

14 10 2018

Hi

Just a reminder that I've **started a new series of talks in Bedminster - Tues 16th will be on global energy trends, and Tues 23rd will look specifically at UK energy policy, how we consume energy and what our emissions are doing.** Details are on my [website](#).

Also, for businesses in Bristol there will be a [breakfast meeting on Tuesday 16th, organised by New Economy Futures](#). This is an opportunity to network with others interested in cutting their carbon and I will be giving an overview of what's changed since the Climate Change Act was introduced in 2008. And on Thurs 18th, NEF are putting on a ['The Time to Invest in EVs is Now!'](#) - event, 3 - 5pm. Places are still available.

And here's some news.

1. **IPCC report on 1.5 degrees** - what does this mean for us?
2. **Carbon sequestration** - will it save us?
3. **Ecosia - planting trees whenever you search on the web**
4. Unintended consequences from messing with the weather - but satellite monitoring proves useful
5. **More problems for nuclear**
6. Our insurers are getting serious about climate change
7. BP's CEO doesn't like divestment - good, we must be hitting the mark...
8. **The European Emission Trading System** finally starts to price carbon meaningfully
9. **Geothermal energy in Cornwall - the drilling begins**
10. **Sign for plastic-free Bristol** - plus new uses for waste plastic being researched

1. **The IPCC came out with its special report on 1.5 degrees this week - can we stay below this level of warming?** The short answer is '**Yes we can - technically**' ([by adjusting the baseline](#)) but that needs **EVERYONE to act NOW, IMMEDIATELY**, to cut fossil fuel use and promote sustainable land use. At the current rate of increase, we expect global average temperatures to reach **1.5 as early as 2030**. (Using global average temperatures brushes over the fact that land temperatures are always higher than sea-based, and northern latitudes are warming 2 - 3 times faster than the average.) Here's a link to the rather dry '[Summary for Policy Makers](#)' and here's a very good article from [Carbon Brief](#). I will include a couple of key graphics at the bottom of this email - it's frightening, but we all need to understand this.

Whatever we do now, we are in for increasingly extreme weather in the years ahead and unless you are very elderly, this is not *just* a problem for 'our

children and grandchildren'. If you have been thinking of insulating your home, now is the time to do it. If you've been thinking of getting batteries (with or without solar) investigate now. (Here's a very good Fully Charged video looking at [Powervault](#), one UK-based option.) **We all need to think about future-proofing, at home and at work, while cutting our fossil fuels.** According to [this article](#), most of us have the intention - intellectually we understand climate change and are concerned - but **we fail to put this into action.** Please see attached document for some personal thoughts and actions....

2. One of the alarming aspects of the 1.5 report is that we are extremely dependent on '**negative emission technologies**', ie taking carbon out of the air. Natural solutions such as replenishing our **degraded soils**, [stopping deforestation](#) and **mass new afforestation are win-wins** - they bring multiple benefits along with carbon sequestration. The IPCC report is alarming only in the scale needed - reflecting the damage our industrialised agriculture has done. Here's a really [good, readable article](#) on why and how we should change our soil farming (relevant even if you only have a back garden), and here's a [map to show how the world is waking up to the need for more trees](#). Despite this impressive afforestation, our **massive deforestation means that we are still losing a net 10 billion trees per year.**

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however, there is also substantial mention in the report of [Direct Air Capture \(DAC\)](#) and other geo-engineering solutions that are either not proved to work, or work at scale. Any carbon captured will have to be compressed and stored safely for thousands of years. **The worry is that our efforts / resources will go towards clever techno-fixes that will not work or will not work in time - when in fact we do have all the technology we need...** The missing components *now* are behaviour change and political leadership.

3. There are plenty of ways for you to help sequester carbon naturally - buy organic food and cotton, plant trees, cover your soil this winter with a 'green manure', support charities such as the [World Land Trust](#), [Tree Aid](#), [Woodland Trust](#) etc, take a holiday on an organic farm. One other simple way is to use [Ecosia as your search engine](#). They plant trees for you, when you use the web. Here are a [couple of short, really cheering videos on their tree planting in Burkina Faso](#), and here's really fantastic news on how [they have offered to buy the Hambach Forest in Germany](#), where RWE plan to open a new coal mine..... (Really???)
4. Apart from diverting resources, perhaps the main objection to geo-engineering is the risk of unintended consequences, and who controls the technology. One small

example of this is [VW using shockwave generators to stop hail raining down and damaging their new cars at a plant in Mexico](#). It seems they set off a local drought, clearing 2000 hectares of all rain for several rainy-season months. Local protests have forced VW to manage the 'hail cannons' rather than leave them on automatic, and install protective netting. But as governments turn to increasingly complex and untested engineering solutions, this is perhaps one example of how things can go badly wrong.

In other areas, technology is proving useful. Google has, apparently, started using its [mapping technology to pinpoint where cities' greenhouse gases are coming from](#). Five cities have been analysed so far, and Google plans to study another 6000 over the next ten years and release that data. Interestingly, [Carbon Tracker has also been using satellite technology](#) and has already identified that around **40% of China's 1000 (approx) coal fired power plants are losing money now, with a likelihood that almost all will be loss-making by the 2040s**. Who knows whether that's news to the Chinese government, but the fact that now we all know might add more pressure....

5. Let's hope Carbon Tracker turns its attention to Flamanville and Hinkley soon... The [French nuclear watchdog raised concerns over 65 weldings \(out of 148 inspected\) a few months ago](#). EDF is having to re-do these but hoped that 10 would not be considered bad enough. This month the regulator has confirmed that **eight of the remaining 10 do need to be done and have highlighted a 'failure of monitoring' on the part of EDF**. Let's hope the French, and UK, agencies remain *very* vigilant...

I found myself in a lecture given by the 'Professional Body and Learned Society for the Nuclear Industry' last month, a joint presentation from EDF and CGN (the Chinese investors) on the proposed new nuclear plant Bradwell, Essex. Having listened to detailed technical specifications and the regulatory process, I asked about **how they plan to deal with rising sea levels and inland flooding**. There was a shocked silence..... That was outside their remit, apparently. Eventually, a civil servant in the audience piped up and said that although he didn't know the answer, they are planning to raise the proposed Sizewell plant platform by about 7.5 metres.. The problem is that **all our nuclear plants - the 26 decommissioned, the 15 currently operating and the handful yet to be built - are all (except Trawsfynned) on our coastline and all have medium level waste (at least) that needs to be stored long-term on site**.

Interestingly, on the same day, the FT carried a report that **the Chinese are willing to downscale and take a minority share only in Bradwell** - implementing their own design and being the lead investor was a key proviso of their signing the Hinkley deal, so this is news indeed. Exactly whether this will happen, why, and what the implications are,

is still unclear.

6. Storm Eleanor, the Beast from the East and May flash floods have together pushed our home insurers into net losses this year, and they don't expect next year to be any better. **Across the globe, there were net losses of a staggering \$144bn from natural disasters for insurance companies, out of a total \$337 bn economic losses.** Not all claims are directly attributable to climate change but big insurers such as Swiss Re are clear about the links. The insurance industry is now worried that they may find themselves on the hook for legal judgements against fossil fuel companies from the many high profile cases being brought across the globe. How is the industry reacting? Well, **most are divesting from coal** - Swiss Re has moved *all* its portfolio into ESG (Ethical, Social and Governance) investments and **several are moving substantial proportions directly into renewables and clean tech.** Together, insurance companies have around **\$30 trillion to invest, so together they could just change our world.....** **Please write to your insurance company and ask them whether they have fully divested from fossil fuels, and to what extent they are invested in renewables.**
7. **Divestment really is having an impact** - and this was confirmed this week when **Bob Dudley, CEO of BP made a plea to call off the dogs...** His argument is that divestment threatens our energy security, because after all, we will continue to need oil and gas till the end of the century...

The debate would be interesting if it wasn't so critical.... For Bob Dudley, economics will determine our need - and **fossil fuel subsidies, and capital intensive infrastructure already built and shaping our world, ensure that coal, oil and gas remain the default options.** This is backed by **hundreds of millions spent on lobbying.** It's so easy to appear to be the rational, safe option when wearing a suit and operating through a trade or industry body. But as **Kevin Anderson, climate scientist, always says - physics will trump economics.** There will come a time when we know we really *can't* use any more fossil fuels - though it may be too late by then. Meanwhile protesters are vilified as rent-a-mob and **imprisoned and democratic planning regulations are 'relaxed' to favour industry.**

8. Of course, what is more likely to happen is that **we get serious about taxing carbon.** Finally, Europe's Emission Trading System is beginning to put a **semi-sensible price on carbon for big industrial users (approx 20 Euros per tonne).** For the last ten years, following the global financial crash, the price has been laughably low - although the UK, and some

others, have kept their own independent carbon pricing which has helped a bit. The price needs to get to **E30 plus to really drive existing fossil fuel infrastructure off-line.**

It has been a bit of a surprise that major oil companies have been backing a carbon tax - though usually while offering to write the law.... **This month ExxonMobil was reported to be donating \$1m (over 2 years, this is back-pocket change for them...) to Americans for Carbon Dividends.** The proposal is that carbon should be taxed at around \$40 / tonne, **while regulations and compliance costs are removed.... This has been widely interpreted as an attempt to price coal out completely (good) and position themselves to provide gas, with unrestricted 'fugitive emissions' (no benefit).**

Meanwhile, **our government is freezing fuel duty for the 9th consecutive year.** Not much sense of urgency there. The duty could be increased and fed across into more support for clean vehicles and improved public transport.

9. As I write (3pm Saturday) the trees outside are being buffeted about in strong gusts.... I've checked **Gridwatch** and our consumption is comfortably below 30 GW (being a weekend, and unseasonably warm...). Of that, **wind power is now almost 30% and solar has just dropped from 8 to 5.3%. Our hydro is around 3%,** and our biomass (not a renewable...) is at 4.6%. We are not using any coal. Although the news generally is so depressing, it's worth remembering **how much this has changed in just the last five years....** And there will, hopefully, be a small addition in the near future from geothermal. The **United Downs project in Cornwall** has now fully prepared its site and the drilling rig is being transported to the UK from Finland this month. The company expects to be drilling from the end of October, all through winter, and completing in April next year. The heat produced will go towards new electricity production.

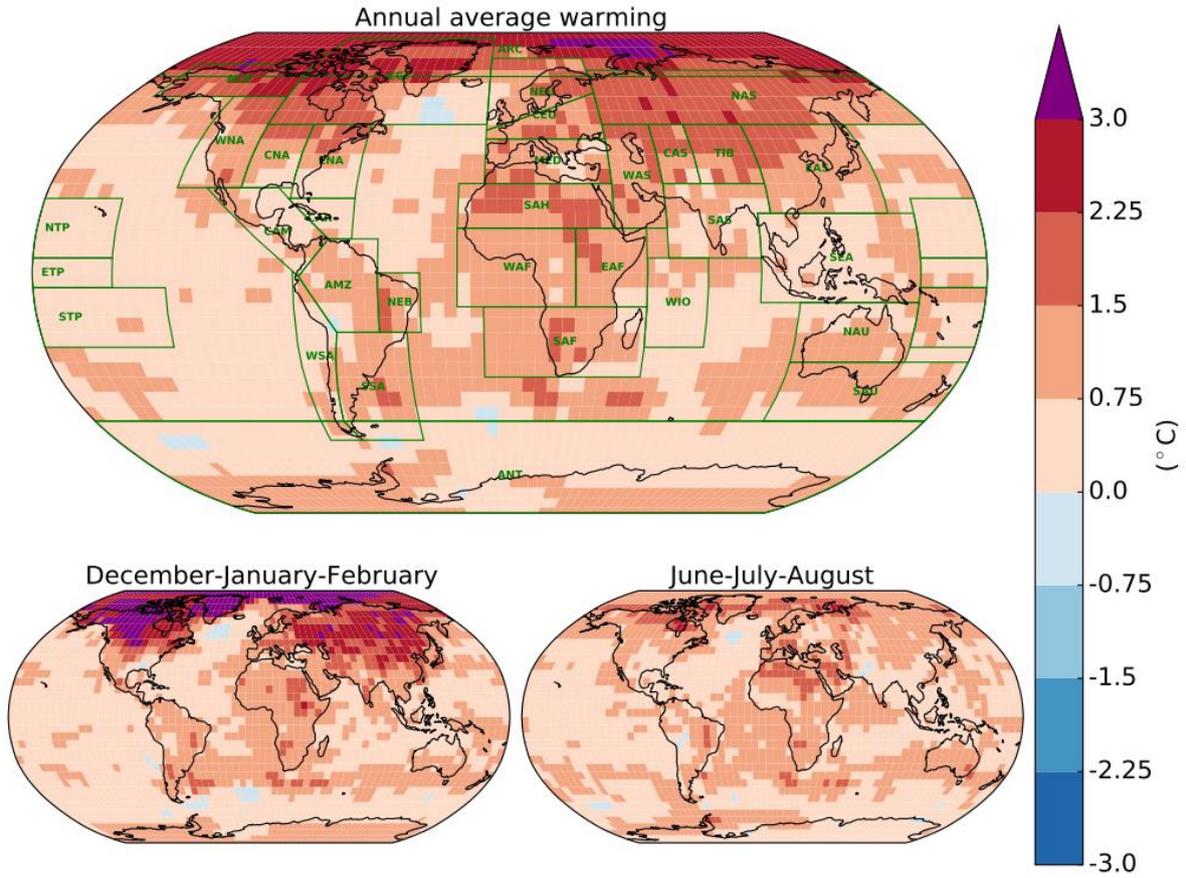
10. If you haven't already signed, **please do sign the 'No Plastics' petition for Bristol City Council** - just a few more signatures needed to get this over the line. It seems that we are finally coming up with some good ideas on what to do with all that plastic waste - **pathways that are more durable than asphalt, lighter and easier to install are being trialled in the Netherlands. Turning plastic back into liquid fuel and chemicals is another alternative being researched here in the UK.** And although it is microplastics that are doing most of the damage to our sea life, there are **various new great initiatives to start clearing up the big stuff,** before it has a chance to break down.

Please see below for a couple of graphics from the IPCC report. And if you are considering air source heat pumps or just want to know more, I attach information written by two readers who have direct experience. Many thanks to them.

As ever, if you would like to come off the mailing list, please let me know.

All good wishes.

Nikki



Impacts and risks associated with the Reasons for Concern (RFCs)

