CLIMATE CRISIS NEWSLETTER

A fortnightly newsletter brought to you by XR Gairloch

ISSUE 133 8/4/23

Editorial

A supposed Green Day that turned out black,,,,,,,,,

The occasion was dubbed 'Energy Security Day' officially and 'Green Day' unofficially.

The High Court had demanded the UK Government to update its Net-Zero Strategy by March 2023 last year, noting that its original plans would not deliver legally required levels of cuts to emissions. But were the new plans, published pn the 30th of March an improvement ?

The general consensus was that the governments 1,000-page plan did 'little to boost energy security, lower bills and risked falling short of meeting its legally binding climate targets.

While the plan did bring forward some measures the majority of it recapped on or even rehashed existing policies and commitments .There was also a continued backing of the fossil fuels industry within its net zero strategy and no radical shift from expensive, foreign fossil fuels to clean, affordable power. Oil and gas companies will not be forced to stop flaring, and the ban on sales of new gas boilers from 2035 will not be brought forward.

Grant Shapps the minister for Energy Security and Net Zero said the continued production of oil and gas in the North Sea was still necessary, and that the UK had a geological advantage in being able to store most of the carbon likely to be produced in Europe for the next 250 years in the large caverns underneath the North Sea. The UK government is therefore gambling on carbon capture and storage (CCS) tech despite scientists' doubts arguing it has little merit and delays real cuts in emissions. "CCS is not required if the government moves to renewables as quickly as possible – especially as I am unaware of any CCS that works," added Mark Maslin, professor of earth science at UCL.

A decade ago, David Cameron launched a similar initiative, involving the investment of a more modest £1 billion in a CCS demonstration plant. But in 2015 the scheme was abandoned, shortly before the expected announcement of who had won the bid. The government on that occasion came to the conclusion that CCS was too much of a unicorn to take a risk with. Therefore we must ask our selves what has changed since then to make the government base the majority of its energy strategy on this?

The plans also missed out key elements, such as a comprehensive programme of home insulation and a full lifting of the ban on new onshore wind turbines in England.

So what was announced in the plan:

- An extension of the ECO levy, which funds improvements to the energy efficiency of

social and low-income homes

- A new £30m heat pump investment accelerator scheme
- An extension to the boiler upgrade scheme to 2028
- The creation of British Nuclear, a new independent body to oversee nuclear generation
- A list of the first government-backed renewable hydrogen projects
- An extra £10bn for UK Export Finance, with a focus on clean energy
- A target for the UK to host 70GW of solar by 2035
- 'Rebalancing' levies on gas and electricity, to ensure that running electric heat and transport is more affordable

Missing from the plan:

The measures announced did not include everything recommended by the Climate Change Committee (CCC), the UK government's statutory advisor on climate change, to reach net-zero by 2050, including those crucial time-bound, sector-specific decarbonisation plans. Several other, more specific recommendations from the Committee have been declined by successive Governments since 2019 on the grounds that they go against the Conservative Party's approach to running the country, including:

- Capping airport expansion and growth in passenger numbers
- Tightening climate check points on new oil and gas and cautioning against exploration in the first instance
- Exploring taxes to decrease the average citizen's daily red meat and dairy consumption
- Requirements for all homes to meet EPC 'C' grade or higher at the point of sale, from 2028
- The creation of an Office for Net-Zero Delivery, an independent body to ensure cross-departmental collaboration on climate
- Banning routine oil and gas flaring by 2025, not 2030
- Giving Ofgem a net-zero remit
- Establishing an onshore wind taskforce and setting a time-bound target for scaling on-shore wind capacity

700 academics urge Sunak to end approvals for new oil and gas projects. **Read article.**

'Half-baked, half-hearted': critics deride UK's long-awaited climate strategy. **Read article.**

'Action cannot be delayed further': UK Government 'unprepared' to deliver climate adaptation. **Read article.**

The North Sea Transition Authority give more oil and gas the green light…….

The North Sea Transition Authority (NSTA) have challenged claims that giving approval to the Rosebank field would blow UK's carbon budget

New oilfield in the North Sea would blow the UK's carbon budget. **Read article.**

The NSTA defended its analysis of upstream emissions as campaigners claim that approval of Rosebank field would exceed UK carbon budgets.

Analysis prepared by Uplift – a pressure group aiming for a fossil-free UK – claims that emissions from operations at the west-of-Shetland field would be enough to exceed the oil and gas sector's assumed share of the nation's carbon budget by the end of the decade.

However, offshore regulator NSTA has said it has "full confidence" in data which shows the sector is "on track" to reaching its emissions reduction target by the end of the decade, if not surpass it.

Rosebank is currently under consideration by UK government with a decision expected in the coming months.

Uplift's report draws on the environmental statement submitted by operator Equinor and claims that production emissions from the field would amount to some 5.6m tonnes of CO2.

Combined with other upstream emissions over the period, Uplift said this would exceed the theoretical share of the UK's fifth carbon budget from 2028-32 by about 8%, and overshoot the sector's share in the sixth carbon budget, from 2033-37, by about 17%.

Figures do not include emissions caused by burning the oil and gas produced from the field.

While industrial sectors are not issued with a formal budget, the Climate Change Committee, the UK governments own climate advisers recommends they should remain within current limits – giving the UK upstream sector a roughly 4% share of total UK emissions.

Tessa Khan, executive director of Uplift, said: "This analysis clearly shows what the government has long known but chosen to ignore: that it is impossible to reconcile approving a huge new oilfield like Rosebank with the UK meeting its climate obligations.

"Ministers also know that approving Rosebank will do nothing to lower UK fuel bills and will do very little for UK energy security as most of these reserves will likely be exported.

"On every level, including legally, Rosebank fails."

The NSTA said "New oil and gas fields in the North Sea can absolutely be in keeping with the UK's commitment to net zero.

"We have full confidence in our data, which show that the UK oil and gas industry is currently on track to meet interim emissions reduction targets agreed in the North Sea Transition Deal.

"Our 2022 Emissions Monitoring Report shows that achieving the 2030 goal of a 50% reduction in production emissions (scope 1 and 2 emissions only) is the absolute minimum the NSTA expects from industry, which should aim to surpass it." This would seem to contradict what the Climate Change Committee say.

The NSTA has also recently invited oil and gas industry companies active in the North Sea to consult on new guidance aimed at boosting domestic production by proposing the removal of barriers to investment and streamlining the buying and selling of assets. The new guidance is due to be published later this year.

The NSTA said it aims to use the guidance to "sweep away blockers to a transaction" and help boost production.

New First Minister for Scotland……..

During the recent SNP leadership campaign, all three candidates identified where they would have liked to go further with ScotWind with the eventual winner Humza Yousaf – now First Minister – outright pledging his desire to buy an equity stake in a future "ScotWind II" (though not the current scheme), to look again at the capped price mechanism and to reconsider a national energy company built using the blueprint adopted by Wales.

The new Fist Minister of Scotland, Humza Yousaf has pledged to keep on track or go better than the net zero targets previously pledged.

New SNP leader Yousaf pledges net-zero focus. **Read article.**

Scotland's Draft Energy Strategy and Just Transition Plan consultation. The Scottish Government has announced an extension to the consultation on its draft Energy Strategy and Just Transition plan. The consultation will now run until Tuesday 9 May. **Click link.**

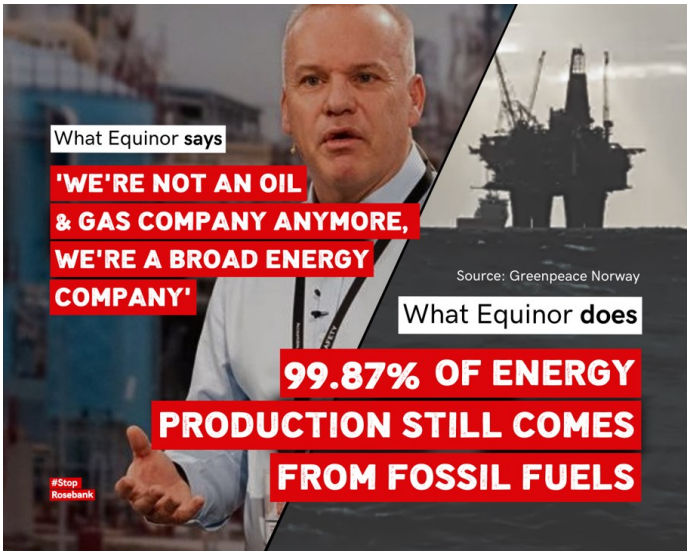
Equinor's greed ……

Yesterday Rosebank's owner Equinor released their annual report.

In it, the company shamelessly talks up their green credentials but here's the truth...

Only 0.13% of Equinor's energy comes from renewables. Not even 1%.

99.87% of the energy Equinor produces comes from oil and gas. The window for a liveable climate is closing. Like the new IPCC climate report earlier last week said: it's now or never.



Yet, Equinor is still pushing to drill Rosebank. Rosebank's emissions would be more than the annual CO2 emissions of the 28 lowest-income countries combined. It's a climate disaster that the UK government has the power to stop.

You know you are struggling to meet emission targets when…….

Dairy cows are set to be given 'methane suppressants' by farmers to reduce their carbon footprint - by making them burp less.

Ministers are looking to force farmers to give herds additives to reduce gas from digestion in 'compound feeds', which contain seaweed and essential oils.

The Government's Net Zero Growth Plan, released this week, looked to address concerns from the High Court that existing plans to reach the climate goal before 2050 were not detailed enough.

Livestock made up the majority of agriculture and other land-use emissions in 2021, which accounted for 11 per cent of the UK's greenhouse gas.

Dairy cows could be fed methane suppressants in bid to cut down on greenhouse. **Read article.**

Methane big part of 'alarming' rise in planet-warming gases. **Read article.**

Cut Methane Emissions Now. **Read article.**

From heat pumps to EVs, Britain needs more clean tech uptake to decarbonize…...

By Olivia Rudgard

The British government on Thursday announced a suite of policies aimed at encouraging green technology and business investment. The strategy, which was billed as a response to the US Inflation Reduction Act, didn't fully meet expectations: There's little in the way of fresh funding, and critics say it falls short of what's needed to meet decarbonization goals. But amid the thousands of pages of information released, there are some bright spots for consumers on home heating, transport and insulation.

Britain has pledged to reach net zero emissions by 2050, and emissions are already down by almost 50% since 1990. But that progress, while encouraging, was largely down to the phase-out of coal, the most polluting fossil fuel. Now the country faces the difficult challenge of decarbonizing sectors where consumers have come to rely on oil and gas, a challenge made more relevant by the energy crisis precipitated by Russia's invasion of Ukraine, which has pushed up energy costs. Most British homes are still heated by natural gas, and the majority of drivers across the country still put petrol in their cars. Thursday's publications offer clues as to how that might change.

1. There's more funding for heat pumps

So far, efforts to get Brits to ditch their boiler and switch to a heat pump, a more efficient electric heater, have not been very successful. Data released on Thursday shows that in the 10 months ending in February, just 12,000 vouchers were issued to switch to a heat pump under the Boiler Upgrade Scheme. That's less than half of the 30,000 vouchers available through the end of this month.

Before Thursday, the government had only confirmed funding for heat pump adoption through May 2025; it now plans to extend it until 2028.

The relative failure of the UK's efforts to date stands in stark contrast to the success of generous subsidies in Europe, particularly in Poland, where households can access funding of up to 90% of the cost of a heat pump, roughly equivalent to $18,500. Around 200,000 units were sold in Poland last year, more than double the 2021 total and almost four times the UK total in 2022.

The documents confirm plans to phase out new and replacement gas boilers by 2035 "at the latest," and there will be more funding for companies making and installing heat pumps, a benefit that ideally will trickle down to consumers. This will "incentivize heating appliance manufacturers to drive investment in heat pump supply chains — helping encourage innovation to make heat pumps more attractive and affordable for households," said Juliet Phillips, a senior policy adviser at think tank E3G.

2. Electricity bills will go down

One big problem for heat pumps is that they use electricity, which in the UK is three times more expensive than gas per unit. This is in part because extra costs to fund environmental and social programs are added to Brits' electricity bill, not the gas bill, and because electricity costs are still, to an extent, determined by expensive wholesale gas prices. It means that while heat pumps are significantly more efficient than the alternatives, they

are often still more expensive to run.

The government accepted a recommendation in January's net zero review to rebalance these costs, saying it will present a "clear approach" by this time next year with a view to implementing changes by the end of 2024. As a result, Britain will have "among the cheapest wholesale electricity prices in Europe by 2035," the document said.

3. Insulation will get cheaper — if you qualify

Britain's leaky building stock is a serious barrier to decarbonization, making houses expensive to heat and limiting the take-up of heat pumps. Current funding to help householders improve insulation levels is limited to poorer and vulnerable people, so a much-touted new program called ECO+, which has a wider remit, was widely welcomed when it was announced last year.

Now rebranded "The Great British Insulation Scheme," the program will fund upgrades to 300,000 of the least energy-efficient homes, which is still a tiny fraction of the 25 million homes in Britain, but has the potential to cut energy bills by around £400 a year for those who get it.

Notably, plans to improve energy-efficiency standards for renters are absent from the released documentation.

4. Car companies will have to sell more EVs

The policies announced by the UK on Thursday make clear that it's sticking to a ban on the sale of new petrol and diesel cars from 2030. The documents confirm an incremental rule requiring 22% of cars sold by each manufacturer next year to have zero tailpipe emissions, adding there will be penalties for vehicle manufacturers that don't comply.

There has already been a significant increase in electric vehicle uptake in the UK. Last year, almost 17% of cars sold were battery-powered. Upfront cost, however, is still a major barrier. Forcing major companies to invest in electric car development and manufacturing could make cars cheaper and speed up adoption, according to James Court, chief executive of drivers' group EVA England. Still, the UK did not announce any new direct subsidies to help fund electric vehicle purchases, which would have a more direct impact on affordability.

5. Councils will get help to install more chargers

Anxiety about access to public car chargers is another big barrier to EV adoption. The national government is setting aside almost £400 million in new funding for publicly accessible chargers, adding to existing programs that help local governments install charging stations.

Yet this doesn't guarantee that Britons living in charger-free areas will see new installations any time soon. Mike Hawes, chief executive of industry group the Society of Motor Manufacturers and Traders, said this funding needs to be met with a centralized strategy for charging infrastructure so investments are made where they're needed.

Greenwash, misinformation, hypocrisy and deceit

Shell knew about climate change in the 1970s: How Shell Downplayed Early Warnings Over Climate Change. **Read article.**

How Shell Is Selling the Petrochemical Buildout as 'Sustainable'. **Read article.**

Shell hits the brakes on growing renewables unit after record 2022 profit. **Read article.**

Fossil Fuel Executives See a 'Golden Age' for Gas, If They Can Brand It as 'Clean'. **Read article.**

Oil Sands Companies Are 'Distorting Public Information' on Google, Expert Says. **Read article.**

Big Oil Firms Touted Algae as Climate Solution. Now All Have Pulled Funding. **Read article.**

The Fight to Define 'Green Hydrogen' Could Determine America's Emissions Future. **Read article.**

Corrupt Politicians and Climate Criminals…….

Rishi Sunak Conservative MP, previous Chancellor and currently Prime Minister of the UK

While millions of people are struggling with the cost of living crisis Rishi Sunak has spent thousands of pounds upgrading his local power grid, just so he can heat his swanky new private swimming pool. But what about the rest of us? The national grid desperately needs an upgrade - it's too old and slow to take the cheap green renewable energy we need to bring our bills down.

Sunak recently said "One of the first things I did as Chancellor was hang a picture of Nigel Lawson above my desk. He was a transformational Chancellor and an inspiration to me and many others." Nigel Lawson was the founder of the climate denial group the Global Warming Policy Foundation and sat on the board of Net Zero Watch.

UK Chancellor Criticised for 'Silence' on Climate Change in Party Conference Speech. **Read article.**

Sunak Hands Cabinet Job to Climate Sceptic David Davies. **Read article.**

£3.5m of Tory donations linked to pollution and climate denial, says report. **Read article.**

Events/Actions/Education and Information

EVENTS

The Big One (Unite to Survive)

21st to 24th April 2023 in London.

100,000 people will protest in Parliament Square and surrounding areas in London from over 70 groups/ organisations with one big objective. END THE FOSSIL FUEL ERA.

A multi-day action starting on the 21st April that will see at least 100,000 people changing history. Be on the right side of history.

This will be peaceful and family-friendly week end. This is not about disrupting the public - this is about demanding better from our Government. The event has been designed with inclusion at its heart, prioritising attendance over arrest and relationships over roadblocks.

For more information on how to get involved. **See link.**

Earth Day March and Rally

22nd April 2023 at 1.00pm at the Towwn Hous, Inverness and marching to Falcon Square.

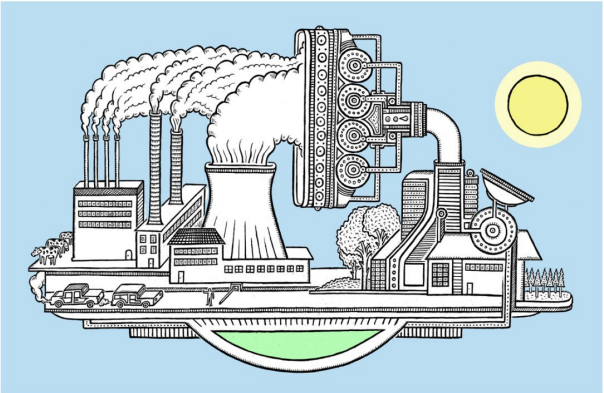
This is a multi group family friendly parade to celebrate and promote environmental awareness on this years Earth Day.

Come along with placards, banners,flags and skelletons. Dress up as animals and plants, play music, sing and dance.

For more information contact

Ruth at xrinverness@protonmail.com

Technological Advances



Ultra Efficient Solar Panel Breakthrough . **See video.**

A New Kind of Battery—Oxygen-Ion—Could Change Energy. **Read article.**

This revolutionary new air technology can quadruple the capacity of lithium batteries. **Read article.**

Sustainable Farming/Food

Report: Fixing broken food system far cheaper than financing unsustainable practices. **Read article.**

What Is Sustainable Agriculture? **Read article**

The Scales of Justice

'Dieselgate revisited': Environmental lawyers take UK Government to task over alleged diesel emissions cheating. **Read article.**

European court hears landmark lawsuits that could shape climate policy. **Read article.**

International Court of Justice to advise states on climate duties: 'A turning point for climate justice'. **Read article.**

Eco'nomic Recovery—Building Back Better

Investment in renewable energy must more than triple to keep 1.5C alive. **Read article.**

OECD reforms set to give "green" projects better export finance. **Read article.**

The Fight Against Fossil Fuels

$11trn asset manager initiative urges members to stop investing in new oil and gas. **Read article.**

World Bank's private sector arm to stop supporting new coal. **Read article.**

Earth Could Warm 3 Degrees if Nations Keep Building Coal Plants, New Research Warns. **Read article.**

World builds more coal power in spite of pollution, pledges and coal end-date. **Read article.**

The Amazon Rainforest Is Still Burning

Brazil evicts gold miners from Amazon rainforest. **Read article**

Undermining of institutions and lack of local policies hinder fire management in Amazonia. **Read article.**

The Circular Economy

Chemistry for a Circular Economy. **Read article.**

When heat becomes unsurvivable

By Bhuma Shrivastava

India, on course to becoming the world's most-populous country, risks approaching the limit of human survival as it experiences more intense and frequent heat waves.

The national weather office has forecast rising temperatures in the coming weeks after India experienced its hottest February since 1901. That's stoked concerns that there will be a repeat of last year's record heat wave, which caused widespread crop damage and triggered hours-long blackouts. While temperatures as high as 50 degrees Celsius (122 Fahrenheit) are unbearable in any condition, the damage is made worse for those of India's 1.4 billion population who are stuck in tightly packed cities and don't have access to well-ventilated housing or air-conditioning.

"Heat stress for humans is a combination of temperature and humidity," said Kieran Hunt, a climate scientist at the University of Reading who has studied the country's weather patterns. "India is typically more humid than equivalently hot places, like the Sahara. This means sweating is less efficient, or not efficient at all."

This is why in India a measurement known as the wet-bulb reading — which combines air temperature and relative humidity — provides a better gauge of heat stress on the human body. A November report by the World Bank cautioned that India could become one of the first places in the world where wet-bulb temperatures could soar past the survivability threshold of 35°C. "The question is, have we got inured to heat-led suffering?" said Abhas Jha, one of the report's authors. "Because it's not a sudden onset disaster, because it's a slow onset, we don't push back on it."

While no country is untouched by global warming, there are multiple reasons that make India an outlier. The following interview with Hunt, which examines those factors, has been edited for length and clarity.

What's the climate science behind India's more intense heat waves?

It helps to separate heat wave temperatures into two parts — the background, or the monthly average temperature, and the anomaly, or the the bit added or subtracted by the specific weather occurring at the time. Over India, since the pre-industrial period, the background has increased by about 1.5°C. Therefore, everything else being equal, the heat wave weather patterns today would be associated with temperatures about 1.5°C warmer than had they occurred a hundred years ago. There are other compounding factors: over some cities, the urban heat island effect has added roughly an additional 2°C to the background. Deforestation also contributes.

Why are they happening more frequently?

This can also be split into two parts. Firstly, the Indian government's definition of a heat

wave is fixed, so as background temperatures increase, less and less strong anomalies are required to surpass the heat wave definition threshold. Secondly, it does appear that the weather patterns — high pressure over north India, leading to dry, sunny, clear conditions with weak wind — associated with these anomalies are also increasing in frequency.

And what makes them more dangerous?

Hotter heat waves, where the temperatures stay higher for longer, tend to result in more fatalities. In India, this is exacerbated by the rapid population increase over the last few decades.

[The danger lies with] India's background temperature already being so high. In May, for example, the only places on the planet comparable in temperature to north India are the Sahara and parts of the inland Arabian peninsula, both of which are very sparsely populated. With the background temperatures already being so high, over 40°C, even small increases are likely to push close to human survival limits.

How do the heat waves affect people?

There are wide-ranging effects on Indian society. Extended periods of heat waves lead to significant drying of soil over large regions. Aside from the obvious agricultural implications, this can impact the monsoon onset a month later… and can negatively affect agriculture, water security, and even lead to localized flooding, where heavy rain hits dry soil that is unable to absorb it.

Unusually hot pre-monsoon periods are also associated with decreased labor productivity, particularly in outdoor sectors such as agriculture and construction; increased demand for cooling, which can strain the power grid and lead to increased greenhouse gas emissions; and general health risks, such as heatstroke, which disproportionately affect children, the elderly, and low-income communities.

So what can be done to mitigate the damage?

Some ideas that are often talked about in this context are, on the policy level, implementing urban planning guidelines that prioritize green spaces, shade, and ventilation in building design. These are becoming increasingly popular in many Mediterranean cities. At the corporate level: invest in research and development of low-energy cooling solutions, such as passive cooling systems, and promote energy-efficient building design. And for communities, encourage the use of cool roofs, green roofs, and tree planting to reduce the urban heat island effect.

What does the future look like for India as the planet keeps warming?

At the moment, India very occasionally slightly surpasses [a wet-bulb temperature of] 32° C, so we need quite a lot more warming to get to the survivability limit. That said, with increased urbanization, and so urban heat island effect, and more warming, the risks of fatal heatwaves are always growing.

Will the environmental protest movement turn violent?

By Alex Cochrane

Climate chaos is unfolding all around us and leaders won't act to prevent it. Yet the environmental protest movement remains mostly peaceful. A personal take on whether this is changing.

The account is shocking to read even if the protest was routine.

Activists blocked the traffic and performed street theatre. They carried placards saying 'Blah Blah Blah'. They tried to prevent the conference delegates from leaving by locking themselves to the gates with chains.

This could have described countless environmental protests over decades. The shocking detail was this happened in 1995 at COP1, the very first UN climate conference. Even then, the science was settled. Everyone knew. The protesters, the delegates, the leaders. Everyone including Shell and their scientists who had known long before then but buried the truth for profit and corrupted media and politics to ensure it stayed buried.

Emissions have risen year on year so much that by COP26 in 2021, 25 meetings later, Extinction Rebellion declared the COP process a Crime against Humanity for its abject failure, its greenwashing and the alarming tendency for fossil fuel lobbyists to infiltrate as delegates. Not content with that, the fossil fuel industry has now simply taken over. COP28 will be hosted by the UAE, one of the largest oil producers in the world, and the President is an oil baron.

The charge sheet for humanity defecating on its own future is clear, present and ongoing. Climate change will make pandemics more likely and fossil fuels kill more people than Covid. Millions of tons of plastic are pouring into our oceans. Microplastics are now being found in the placentas of unborn babies, in every corner of earth and at every level of the food chain. Yet the production of plastic is relentlessly growing.

Plastic chemicals are shrinking penises, causing sperm counts to plummet and decimating fertility. Not exactly reassuring when you think about the causes of the dystopian nightmare of Gilead in The Handmaid's Tale. Forever chemicals are infiltrating nature and ecosystems are on the verge of collapse. Millions of people are being displaced and food systems are being disrupted.

One person is likely dying of hunger every 48 seconds in drought-ravaged Ethiopia, Kenya and Somalia exacerbated by climate change. Think this is just happening in poor countries? Last year, 3 million were displaced in the US by extreme weather. 3,271 excess deaths have been recorded during heat-periods in 2022 in England and Wales.

Current estimates suggest we are now at 1.2C and we are heading for 2.4C and that's only if promises made are kept. Even Scotland, which likes to think of itself as a progressive climate leader, is falling behind. If this is bad at 1.2C, imagine what will happen at 2.4C.

That the leaders around the world are failing to act on our behalf to stop an unfolding disaster is an understatement. You could call this madness. Humanity's suicide note. Stupidity. This makes sense because apparently climate change is reducing our ability to think and make decisions as well as degrading our sources of omega-3.

Should we blow-up oil pipelines?

Climate activists have, for decades, tried everything. Yes, they have shifted the dial, can claim some notable victories, force disinvestment, moved things along but essentially all the marches, the protests, the strikes, the Cassandra-like desperation, the petitions, endless clarion calls for the science, the civil disobedience, the arrests have not altered the trajectory of an unfolding disaster.

Despite this, the modern-day environmental movement continues to follow peace and non-violence. Considering its size, diversity and what is up against, it has been remarkably disciplined and instinctively unified in this. It is surprising how little rioting, waves of destruction and blowing-up of pipelines there has been when you consider what is at stake. The British novelist John Lanchester observed in 2007 that it's "strange and striking that climate activists have not committed any act of terrorism." It pretty much still stands today.

In his 2020 manifesto, How to Blow up a Pipeline, Andreas Malm argues that peaceful protest has reached its limit, that every trick in the book has been tried and every tactic has been played.

"Do we say that we've done what we could," asks Malm, "tried the means at our disposal and failed? Do we conclude that the only thing left is learning to die — a position already propounded by some — and slide down the side of the crater into three, four, eight degrees of warming? Or is there another phase, beyond peaceful protest?"

Malm criticises Extinction Rebellion's use of the theory of non-violence where civil disobedience is not only the moral choice; it's the most powerful way of shaping world politics. This theory is based on research that concluded nonviolent campaigns are twice as likely to achieve their goals as violent campaigns.

Some argue that this research is limited and flawed. For example, it overlooks how violence has often been a helpful midwife for the birth of freedom in ways we would rather forget. Violence contributed to the abolition of slavery, the Suffragette movement, American civil rights, apartheid and independence anti-colonial movements from India to Algeria. The Bengalis tell you that their resistance fighters scared off the British army as much as Gandhi did.

One historical tactic of the violent resistance, especially in the Global South, has, ironically, been sabotage of the fossil fuel infrastructure, often with effective results. Malm must be delighted to see the current protests in Ecuador by Indigenous people, merging protests and targeting of oil facilities over a number of social and land issues.

Malm argues that things are so dire it's time to escalate to strategic property violence by "steady loving hands", in the words of two catholic activists, Ruby Montoya and Jessica Reznicek, who received eight year prison sentences for sabotaging the controversial Dakota Access pipeline in America. Intelligent tactics would target the lifestyles of the super rich. For example, a concerted targeting of SUVs, a source of carbon emissions bigger than most countries, would destroy its business model. No-one would buy an SUV if they knew it would be targeted and damaged.

Malm's own treatise has itself been criticised (the fascinating debates on ethics and violence are way too complicated to cover here). His calls for escalation rely on activists who would bear a heavy price for taking on states, even liberal ones like the UK and USA, who are increasingly authoritarian in cracking down on peaceful protest, let alone those who commit violence on property. He also overlooks the history of eco-sabotage activities of groups such as the Earth Liberation Front, tree spiking tactics in America to prevent tree logging or the sabotage tactics of Earth First!

Is violence increasing?

Extinction Rebellion is regarded as the radical flank of the environmental movement, although this is increasingly now the territory of Just Stop Oil (JSO) and Insulate Britain. In reality, the key demands of XR and JSO are hardly extreme positions and are based on mainstream consensual science.

A very peaceful march of pilgrims, faith groups, samba bands and a 30 metre serpent walk through Glasgow during COP26. The writer is in the pink hi-vi

Furthermore, their current protests seem tame when compared with methods embraced by other, now lauded, movements from history. (You could argue that their so called 'extreme' disruption tactics are nothing compared to the disruption caused by the climate crisis.) The culture wars confects outrage when protestors sit in the road or throw soup on a painting. But compare these actions with the suffragette who slashed a Velázquez painting with a knife or the suffragette's arson and bombing campaigns.

In the last few years, tactics have shifted to property damage. JSO has vandalised petrol pumps whilst Extinction Rebellion has broken windows, especially of banks funding fossil fuels, in a deliberate echo of the suffragettes. These are staged, with protestors taking responsibility by waiting to be arrested. More hit and run tactics are employed by groups such as Tyre Extinguisher, a group which deflates the tyres on sport utility vehicles.

But is the mood darkening as the stakes increase? At Luetzerath, in Germany, protest turned to clashes between heavy-handed police and activists determined to stop an expansion of a coal mine. In France, Italy and Switzerland, snow-making machines have been sabotaged, stopping ski resorts from restoring their pistes as a freak heatwave turns them to mud. Last December in France, hundreds of activists invaded a cement plant, where they cut cables, smashed windows, graffitied walls and sabotaged the incinerator.

A step too far on the violence spectrum for many? But here's the thing. If we are talking about violence on property, what about poisoning and polluting someone's land or water

supplies? Or destroying a forest belonging to a community?

Violence on environmental activists

For the moment, it continues to be environmental protestors who have far more to fear from violence, than are likely to commit it themselves.

First, it starts with the violence of words. Exposing a truth and asking for change triggers a wave of violent fantasy online. These aren't even the trolls mainlining 55 Tufton Street climate denial propaganda. Seemingly reasonable people, hardly hiding behind a troll persona, want to run you over with their cars, hose you down, send you to China. They yearn for the police to beat you up.

Then there's the violence of bystanders who can get frustrated by the inconvenience caused by direct action. In some ways, this is more understandable. People stressed and under pressure, with lives to get on with will react accordingly. There's also the violence of police and state responses to protests.

Violence directed at environmental protesters can also move in more sinister, political ways. When activists from Ende Gelande, a German protest group, temporarily shut down Schwarze Pumpe, an eastern German power plant, they were violently assaulted by climate-denying fascists. This is likely to increase when efforts to target emissions start biting into people's livelihoods and ways of life, and a toxic paranoid culture war increases the heat of the debate.

Then it ends in murder. More than 1,700 environmental and land rights activists have been killed in the past decade, particularly in Latin America.

Future climate violence: a sci-fi vision

What happens if and when things fall apart? What if political violence has a role to play in actually saving the future? What if people decide you can't beat them playing by their rules in the institutions they infiltrate and control?

The danger still might not come from environmental protesters. It might come from the victims of a disaster.

In Ministry for the Future, the novel's harrowing opening chapter depicts a brutal wet-bulb heat wave in India that kills 20,000,000 people in a single week. Out of the pain and trauma emerges a terrorist network called the Children of Kali.

Organisations set up black ops divisions to do whatever it takes: hacking to sabotage coal plants, bombings, shadowy terrorist outrages.

Clouds of drones bring down 60 passenger jets across the world in a matter of hours. Everyone stops flying. Container ships using diesel began to sink when passing close to land, affecting world trade and causing depression. Fossil fuel executives are hunted down and assassinated. Cattle are infected with mad cow disease so everyone stops eating meat. Power plants are attacked by drones.

No-one knows who really is doing this. Kali is nowhere and Kali is everywhere.

Most environmental protesters I've come across are the most caring and gentle souls who abhor violence yet are battling an unfolding disaster. Imagine taking on a fight where there's no simple victory, no finishing line and no single solution. Imagine a fight where the enemy is us: our demons, our spoilt inner child, our willfulness, our demands to continue living in our dream worlds.

The stakes are rising and the pressure of multiple crisises such as mass migration (increasingly caused by climate change), populism or covid, can bring out the best in us but also the worst. We are in a race, not just to limit the worst of the climate crisis, but also to limit the violence caused by it. We can win it with solidarity, persistence, vision, patience and hope.

The alternative is unthinkable.

The environmental protest movement is a very, broad church. Even groups like Extinction Rebellion have plenty of differing views and debates within their circles. This writing represents my personal thoughts only .

And I'm not about to go out and blow-up an oil pipeline!

Climate doomism is bad storytelling—hope is much more effective at triggering action

By Anastasia Denisova

When news about the climate is published, like the Intergovernmental Panel on Climate Change's latest report, frightening headlines like "final warning" or "now or never" are often the norm. Some activists call this approach "climate doomism", and are quick to criticize media publications and other influencers for it. Climate doomism is the view that humanity has lost the climate battle, and we feel nothing but helplessness and anxiety about it.

In a massive global survey, the results of which were published in 2021, 10,000 children and young people (aged 16-25) shared their feelings about the environment. The results were astonishing: from Brazil to France, Nigeria to the UK, at least 84% said they were moderately worried about climate change, with 59% saying they were very or extremely worried.

How helpful is it to scare someone who is already scared? The tone of how we share information can greatly affect how people engage with it.

The biological response of "fight or flight" applies to how we respond to information, including when scrolling the news. Research shows that fear increases the impact of a piece of information. It attacks all our senses. We must react. But without clear instructions on how to channel this energy, we are more likely to try to avoid the information altogether.

In the 1960s, social psychologists at Yale University conducted an experiment on the impact of fearful stories on decision making. They asked a group of students to read a booklet about the risks of tetanus infection. They then asked participants whether they'd like to go get vaccinated against it.

There were four versions of the leaflet, conveying different levels of fear in their descriptions of the disease and case studies of patients. Some had more specific recommendations on where to get a jab.

The researchers found a high level of fear, worry, even nausea in those who engaged with the most dramatic version of the text. Great, researchers thought, these scared students will surely get jabbed.

However, most students did not bother to go to the vaccination center around the corner. But 15% did—they read the variation of the leaflet that had direct instructions for action. They knew how to find the vaccination center, saw a map, opening hours and a reminder that the vaccine was free.

This and other studies show that fear can wear us down, unless we have clear instructions on how to act.

Turning hope into action

I've studied viral journalism, the efforts of journalists to make stories spread across social media and hook readers online. I have identified a range of triggers that professionals pull to keep readers engaged with a story. The emotions of awe, anger and anxiety activate people to like, click, comment and share. As one interviewee put it, "LOL, WTF and OMG" reactions make for a "guaranteed" click. When the story is too sad, however, it instead "deactivates" readers, making them more likely to withdraw, stay quiet and not share or click much.

There are better ways than doomism to post about climate change on social media to help motivate people to act. Before you share a link or post on your Instagram story, here are some things to remember.

1. Help people see themselves

I found in my research that one easy way to make a story go viral is the identity spin. When the subject of a story is similar to readers in identity—a parent, student, son or daughter—readers can "see themselves" and connect more with the story.

Think about who you want to reach with your post. A piece about a 20-year-old university student with no preconditions suffering badly from climate-related heat is likely to attract the attention of other students, rather than a more general piece about "a Londoner". A story giving advice on dealing with eco-anxiety that uses images of Generation Z women might be good to share with other women in that demographic.

2. Share small solutions

The world-renowned psychologist Albert Bandura explained that people gain confidence and develop skills through small steps. Once we achieve one small thing, we feel empowered to climb higher and aim bigger. This is called self-efficacy.

The concept can apply to climate action too. Looking at individual solutions can seem trivial, but it is a great way to tap into the power of self-efficacy. Consider sharing information that helps people complete achievable steps, such as shopping secondhand, recycling more, changing their diet and voting for politicians who are serious about addressing climate change.

3. Stay positive

Research shows that images and stories of achievements and solutions help generate feelings of self-efficacy in readers. People are more likely to change their behavior after seeing solar panels in media stories, rather than smoke coming from a factory pipe.

Whether you are a journalist, influencer, activist or just a regular social media user, sharing stories that discuss positive green developments rather than doomism is more likely to move people to action. Tackling a scary situation means taking at least part of it under control.

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Land. Sea and Ecology

Good and Bad News

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