) or download it as PDF.. MacKay was a Physics prof, which is maybe why I like his approach. I recommend his [interview with Mark Lynas](#) which was recorded just a few days before he died in 2016. For the effects of climate change read Lynas's 'Our Final Warning: Six Degrees of Climate Emergency'.*

*For a near-real-time view of renewables in UK electricity generation see [gridwatch](#).*

*For a more optimistic view on renewables there is CAT's [Zero Carbon Britain](#), also downloadable. The ZCB scenario involves reducing UK's energy demand by 60%, including two-thirds less flying - I'm yet to be convinced that this is achievable, or could be sold to the electorate. For an equally optimistic, but very different, view read Bill Gates's 2021 book 'How to Avoid a Climate Disaster'. (You might first consult Adam Vaughan's [useful review](#) in New Scientist. "You might not expect it from a former software engineer", he says, "but Gates can write". Thanks Adam, I must remember to patronise journalists next time I get the chance).*

*For the physics of climate change I'd recommend Lawrence Krauss's book of that name - you can get a second-hand copy for less than £10, or get the gist of it from his [YouTube lecture](#).*

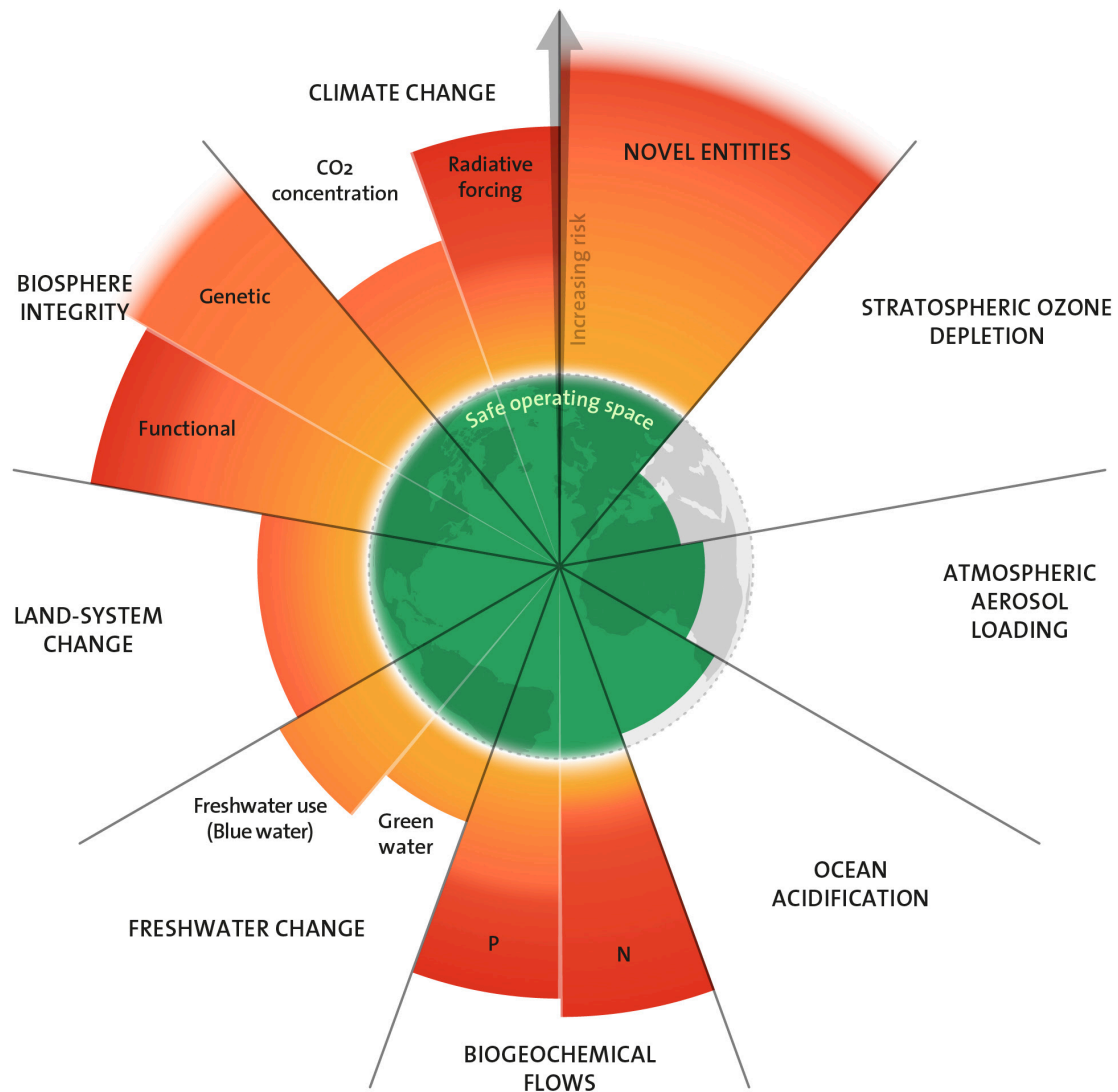
*For the carbon footprint of everything, go to Mike Berners Lee's 'How Bad Are Bananas'. You can see excerpts from this book [here](#). If you buy it second-hand be careful: there is a more recent 2021 edition, and a new one is promised for 2024.*

## **Planetary Boundaries**

Having written about China (Bulletin 002), population (Bulletin 007), and doomism (Bulletin 008) I found myself hard pushed to find a big idea for this issue; however I remembered that I've mentioned planetary boundaries a few times without really explaining what that means, so I thought I'd deal with that. If you're already familiar with this idea you might want to skip this section.

The model comes from the Stockholm Resilience Centre (SRC), part of Stockholm University. SRC says *the planetary boundaries concept presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come. ... The latest update not only quantified all boundaries, it also concludes that six of the nine boundaries have been crossed.*

Click on the diagram for a fuller description of the model.



A sustainable civilisation should operate within the green zone, but the world is into the orange and red zones for most of the measures. A key point here is *quantified*: the boundary of the green zone is well-defined, so policymakers know what they have to do.

There is some hope here: stratospheric ozone depletion is well within the green zone, and things are getting better, because the world signed the 1989 Montreal Protocol on CFCs. A [report from the UN earlier this year](#) says that the ozone layer should recover by 2040, aside from the polar regions; there the ozone layer will be repaired over the Arctic by 2045 and by 2066 over the Antarctic by 2066. International agreements can be effective; we need more of them.

## In the Press

Some people have criticised me for being too much of a numbers guy, but climate science is a numbers game, and commentary without the numbers is a waste of time. Take this article from Robin McKie, for example: he tells us that [Cambridge University scientists have developed technology to 'defossilise' the economy using sunlight, water and CO<sub>2</sub>](#); a floating artificial leaf. One market for this technology is sustainable aviation fuel - but what area of leaf is needed to get a 787 across the Atlantic? McKie doesn't tell us. We need data to know whether this is a big advance

or a small one, and we don't get them.

In other SAF news, on the day that I write this [a 787 is setting off to cross the Atlantic](#) fuelled by used chip fat. I'm sceptical that this technology will scale: before the pandemic aviation was using a billion litres of fuel a day, and will need even more by 2050. I am prepared to eat more chips if that will help.

A report [from the UN Environment Programme](#) finds that current pledges under the Paris Agreement put the world on track for a 2.5-2.9°C temperature rise above pre-industrial levels this century – a long way above the 1.5°C limit that would avoid the worst impacts of climate change. None of the G20 countries are reducing emissions at a rate consistent with their net-zero targets. The report calls for all nations to deliver economy-wide, low-carbon development transformations, with a focus on the energy transition.

In UK news, the autumn statement has [increased the Plastic Packaging Tax](#) to £217.85 per tonne from 1 April 2024. A [proposed EU ban on exporting plastic waste](#) outside the OECD may affect our ability to dump our waste in the developing world.

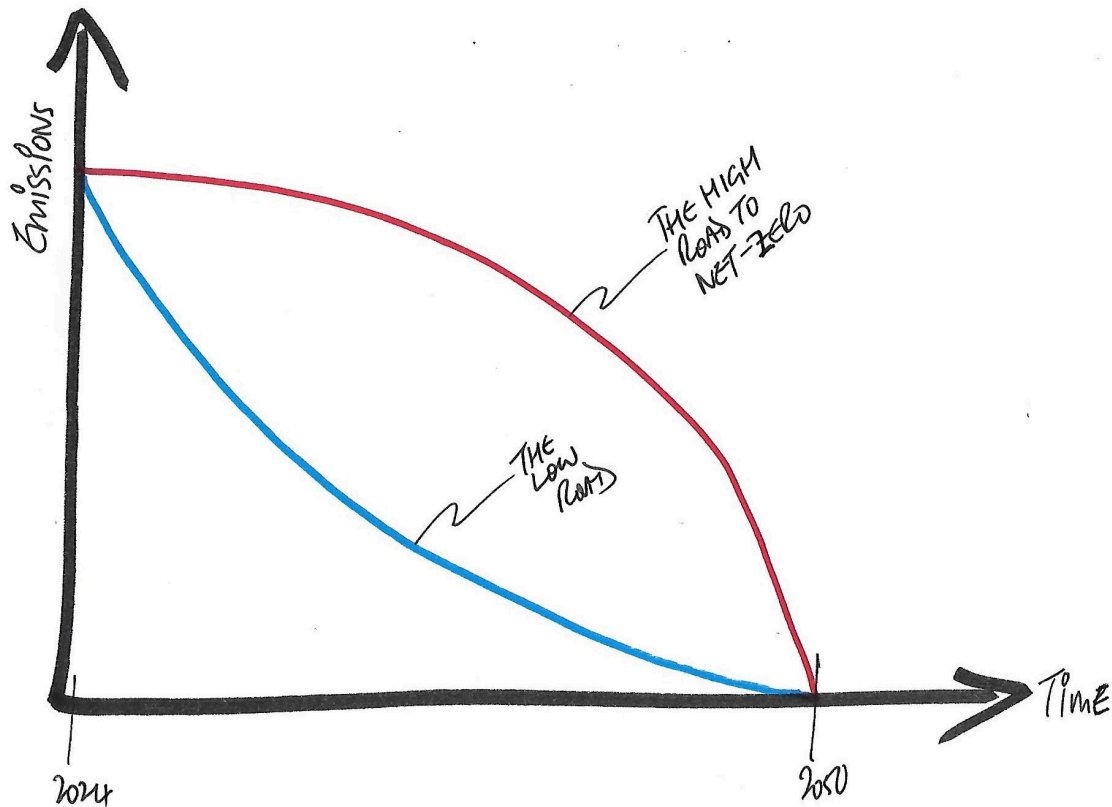
## Just One Green Thing

The green thing this time is **get ready to vote**. A General Election may be more than a year away, but between now and then you're likely to be polled and canvassed by all the parties who want your vote - all asking what issues are most important to you. All I'm asking is that you put climate action in your list somewhere. We've already had our first canvasser and she looked surprised when I said 'climate', but she wrote it down.

Researchers from the University of Leeds tell us that [the British public \(that's us\) largely supports climate action](#). You won't be on your own.

When you ask our aspiring politicians what they plan to do about the climate emergency, many will tell you that they are committed to net zero emissions by 2050, but there's no hurry. Remind them that it's not just the end point that matters, it's how much CO<sub>2</sub> we emit before we get there; the area under the curve. The diagram shows that we emit a lot more greenhouse gas by following the blue curve than by following the red one. A tonne of CO<sub>2</sub> avoided in 2024 is worth a lot more

than a tonne avoided in 2049.



## References and Acknowledgements

I use links to make sure that you can track things back to where I got them from.

Content from the Stockholm Resilience Centre is free to share, copy and redistribute in any medium or format. SRC asks for this acknowledgement: *licensed under CC BY-NC-ND 3.0. Credit for the diagram: Azote for Stockholm Resilience Centre, Stockholm University. Based on:*

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Steffen, W., Richardson, K., Rockström, J. & Cornell, S.E., and others, 2015. *Planetary boundaries: Guiding human development on a changing planet. [Science 347: 736, 1259855](#)*

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Thanks are due to Richard M for recommending the Which? Sustainability newsletter.

The title *Just One Green Thing* was stolen from the title of Michael Mosley's book

and Radio 4 series.

If you have content for this newsletter send it to me. I reserve the right to decide what is included, and to edit things in the interest of brevity. 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.

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

A note on sources: I am a Guardianista (and indeed a Guardian Supporter) and I frequently forward links to content from that paper. 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 will from time to time link to content from The BBC, [The Conversation](#), [Ensià](#), Nature, and other sites that I feel are credible.

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