

Scientists as climate activists

Sophie Renner Sustainable HEP workshop, 10/6/2024

Intro (or: why am I giving this talk?)

Not a climate expert!

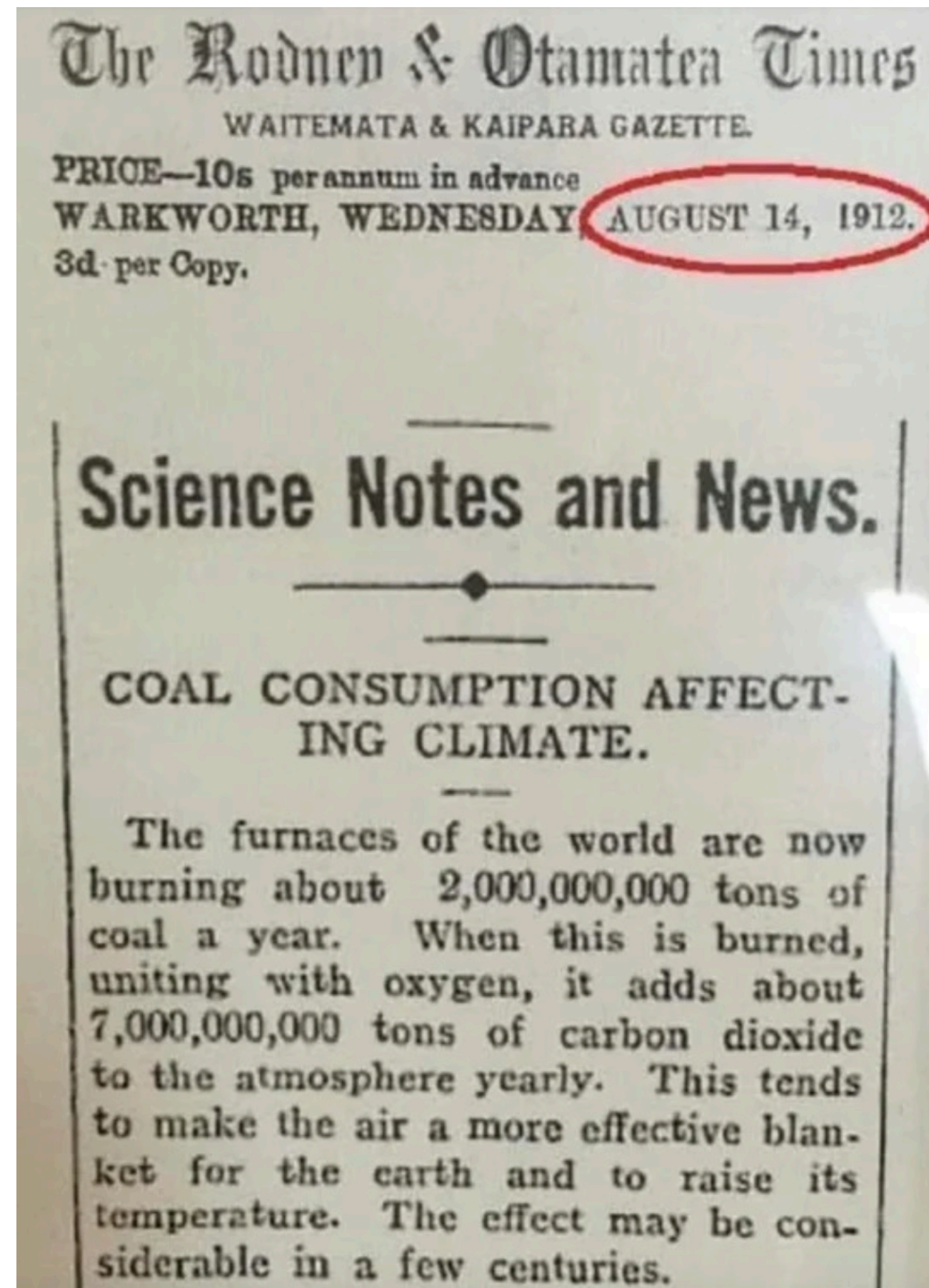
I have recently been taking action with Scientists for Extinction Rebellion

...& thinking about the role of a particle physicist in the climate movement



(links to sources provided on PDF slides, click text/images)

How it started:

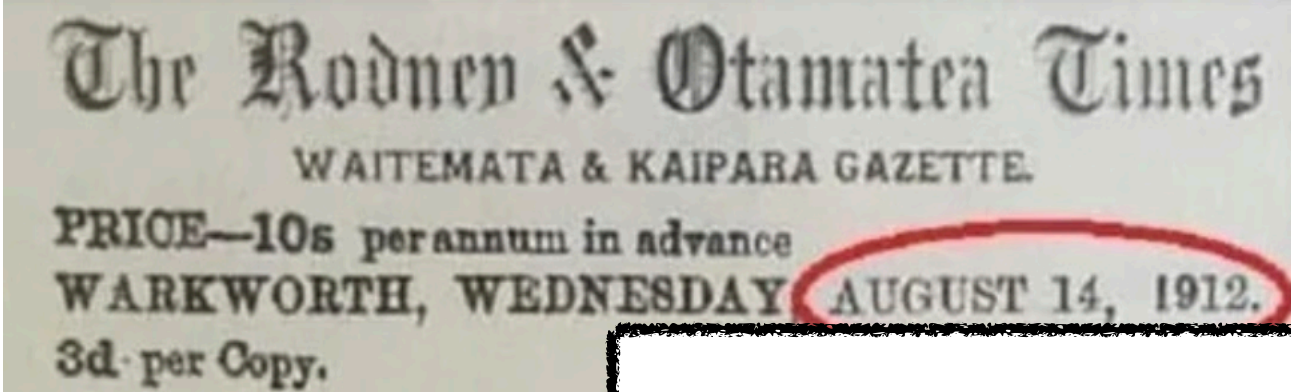


How it's going:



How it started:

How it's going:



Via:

Guardian, 12/1/2023

Revealed: Exxon made 'breathtakingly' accurate climate predictions in 1970s and 80s

Oil company drove some of the leading science of the era only to publicly dismiss global heating

The oil giant Exxon privately "predicted global warming correctly and skilfully" only to then spend decades publicly rubbishing such science in order to protect its core business, new research has found.

G. Supran *et al.*, Assessing ExxonMobil's global warming projections. *Science* 379 (2023). DOI:10.1126/science.abk0063

es Community About WMO

te records, with major impacts

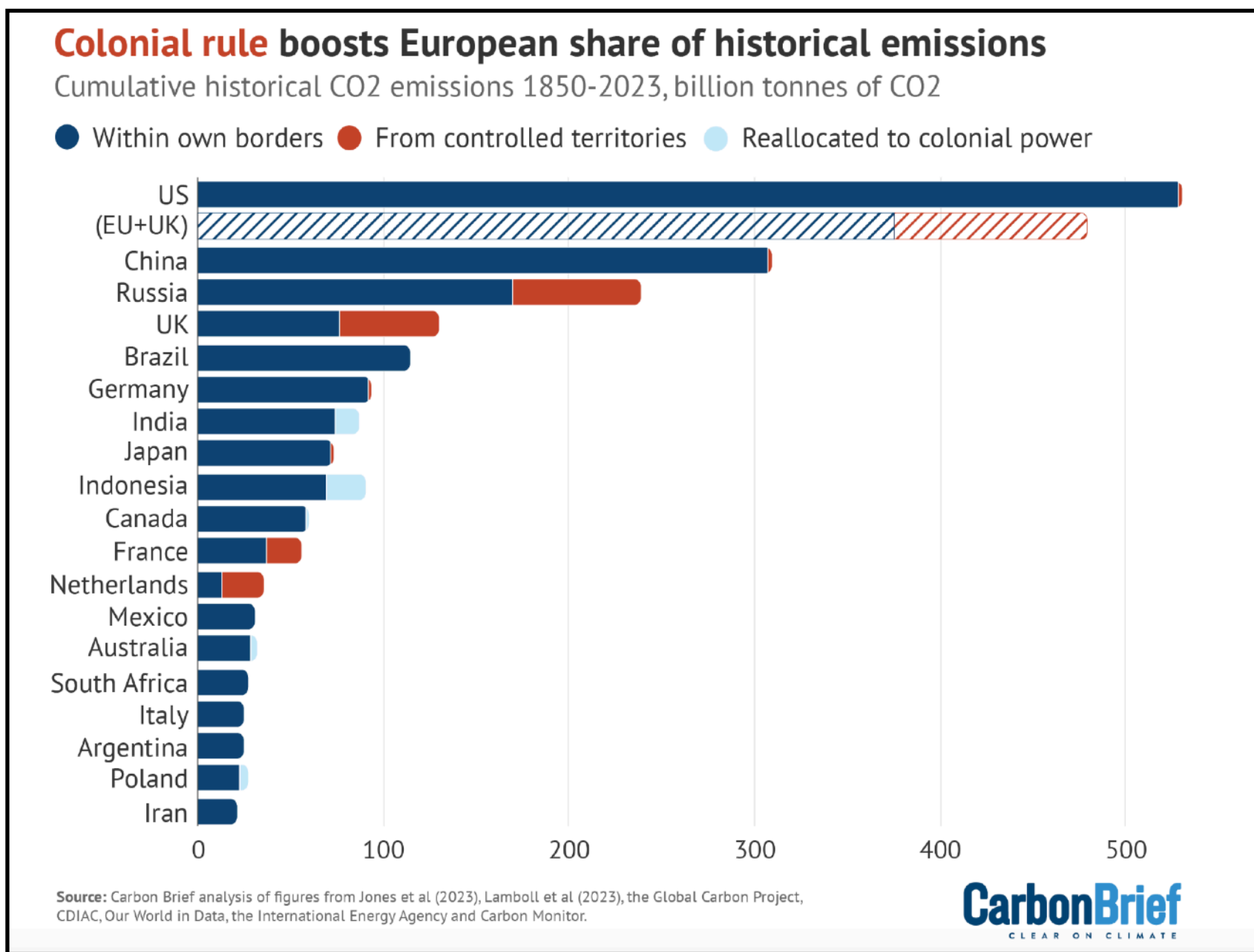
ate records,
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What are CERN member states' role in this?

This article is more than 2 years old

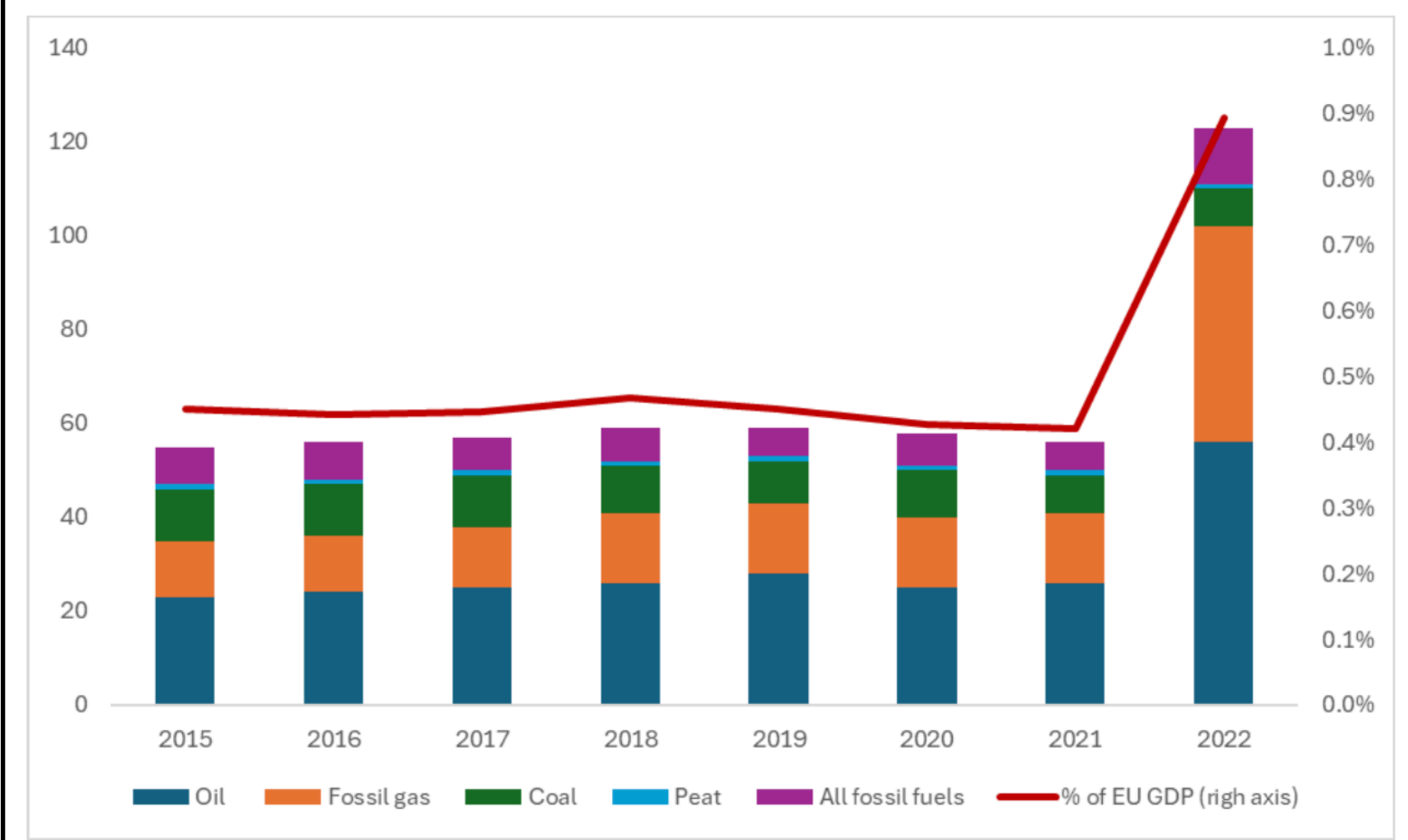
No new oil, gas or coal development if world is to reach net zero by 2050, says world energy body

Governments must close gap between net zero rhetoric and reality, says International Energy Agency head



EU continues to subsidise fossil fuels (especially Germany, Italy, France)

Figure 1: Evolution of explicit fossil fuel subsidies by category (Euros 2022, billion – left axis) and as % of EU GDP (right axis)



Source: CAN Europe based on European Commission and Eurostat

EU+UK is huge contributor to historical emissions



Energy Source Oil & Gas industry + Add to myFT

New oil and gas projects expected to grow despite IEA warning

New oil and gasfields are expected to grow fourfold by the end of the decade, according to a new tracker

What is academia's role in this?

Universities continue to accept fossil fuel funding, and invest in fossil fuels...

UK universities take £40m in fossil fuel funding since 2022

FoI requests show Shell and BP among firms giving funds to institutions which have pledged to divest

...despite increasing opposition from staff and students

Just Stop Oil spray-paint English universities orange

© 13 October



Universities must reject fossil fuel cash for climate research, say academics

Open letter from 500 academics likens fossil-energy funding of climate solutions to tobacco industry disinformation



PERSPECTIVE article

Front. Educ., 06 October 2023

Sec. Higher Education

Volume 8 - 2023 | <https://doi.org/10.3389/feduc.2023.1237076>

This article is part of the Research Topic
Activating Academia for an Era of Colliding Crises

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"No research on a dead planet": preserving the socio-ecological conditions for academia

Aaron Thierry^{1*} Laura Horn² Pauline von Hellermann³ Charlie J. Gardner⁴

¹ School of Social Sciences, Cardiff University, Cardiff, United Kingdom

² Department of Social Science and Business, Roskilde University, Roskilde, Denmark

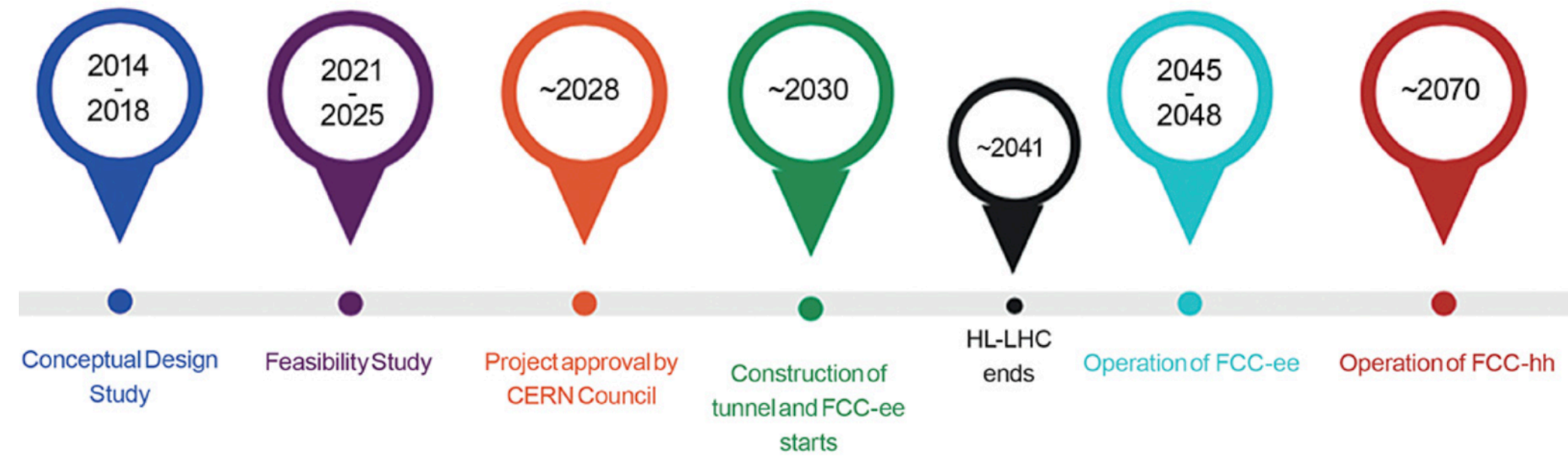
³ Department of Anthropology, Goldsmiths, University of London, London, United Kingdom

⁴ Durrell Institute of Conservation and Ecology, University of Kent, Canterbury, United Kingdom

Here, we suggest that both academic institutions and academics as individuals largely exist in a state of 'double reality,' in which we are able to intellectually recognize the existence of the crisis without feeling a compulsion to act on it. We argue that such a response is maladaptive because passivity in the face of the planetary emergency hastens the breakdown of the social-ecological conditions that have allowed academia to thrive. In short, unless we additionally engage in efforts to avoid climate breakdown, we are training students for a future that will not come to pass and devoting our lives to research of limited future relevance or utility under what are projected to be drastically altered circumstances. Currently, we are striving to achieve professional success, but not our collective survival.

What about particle physics?

FCC timeline



CERN Courier:

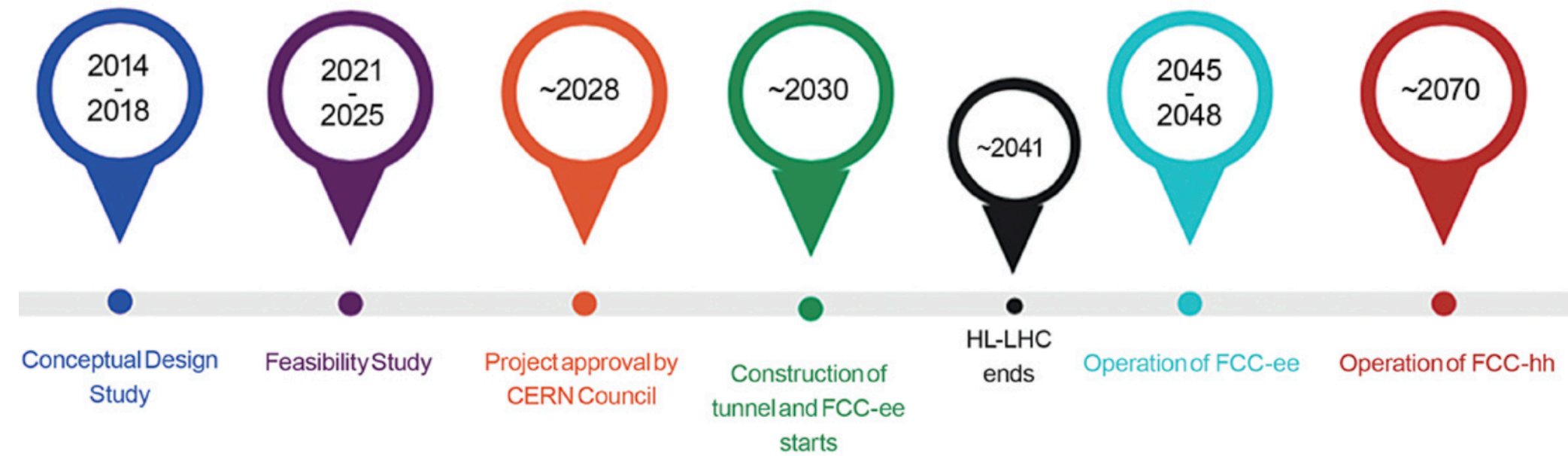
ACCELERATORS | MEETING REPORT

Towards a century of trailblazing physics

1 September 2023

What about particle physics?

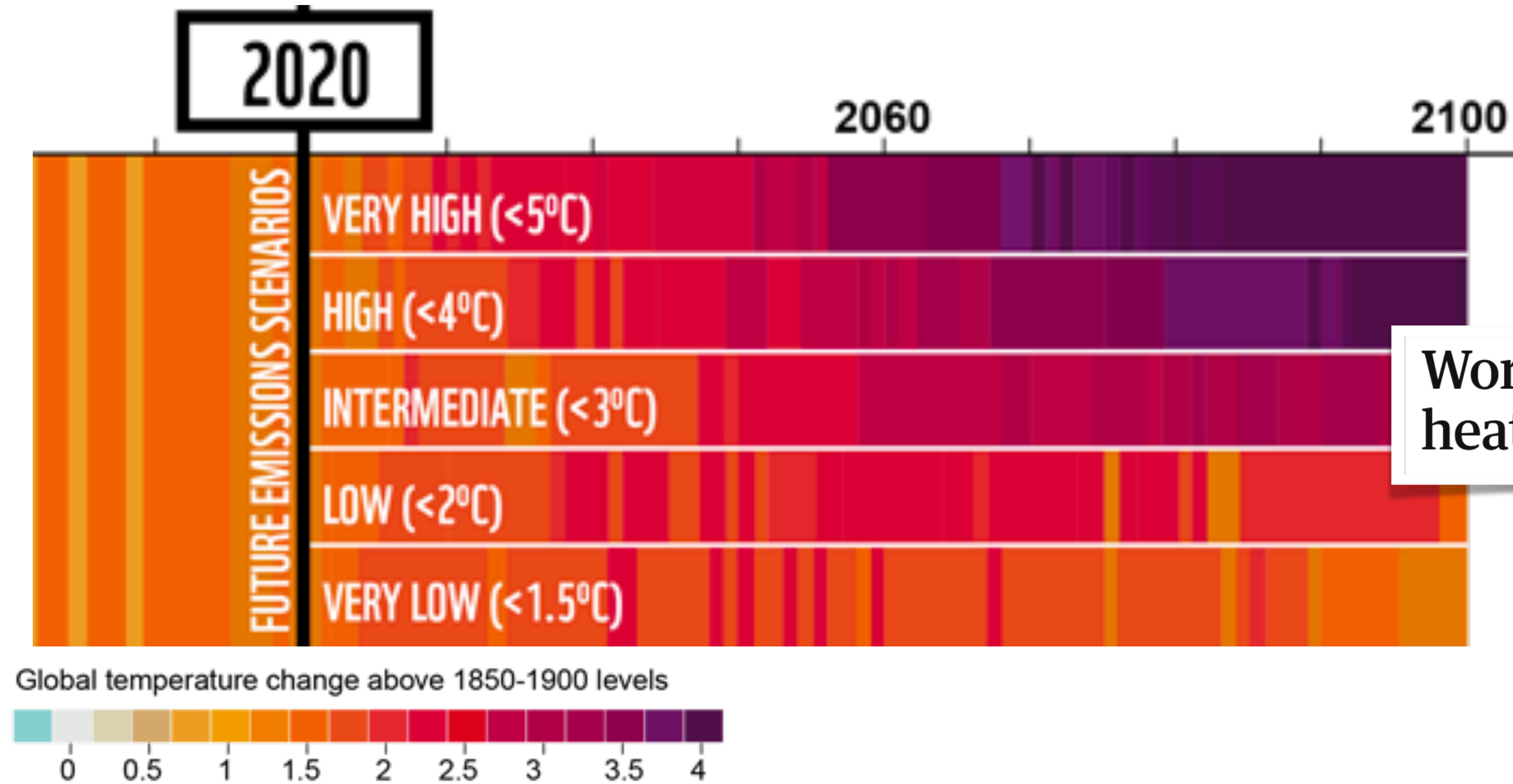
FCC timeline



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IPCC timeline

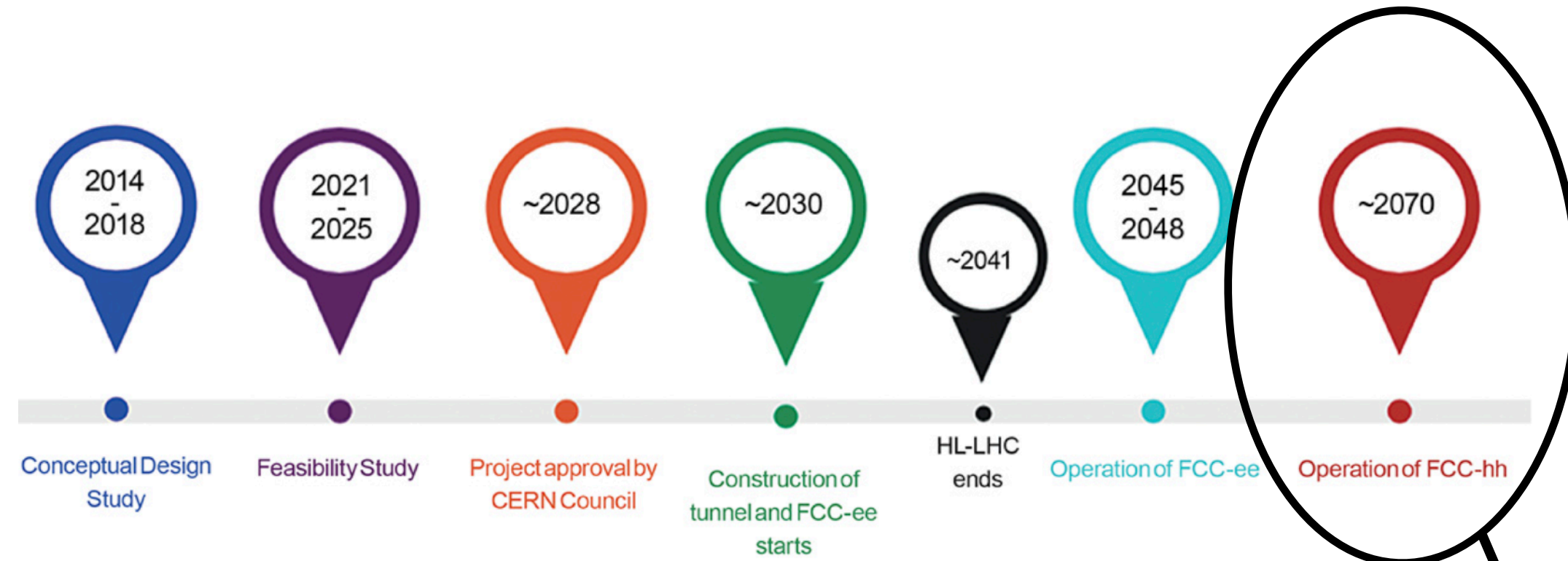


Guardian:

World facing 'hellish' 3C of climate heating, UN warns before Cop28

What about particle physics?

FCC
timeline



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IPCC
timeline



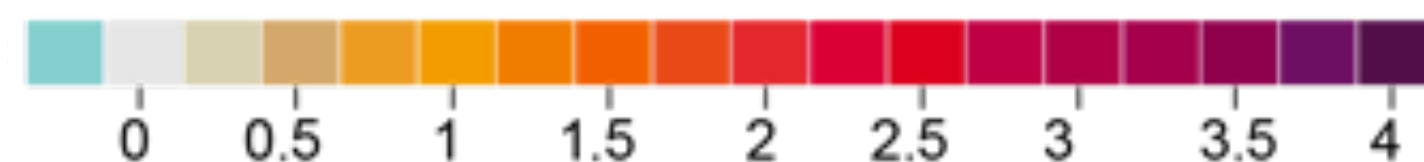
Latest News

By 2070, More Than 3 Billion People May Live Outside the "Human Climate Niche"

If we don't act now to curb climate change, we may be faced with the migration of a third of the world's future population.

May 14, 2020

Global temperature change above 1850-1900 levels



<https://www.pnas.org/doi/10.1073/pnas.1910114117>

OPINION

MAY 8, 2024 | 6 MIN READ

Has the Last Great Space Observatory Already Launched?

Astronomy's future may be slipping away—one climate disaster at a time

BY SEVEN RASMUSSEN



“Astronomy is a joy; a miraculous expression of a universe seeking to know itself. I want to see new astronauts on the moon. I want to learn if Mars once had life. I want to know if we’re not alone in the galaxy. All this—and much more—is possible, but the prospects diminish as our global ecosystem degrades. **For every step we take to defend that joy, we must take another to defend our climate.** Each of us should pause to think about what that looks like for ourselves and our communities. But not for too long—we can only leave a better future for those to come by acting now.”

<https://www.scientificamerican.com/article/has-the-last-great-space-observatory-already-launched/>

Scientists as activists

Astronomer Carl Sagan arrested at nuclear test



Astronomer Carl Sagan, center, smiles from bus after his arrest
Sagan and 138 other demonstrators were arrested after protesting a nuclear test in Nevada

139 activists arrested at nuclear test

By TIM DAHLBERG
Associated Press Writer

LAS VEGAS, Nev. — About 500 physicians and peace activists gathered at the Nevada Test Site to urge the government to halt nuclear weapons testing as scientists detonated an underground nuclear test.

Authorities arrested 139 of the demonstrators Tuesday, including noted astronomer Carl Sagan, who crossed a symbolic white line marking the boundary to the test site.

It was the 17th announced underground nuclear test since the Soviet Union declared a unilateral moratorium on testing Aug. 9, 1965.

"We must push for the termination of this madness," Dr. Bernard Lown, co-president of the International Physicians for Prevention of Nuclear War, said.

The blast had a yield of up to 150,000 tons of TNT, the maximum

allowable under the Limited Test Ban Treaty. It was detonated at 6:30 p.m. EDT after being delayed for 7½ hours by strong winds.

The arrests came an hour after the powerful explosion rocked the desert floor from 2,000 feet beneath the desert. There was no noticeable ground motion at the protest site, and Department of Energy officials said the demonstrators were in no danger.

"It was thoughtful of the DOE to explode a nuclear weapon during our demonstration," Sagan said. "We appreciate their attempt at sensitivity."

Sagan was one of several speakers who told the crowd their efforts were a start at trying to get the United States to halt nuclear testing.

The demonstrators listened in silence to a DOE countdown of the test over loudspeakers at an area

dubbed Camp Desert Rock, where tens of thousands of military personnel took part in atmospheric nuclear tests three decades ago.

"Unlike a real nuclear war, this one passed us by," Sagan said. Sagan, his wife, Ann Druyan, and Dr. Jack Geiger, head of the Physicians for Social Responsibility, an anti-nuclear group, linked arms after the test to become the first to cross the white line and be arrested.

They were handcuffed and put on a bus to be taken to nearby Beatty for arraignment. Most others signed citations promising to appear in court Oct. 23 or 29.

DOE spokesman Chris West, who was in a control blockhouse on the test site, said the test appeared to be successful.

Monitors indicated no radiation had escaped the ground, West said.

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AUGUST 31, 2011 9:06AM ET

NASA Scientist Hansen Arrested at Tar Sands Protest – A Grim Sign of the Times

By JEFF GOODELL



Nasa Scientist James Hansen being arrested at the White House.

Ben Powless/http://www.flickr.com/photos/tarsandsaction/6093529117/

Comment | Published: 29 August 2022

Civil disobedience by scientists helps press for urgent climate action

Stuart Capstick, Aaron Thierry, Emily Cox, Oscar Berglund, Steve Westlake & Julia K. Steinberger

Nature Climate Change 12, 773–774 (2022) | Cite this article

12k Accesses | 27 Citations | 1589 Altmetric | Metrics

Time is short to secure a liveable and sustainable future; yet, inaction from governments, industry and civil society is setting the course for 3.2 °C of warming, with all the cascading and catastrophic consequences that this implies. In this context, when does civil disobedience by scientists become justified?

The work of Scientists for Extinction Rebellion

From the website:

We are scientists who agree with Extinction Rebellion that it is time to take direct action to confront catastrophic climate and ecological breakdown.

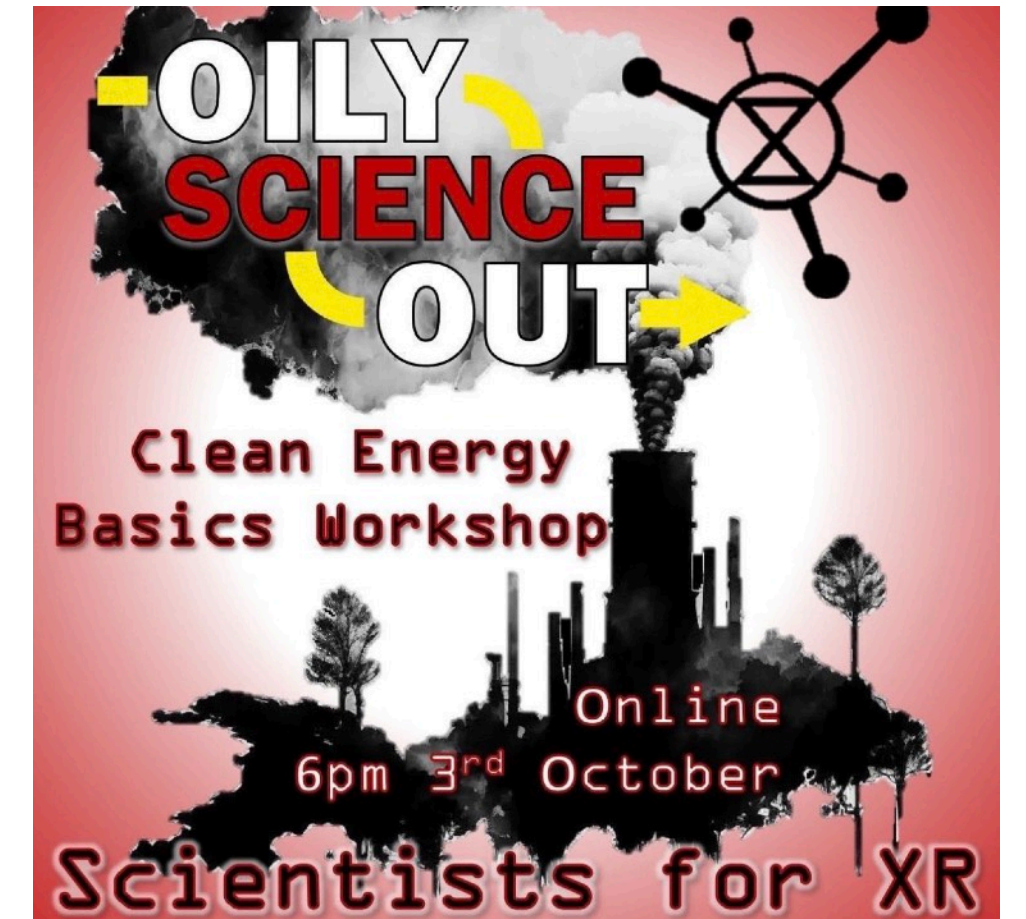
“IPCC Working Group 1 Report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable: greenhouse gas emissions from fossil fuel burning and deforestation are choking our planet and putting billions of people at immediate risk. Global heating is affecting every region on Earth, with many of the changes becoming irreversible.”

UN Secretary-General António Guterres (2021)

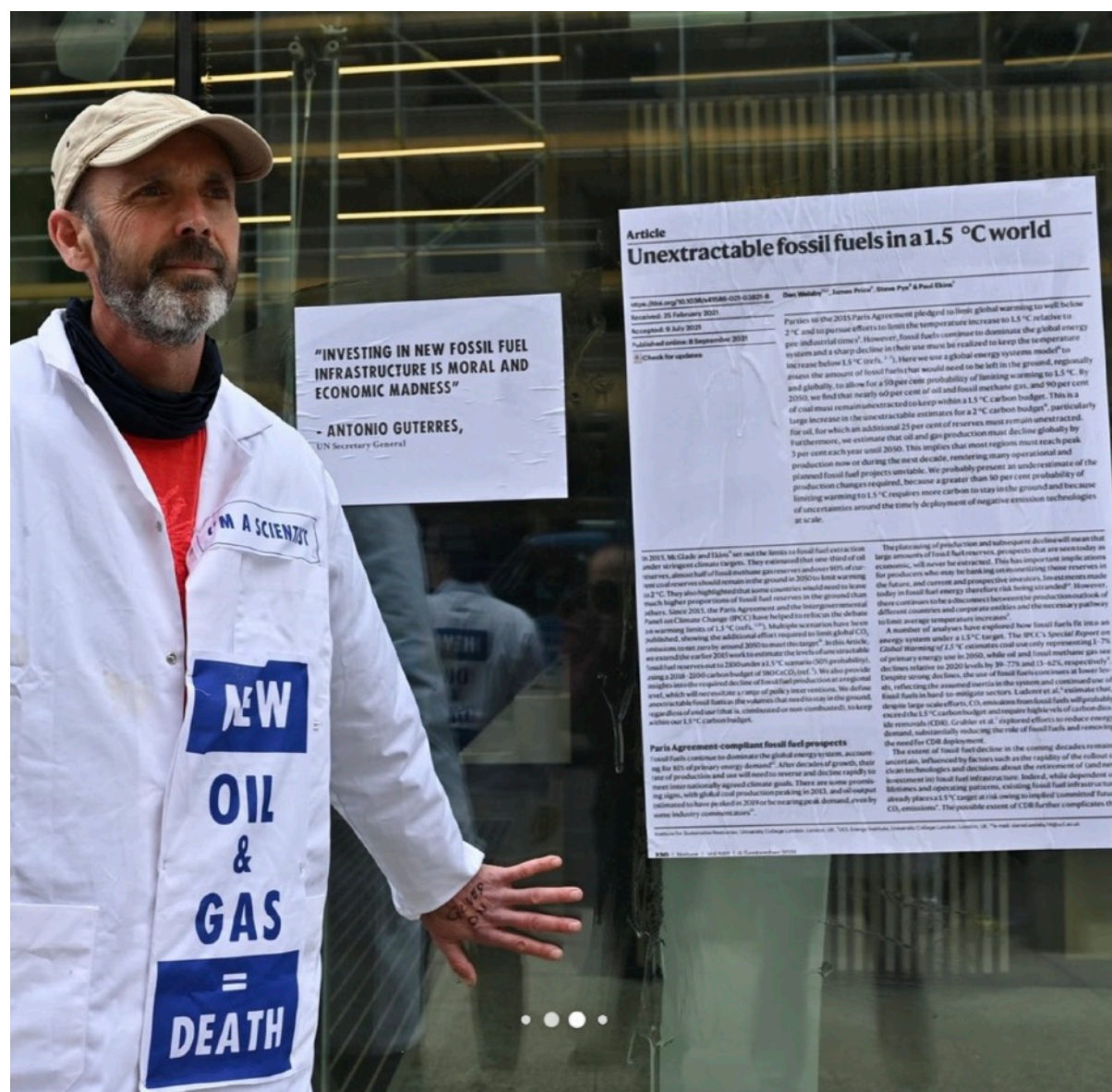
Speaking to politicians



Training, outreach, articles, podcasts etc



Non-violent direct action



Targeted protests




Scientist Rebellion

Scientists for Extinction Rebellion: UK-based

Scientist Rebellion: worldwide (not UK), groups in >30 countries

scientist rebellion_



Acts of Civil Disobedience

Collaborate with and support other activist groups

Organize legal support

Teach-ins

Action Support

Build Regenerative Culture

Expert Testimony

Action Planning

Amplify marginalized voices

Write Opinion pieces and perspectives

Lobby for change at Universities

Solidarity Actions

Social Media

Discuss climate change and personal responsibility with coworkers



Summary

We are on track for a world in which fundamental science may no longer be possible, or only available to the privileged few

Scientists (and everybody) should do what we can to ensure a safe(r) future

Links to find out more & join in:



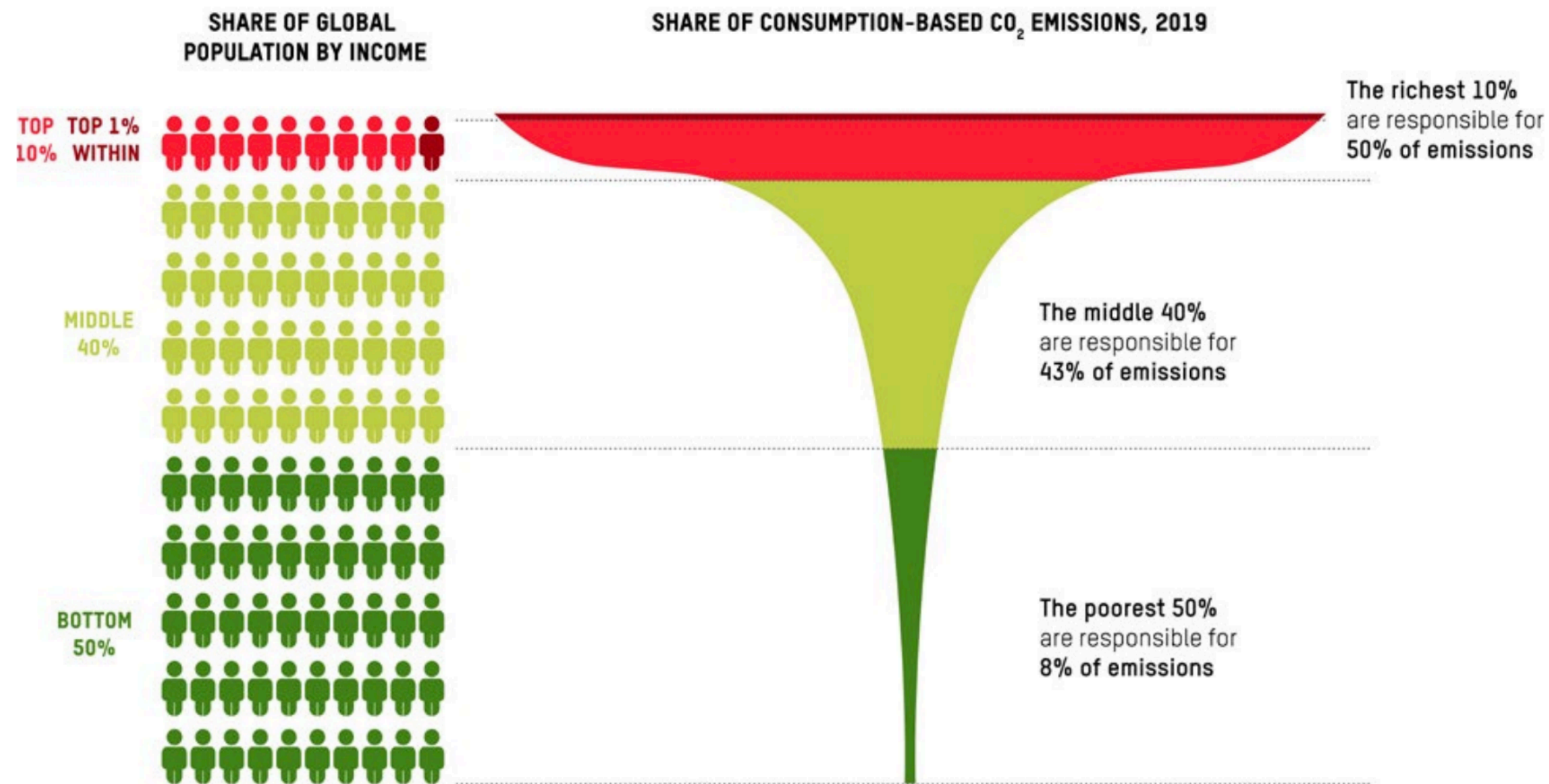
scientistsforxr.earth



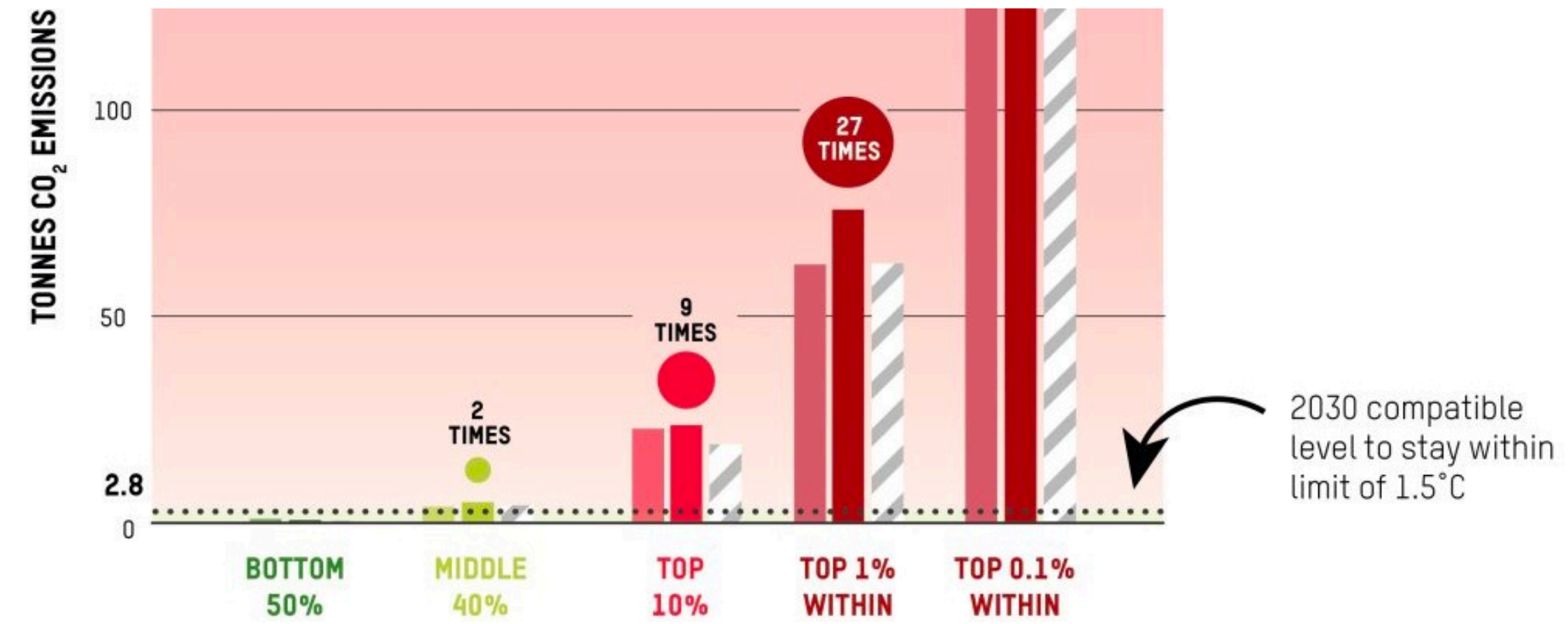
scientistrebellion.org

Backup

An unequal crisis



“Richest 10%”: income \gtrsim €39k P.A.




“Colonisation of the atmosphere”

...a situation in which a tiny minority continue to indulge in “luxury emissions” dealing the world’s poorest a double whammy of climate impacts and diminished atmospheric space for “survival emissions” – those associated with meeting their most immediate and basic human needs.

Sultana, F (2022) **The Unbearable Heaviness of Climate Coloniality**, *Political*: 102638,

Malm, A., Warlenius, R. (2019) **The grand theft of the atmosphere: Sketches for a theory of climate injustice in the anthropocene**
 K.K. Bhavnani (Ed.), *Climate futures : Re-imagining global climate justice*, Zed Books (2019), pp. 32-39

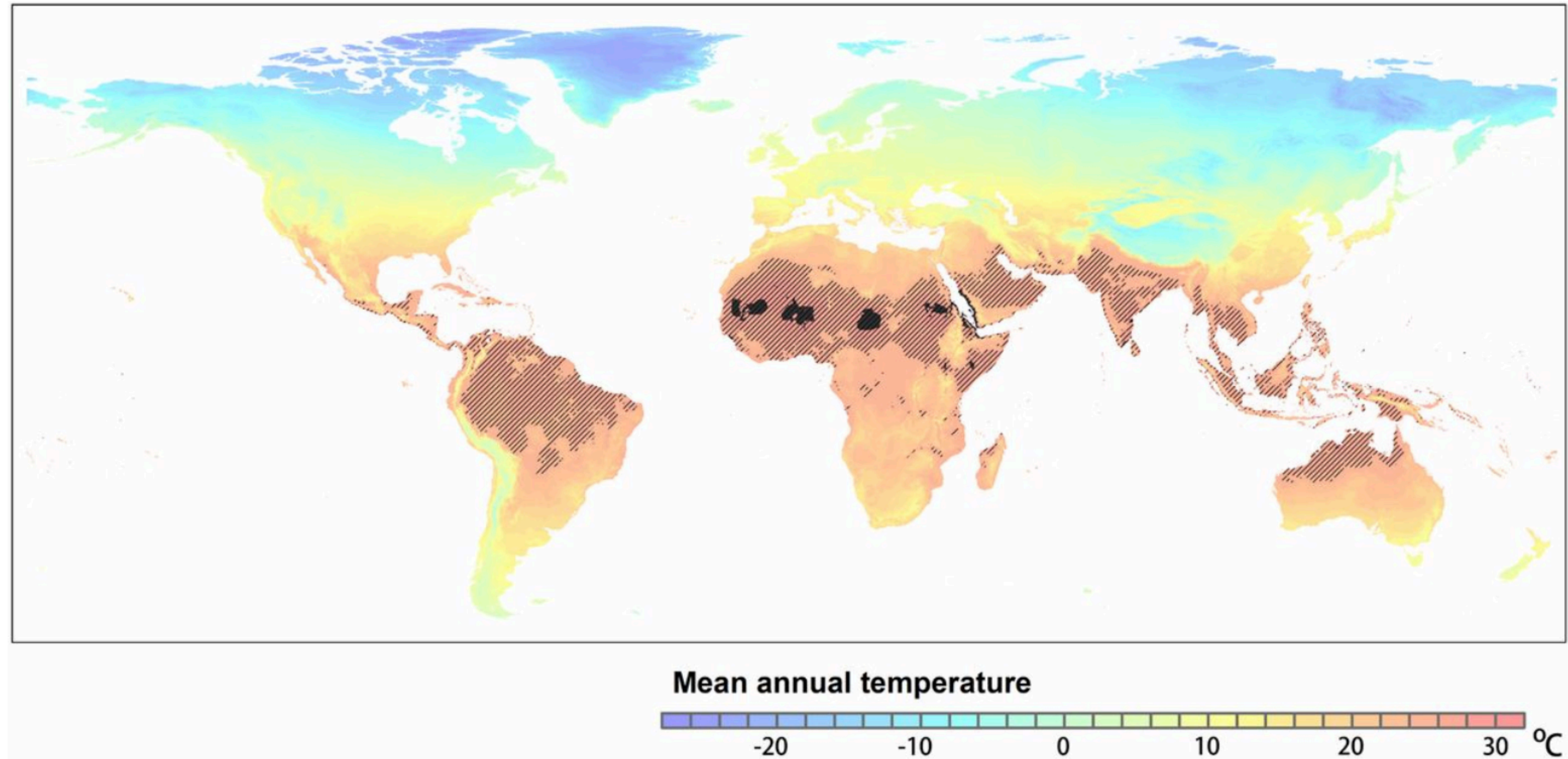


“The University of Edinburgh observes that business travel emissions ‘may be responsible for **as much as 25%** University’s [total] carbon emissions [by 2025]’ (UoE, 2016b). Edinburgh is by no means exceptional in their business travel, however **few other universities have comparable monitoring and reporting strategies.**”

Claire Hoolohan, Carly McLachlan, Christopher Jones, Alice Larkin, Christina Birch, Sarah Mander & John Broderick (2021) Responding to the climate emergency: how are UK universities establishing sustainable workplace routines for flying and food?, *Climate Policy*, 21:7, 853-867,

Slide from @AnnaPigott on Twitter

Fig. 3.



Expansion of extremely hot regions in a business-as-usual climate scenario. In the current climate, MATs >29 °C are restricted to the small dark areas in the Sahara region. In 2070, such conditions are projected to occur throughout the shaded area following the RCP8.5 scenario. Absent migration, that area would be home to 3.5 billion people in 2070 following the SSP3 scenario of demographic development. Background colors represent the current MATs.