
RE: u3a Second Nature August 2023

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Bulletin 003

Inform, educate, and entertain
- The Reithian Directive

It's not easy bein' green
- Kermit the Frog

If you read a proper newspaper you may be feeling a certain amount of climate news fatigue as the list of extreme weather events rolls on and on, and experts argue about the extent to which they have been made more likely by climate change. There is at least one piece of cheering news however: [the people of Ecuador have voted](#) to stop new oilwells in the Yasuní national park in the Amazon, one of the most biodiverse regions on the planet.

The China Question (again)

In Bulletin 002 I argued against the view that as the UK contributes only 1% of the world's current emissions we can sit back and leave it to the US and China to sort out the climate problem. My argument would have been more compelling if I had got the arithmetic right - so here is the table of cumulative emissions as it should have appeared last time:

	Cumulative Emissions (GtCO ₂ e)	Population (2023, M)	Cumulative Emissions per capita
US	421.9	340.0	1,241
UK	78.5	67.7	1,159
Germany	93.3	83.3	1,120
Russia	117.5	144.4	813
China	249.4	1,425.7	175
India	57.1	1,428.6	40

The second column is now in gigatonnes of CO₂ and the fourth column is in tonnes. Your carbon legacy is around 1,159 tonnes.

In the press

These are some news items that have interested me since Bulletin 002. I read this stuff so you don't have to.

The zero-degree line: A Swiss weather balloon had to climb to a record 5,300 metres before the temperature fell to 0C says MétéoSuisse. This is good news for Swiss hot-air balloonists, but concerning for the rest of us. The altitude at which the temperature falls below freezing is a key meteorological marker particularly in the mountains. The previous height record was set in July last year.

[\[More\]](#)

Biomass: The Department of Energy Security and Net Zero has released its [biomass strategy](#). It is 204 pages and I haven't read it yet, but I plan to as soon as we have a very rainy afternoon. Some key stats:

- biomass provides 8.6% of the UK's total energy needs (energy not electricity, note). This includes Energy from Waste (EfW) and Anaerobic Digestion (AD). 66% of the feedstock comes from domestic sources.
- feedstock is municipal solid waste, wood, waste wood, and other plant and animal material. It comprises 33% of UK renewable energy demand: two-thirds of it is used for generating electricity and the rest for heat.
- in 2022 capacity from EfW was 1505MW, 57 plants producing in total 2378 GWh (2.37e12 Wh) of electricity in that year. To put this in context UK demand is currently around 23 TWh (2.3e13 Wh) per month.

[\[More\]](#) For more on ADs, see [where the food waste goes](#).

Beyond GDP: Nature Briefing says *continuous economic growth - as measured by Gross Domestic Product (GDP) - that is good for both people and the planet is one of the ideas behind the UN's Sustainable Development Goal 8. However, researchers disagree on whether growth can be green. Nature urges the two sides to talk. The definition of GDP is being revised, and it's a chance for researchers to work together and improve it to account for sustainability and well-being.* Beyond GDP is championed by UN secretary-general António Guterres. In May, the European Parliament hosted a conference to discuss how to move beyond growth by integrating

social and climate justice, equality and planetary boundaries into policymaking.

[\[More\]](#)

Defra says that England's **material footprint** fell to 783m tonnes in 2020, down 11.% from 2019. 'Material footprint' is the total allocation of primary raw material extraction to meet our demand for goods and services: to save you doing the sums, that's 13.8 tonnes each.

[\[More\]](#)

WEEE: Globally, the UK is the second largest contributor of electrical and electronic junk at 23.9kg per capita pa, just behind Norway at 26kg. We are likely to overtake them sometime next year.

Over 155,000 tonnes of UK e-waste are disposed of each year in general household rubbish bins; a further 190,000 tonnes is estimated to be neglected within homes, especially old charging cables. 68% of us are holding on to at least one charger, with 12% hoarding three or more.

One estimate is that 2.8m tonnes of CO2 emissions could be saved if all of the small electricals being hoarded or thrown were returned to the economy. I'm not 100% sure what 'returned to the economy' means here - it implies that somebody somewhere will put this stuff to good use if we recycle it.

[\[More\]](#)

Fun in Wales

There are still places available for the Summer School at CAT. For details and costings email eleanor.brooks1661@gmail.com. A yoga class and a visit to a wind farm are just some of the delights on offer. For the rest of us, there is a bar.

Just One Green Thing

Although small actions might not solve the climate crisis, they remind us that we are intrinsic parts of the world and its ecosystems.

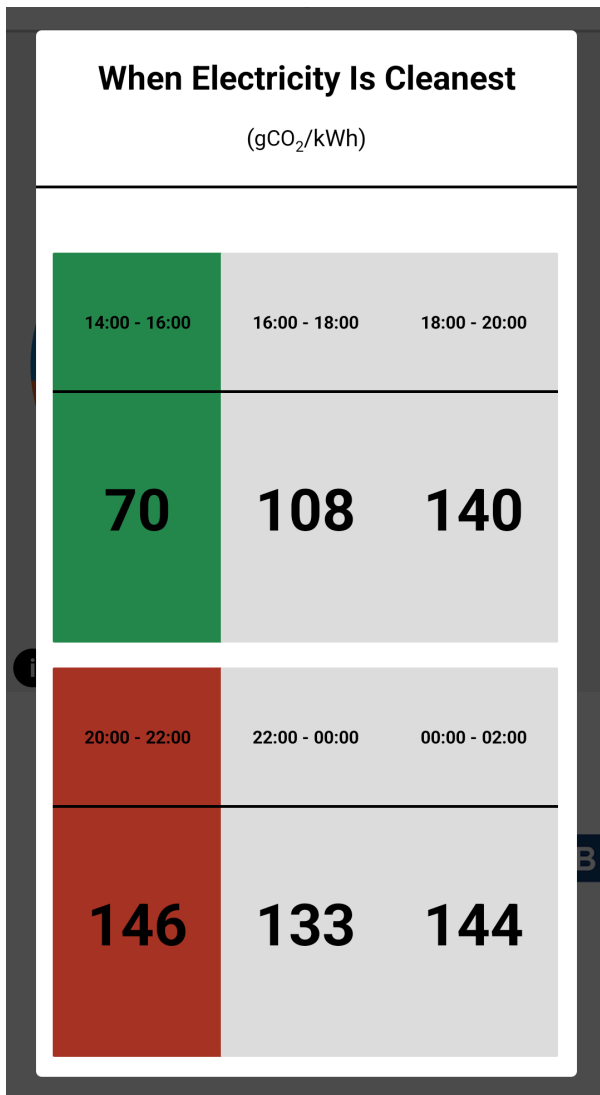
- Kimberley Miner

My Just One Green Thing this month is:

Download the ESO app

You'll find the app in Google Play Store (and presumably also in Apple Store) as 'The National Grid ESO app'. There is a similar app called 'WhenToPlugIn'. Both give a near-real-time view of where GB's electricity is coming from and a forward view of its carbon intensity. (Carbon Intensity is the amount of CO2 emitted to produce a unit of electricity - it is lowest when a large percentage of our electricity comes from low-carbon generators (nuclear and renewables) and highest when it comes from gas and coal). You can use these apps to align your demand with lower-carbon

supply. As an example, this screenshot is from 13th August:



On that day electricity used between 20:00 and 22:00 was more than twice as carbon-intense as electricity used between 14:00 and 16:00 - so if you have the flexibility to decide when to run the dishwasher, breadmaker, or washing machine you can move your demand.

Some things to bear in mind:

- electricity in the 'green' slot isn't cheaper, it's just greener (although some suppliers are planning tariffs that will make it cheaper - see below)
- don't beat yourself up if you can't always pick the green slot (and don't mow the lawn at 3 am).

A dishwasher load uses maybe 1.5 units, so using it in the green slot here and not the red can save around 100g of CO₂. That's not a huge amount, but then all you've done is push a button. Of course if you are the only person that does this it makes no difference - the grid measures demand in tens of thousands of units, so it won't notice your 1.5 units; nobody at a power station turns a gas tap a bit to the left. Domestic flexibility (that's what we're talking about here) works when lots of consumers take part. It is part of ESO's strategy for balancing supply and demand in a net-zero grid - it says *domestic flexibility provides a huge opportunity ... to build a smart flexible energy system by enabling consumers to act as a new source of flexibility on the network*. The latest initiative in this area is called [Crowdflex](#).

I find it fun playing with these apps. If domestic flexibility services take off then suppliers will be offering tariffs that provide cash incentives for you to join in, and it make sense to find out now if

they work for you.

One possible result from all this would be for suppliers to offer tariffs that track carbon intensity. I'd like to see that.

Postcard from the Future

I wrote this a couple of years ago. It touches on domestic flexibility but it's not serious futurology.

It is 2045 and you are working late at the office: it's nearly half past four. You're only in the office because your manager is old-school and if she can't see you at your desk she doesn't believe that you are working. She's the sort of person who does air-quotes when she says "working at home". She doesn't mind you working in the car though, so you pack up your laptop and call for your car. You're a bit old-fashioned yourself, because you still have your own car: it unplugs from its charging dock in the Office Park and meets you at the door.

The car sets off and takes you to the iM25 while you plug in, reconnect to the company network and resume work. Only driverless vehicles are allowed on the iM25, so when you get there the exterior lights go off and the car slots into a lane alongside the hydrogen-fuelled trucks and coaches. You're going to Berkhamsted and the motorway puts you in a platoon of cars heading for the iA41. Because the iM25 is an intelligent motorway there are no white lines, lights, gantries, cameras. You're uncomfortable travelling at 100 kph with cars two metres in front and behind you, so you tell the car to opaque the windows while you get on with work. At junction 16 you clear the windows to get a good view of the new Terminal 9 of Heathrow Airport. There is a plane coming in: it looks like an old kerosene-powered Airbus, made back in the 2020s. It reminds you that you have to claim back the Frequent Flyer Tax from your last trip. On a motorway bridge you see the slogan "No 5th Runway".

You check for news. The US-EU summit between Trump and Thunberg has stalled with no significant progress: Ivanka and Greta just don't see eye-to-eye on climate. You call up the weather forecast (mild for the time of year) and the power forecast (good tonight, but tomorrow an anticyclone over the UK will mean little wind: power will be expensive).

You get home and the car plugs in. You set about making dinner. When the oven comes on the smart meter interrupts politely to tell you that it has talked to the grid AI and that you are close to your base ration of power. You will soon be paying at premium rates. You ask the house AI to fix this: it turns off the freezer (it will stay cold for a good few hours yet) and turns down the thermostat a tad. Your partner arrives and wants a shower, so you tell the AI to draw power from the car battery to heat water. During the night the car stops charging because the power price has reached the limit you've set.

In the morning the car isn't fully charged. You follow the dress code even at breakfast (you never know when you might not get a video call) but just to wind up your manager you put your dressing gown back on before calling her to tell her you're "working from home" today.

Feedback

Feedback so far has generally been good - u3a members are a polite lot. All feedback is welcome as long as it is constructive.

A member from Uckfield u3a emailed to say:

I appreciate your efforts to comply with U3A's non- political stance as our climate change subject lead. But it's hard to think of a more urgent and highly political subject than climate change. Maybe U3A at the national office AGM level there should be some attempt and encouragement to make an exception? How can anyone continue to justify remaining on the sidelines and non-political on this subject?

Thanks for your email, but I'm a Subject Adviser, not a Subject Lead: there's a difference in emphasis I think. For leadership look to Countdown to CoP, or to your own local group. As I've only been in role a few weeks now this isn't a battle I'm taking on, at least not yet. However I'm sure my minders in National Office will take your comments on board.

This bulletin has 360 subscribers and the open rate for the last issue was 77.4% - so 279 members read it, or read some of it, so it reaches 0.07% of the u3a membership. I really don't have a lot of weight to throw around (mind you, Greta started with a membership of one).

References and Acknowledgements

The Reithian Directive defines the mission of the BBC. It's worth stealing.

It's Not Easy Bein' Green was written by Joe Raposo and performed by Kermit on both *Sesame Street* and *The Muppet Show*. There are many cover versions, including one by Van Morrison on *Hard Nose The Highway*.

The quotation from Kimberley Miner comes from her article in Nature [I'm a climate scientist. Here's how I'm handling climate grief.](#)

Just One Green Thing is inspired by Michael Mosley's book *Just One Thing*.

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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, Ensia, Nature, and other sites that I feel are credible.

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