



# WELCOME

## CLIMATE EMERGENCY CONFERENCE 2024

*Councils and communities  
reclaiming the climate emergency*



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Emergency  
Australia



Maribyrnong  
CITY COUNCIL

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# WELCOME

# Please move towards the front.

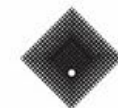


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# YOUR M.C.:

**Cr Trent McCarthy**  
**Darebin City Council**  
**CEA Executive Committee**

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# ACKNOWLEDGEMENT OF COUNTRY

**Everywhere on this continent, we are all on unceded Aboriginal land. We acknowledge that we are meeting today on the land of the Wurundjeri Woi Wurrung.**

**We thank and acknowledge the elders of all First Nations for looking after Country since the Dreamtime.**

**We will do all we can to look after it too, and to restore a safe climate for current and future generations of all species.**



# Partners

This conference has been organized by Climate Emergency Australia in partnership with Maribyrnong City Council and with the support of Victoria University.



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# Theme

***Councils and communities reclaiming the climate emergency***



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# Our purpose

Reinvigorate climate action by councils and communities to reverse global warming and restore a safe climate.

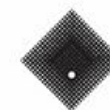


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WELCOME TO COUNTRY

**Uncle Colin Hunter Jr Jr,  
Wurundjeri Elder**



MAYORAL WELCOME

**Cr Cuc Lam, PSM**  
**Mayor of Maribyrnong**

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WELCOME

**Fatih Tuncer**

Manager VU in the  
Community

**Victoria University**

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# Opening plenary

## Why now?

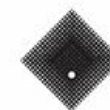


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David Spratt  
Safe Climate Australia

# Rescuing the climate



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# Rescuing the climate

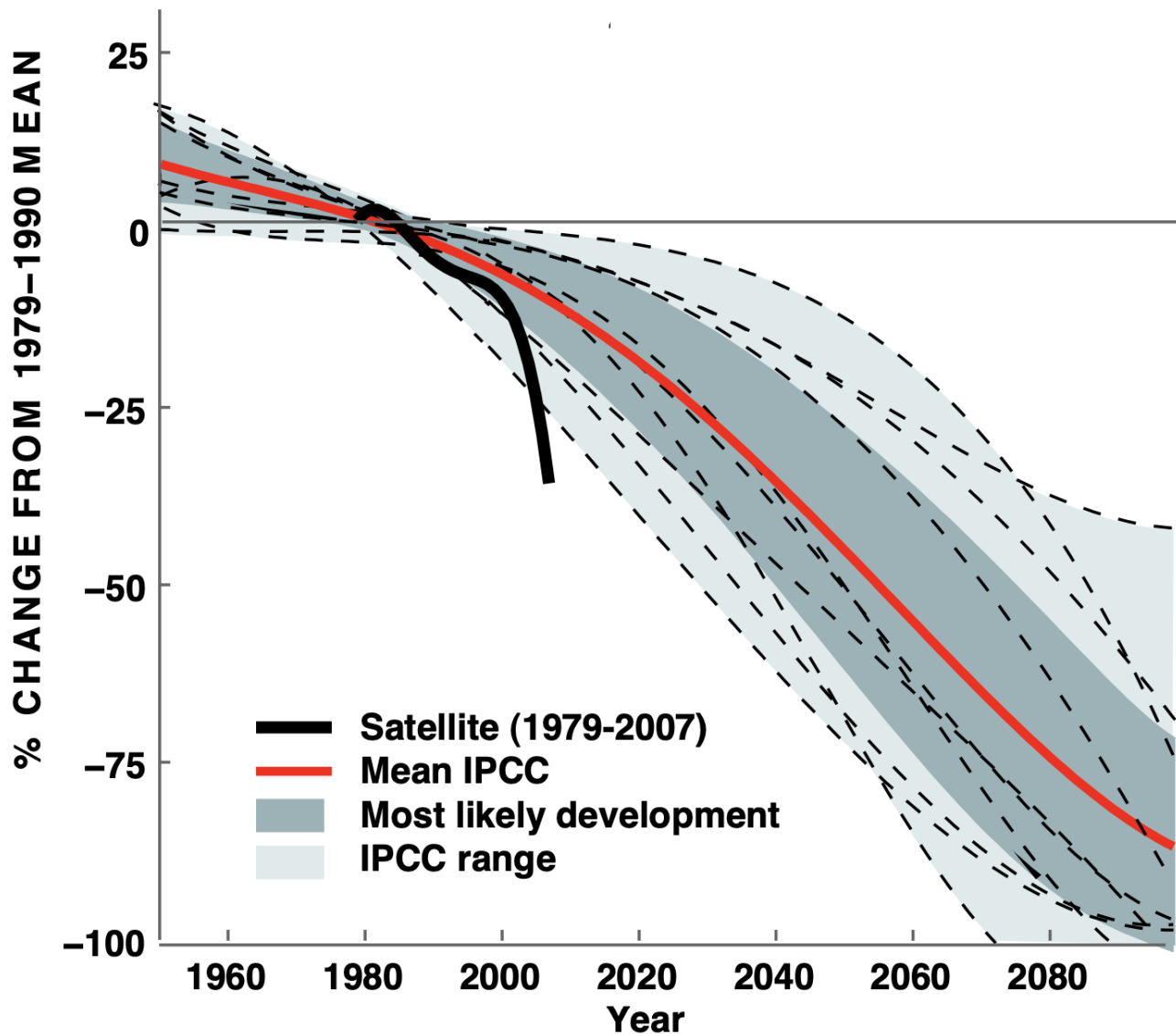
**Presentation to:** Councils and Communities Climate Emergency Conference  
19 April 2024

**David Spratt**  
Research Director  
Safe Climate Australia

—  
**Safe  
Climate  
Australia**  
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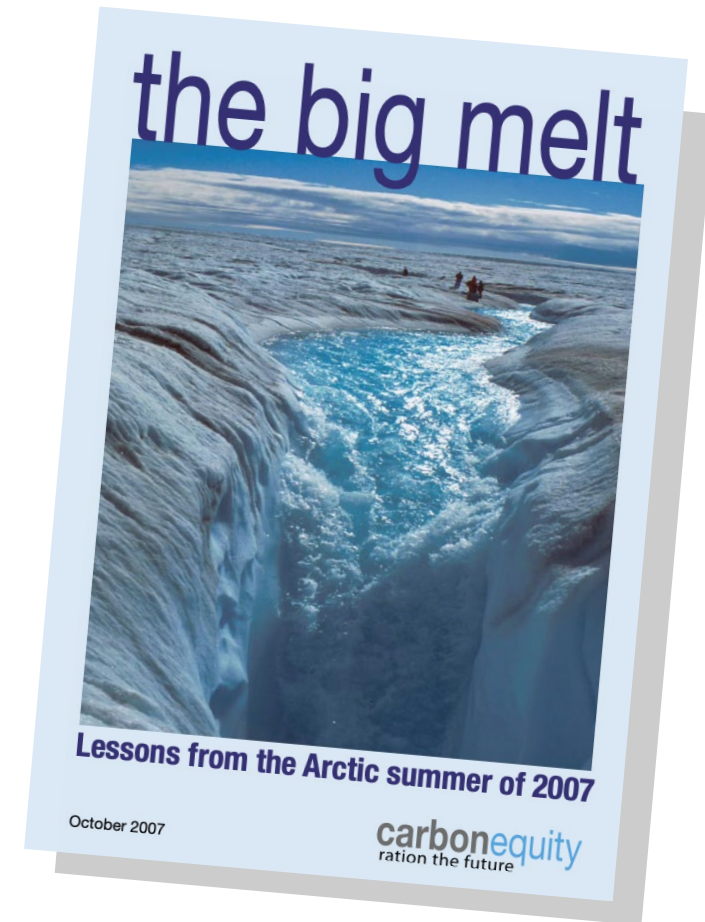


# The Arctic shock of Sept. 2007



# Oct. 2007: The Arctic “big melt” conclusions

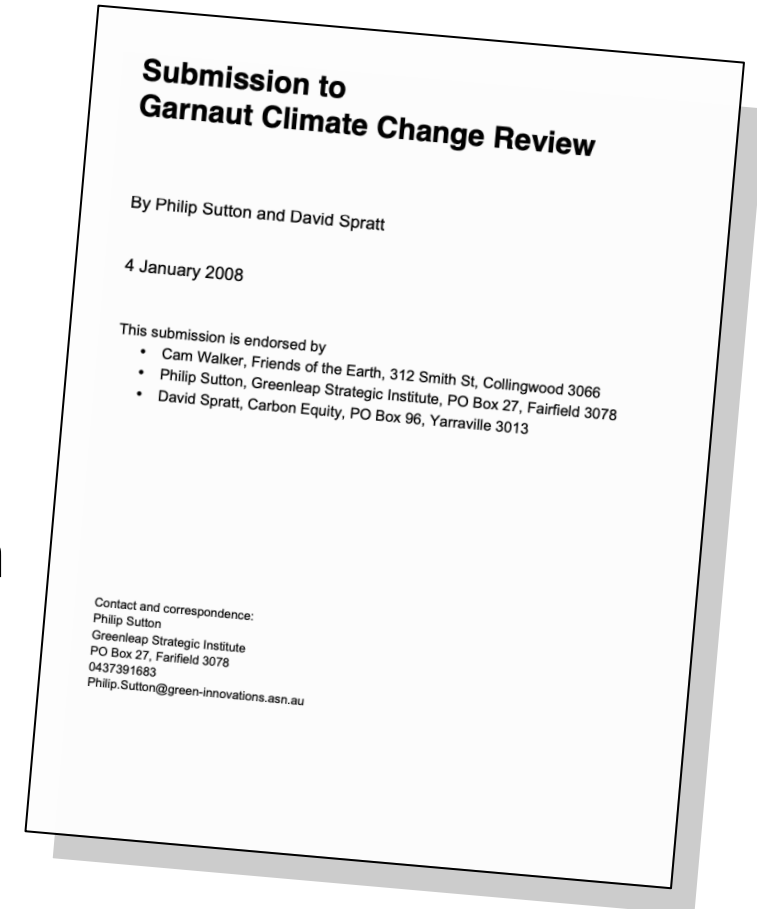
- “Climate change impacts are happening at lower temperature increases and more quickly than projected.”
- “The 2°C warming cap is a political compromise.”
- “The re-establishment and long-term security of the Arctic summer sea ice [means] bringing global warming back to or below 0.5°C [and] a long-term precautionary cap of 320 ppm CO<sub>2</sub>e.”
- “The IPCC suffers from a scientific reticence and in is a dangerously misleading basis for policy-making.”





# January 2008: The climate emergency

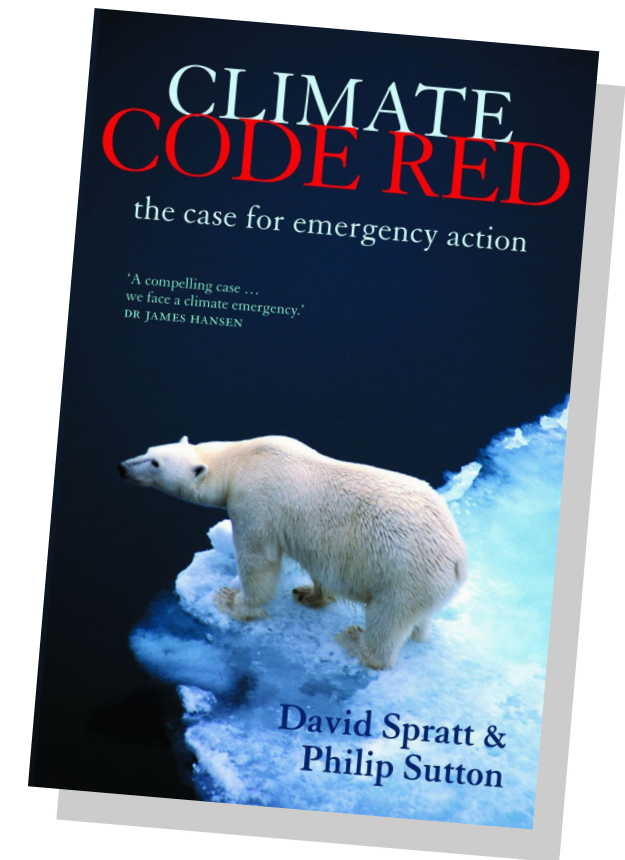
- “There is an urgent need to reconstruct the issue we face as a **climate emergency**, that takes us beyond the politics of failure-inducing compromise. The feasibility of rapid transitions, such as the transformation of the US economy from the largest commodity-producing economy to the largest war economy in 12 months in 1941-42, and of the Asian ‘tiger’ economies, is well established.”



# Climate Code Red: The case for emergency action (2008)

- Tipping points arriving faster than forecast and the problem of scientific reticence.
- The target of a “safe climate”.
- Recognizing the climate emergency.

**James Hansen**, director NASA Goddard Institute for Space Studies: “Recent greenhouse gas emissions place the Earth perilously close to dramatic climate change that could run out of our control, with great dangers for humans and other creatures... We must move rapidly to the post-fossil fuel clean energy system [and] remove some carbon that has collected in the atmosphere. This is the story that *Climate Code Red* tells with conviction. It is a compelling case for recognising, as the UN secretary-general has said, that we face a climate emergency.”



# 2023: Scientists are in shock

"It's so far outside anything we've seen, **it's almost mind-blowing.**"

— **Walter Meier**, National Snow and Ice Data Center

"We are **hitting record breaking extremes much sooner than I expected.** That's frightening, scary, and concerning, and it really suggests that we're not as aware of what's coming as we thought we were."

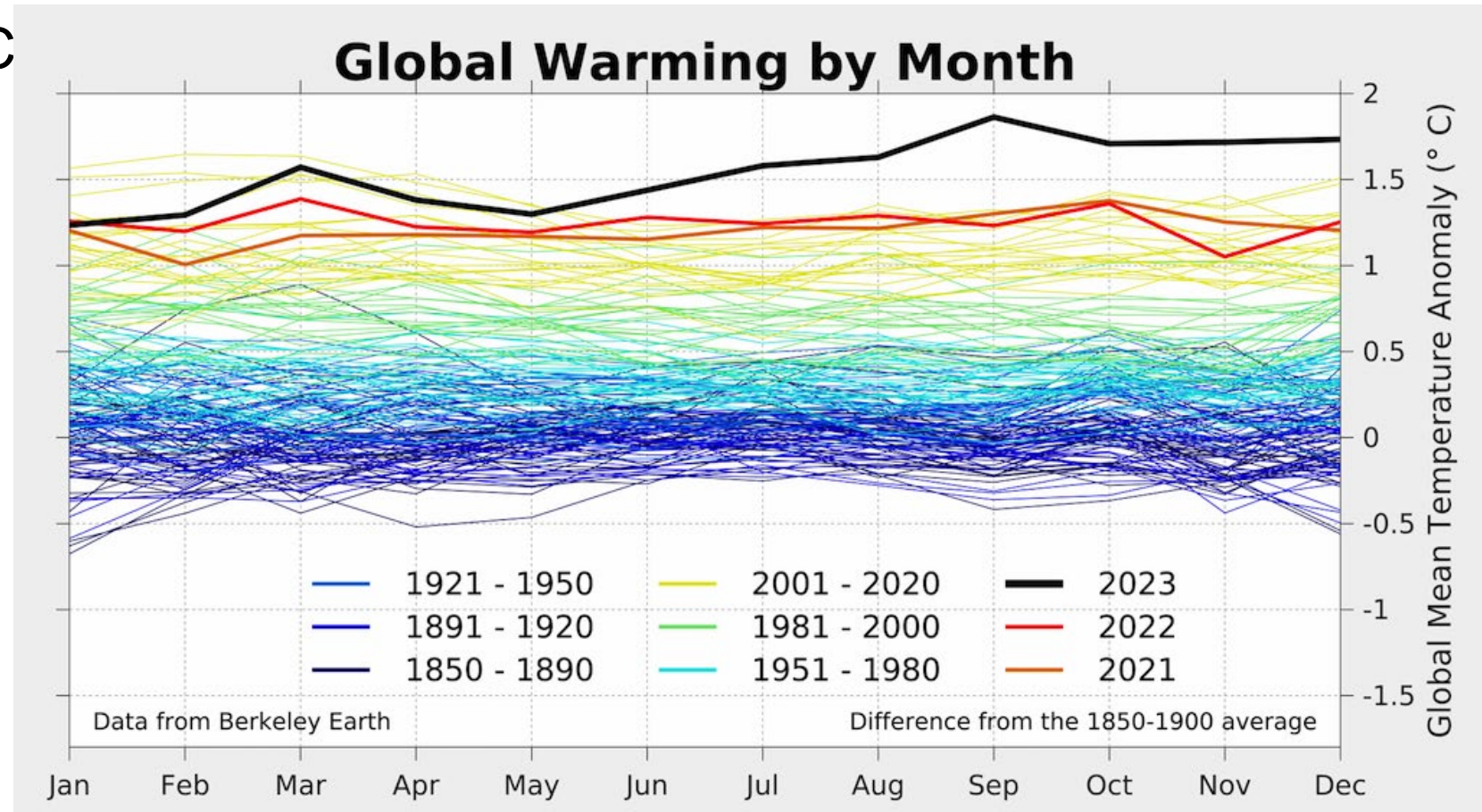
— **Sarah Perkins-Kirkpatrick**, UNSW

"Surprising. **Astounding. Staggering. Unnerving. Bewildering.** Flabbergasting. Disquieting. Gobsmaacking. Shocking. Mind boggling."

— **Ed Hawkins**, University of Reading

# 2023 : Climate change is already dangerous

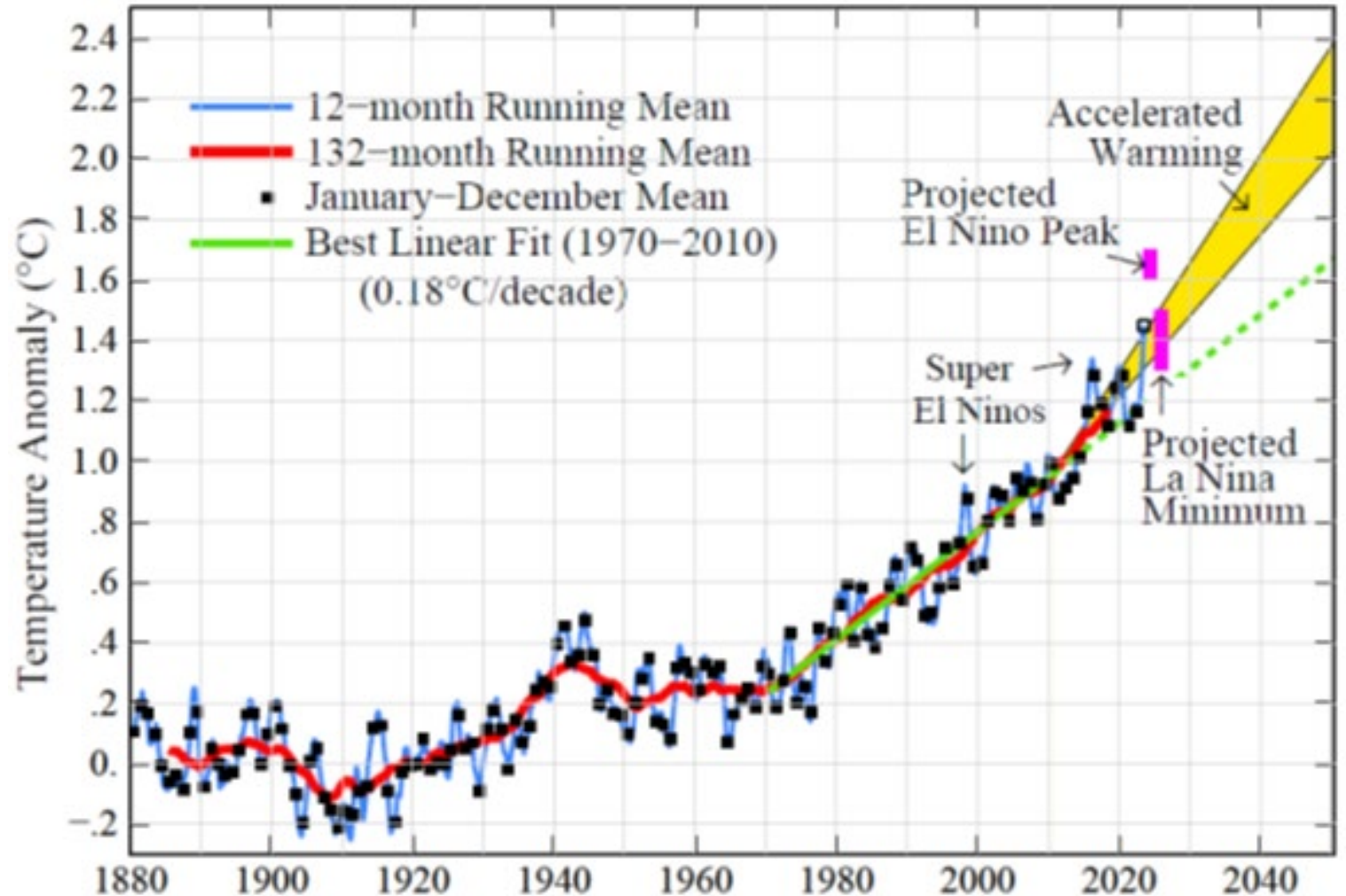
- 2023: First year of 1.5°C warming.
- Last 180 days 1.7°C
- Sept. breaks record by 0.5°C.
- Sea Surface Temperatures and Antarctic sea-ice loss beyond model projections.



# 2024 may be as hot as 2023

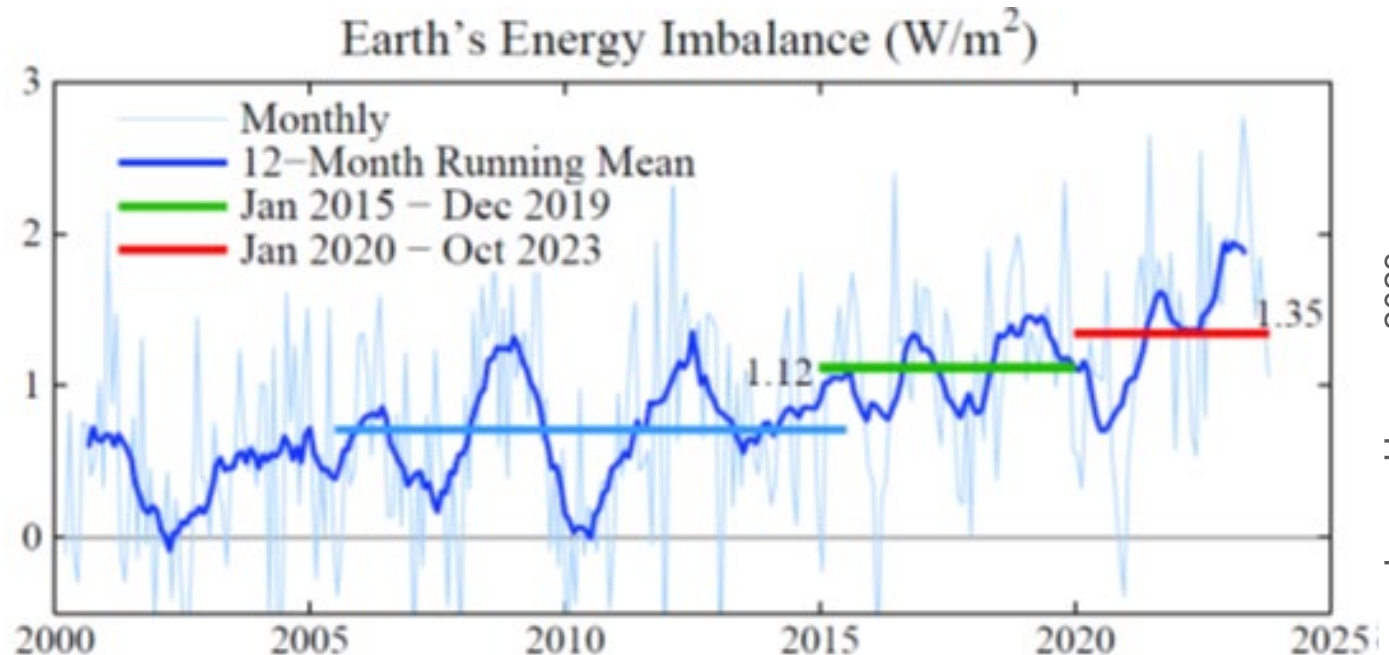
James Hansen, former NASA climate chief:

- We are close to 1.5°C warming trend.
- Warming is accelerating...
- ... and may reach 1.7°C by 2030 and 2°C by the late 2030s.



# Acceleration

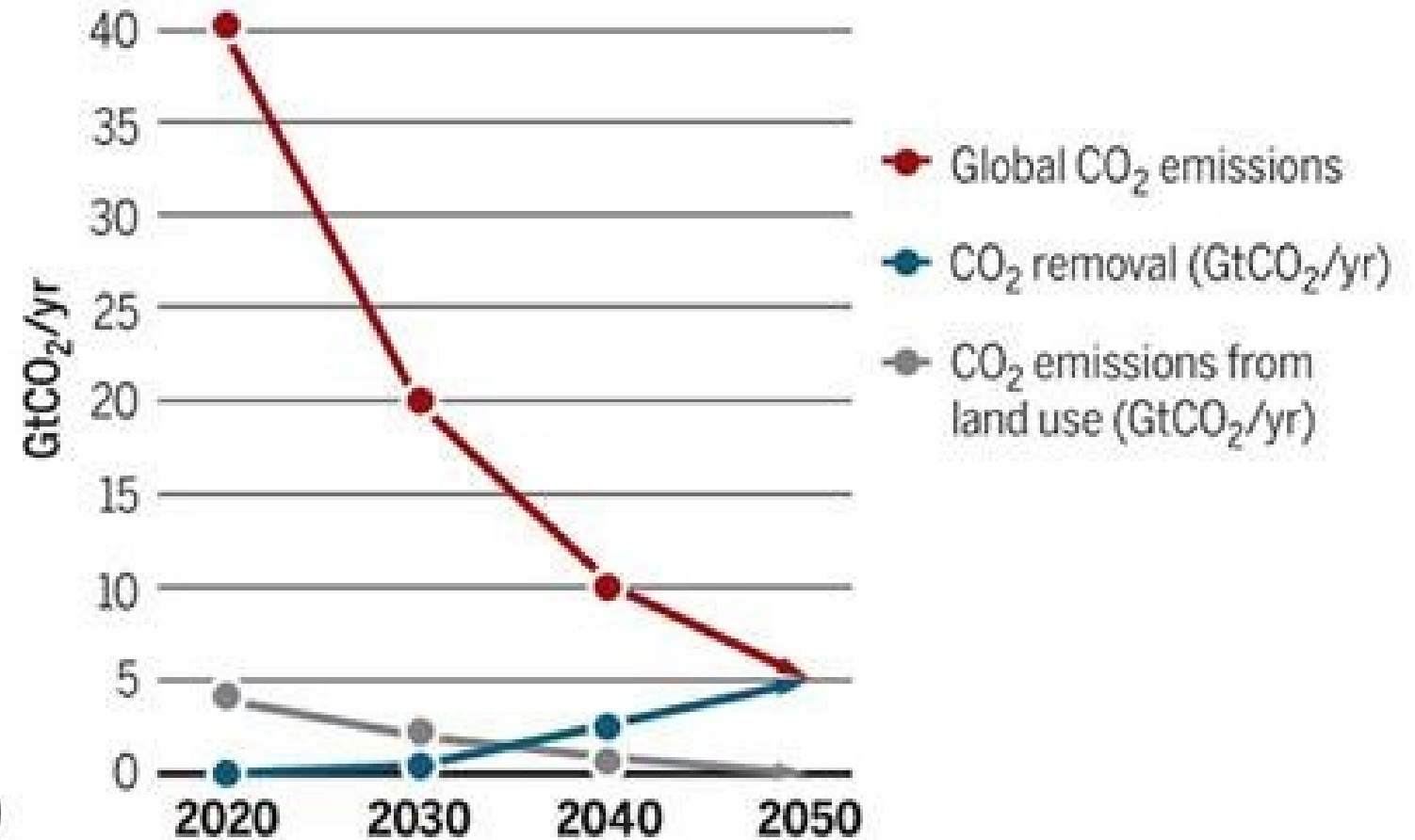
- Celeste Saulo, World Meteorological Organization Secretary-General: The rate of human-caused climate change is accelerating, but “we are not there in terms of our scientific understanding of the implications of this acceleration. We don't fully understand how it is going to evolve.”
- A spike in Earth's Energy Imbalance which measures the excess of incoming over outgoing energy.



# Sailing past 2°C

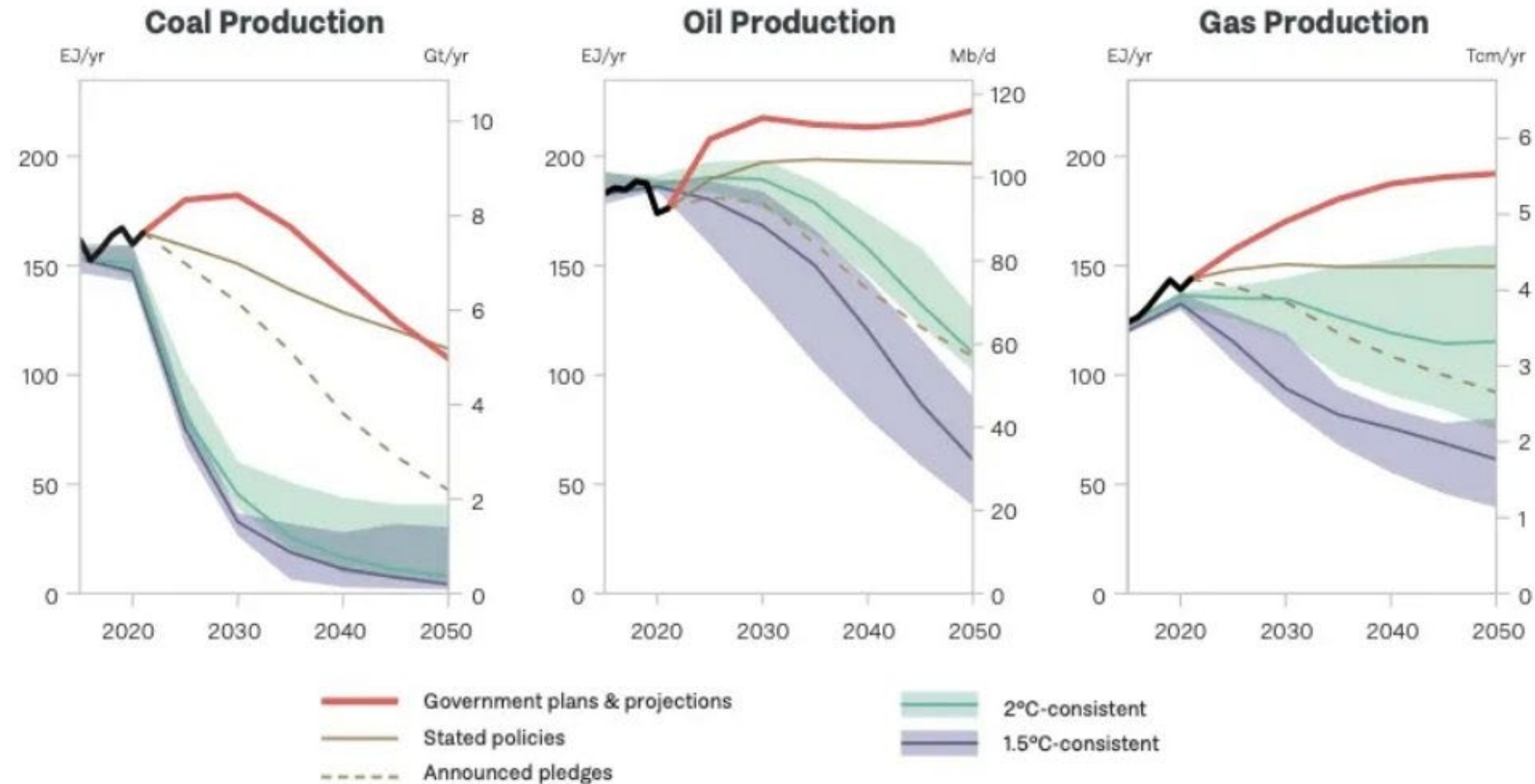
- The global temperature will fly past 2°C because...
- ... holding warming to 2°C necessitated halving emissions between 2020 and 2030, but...

Global carbon law guiding decadal pathways



# Expanding fossil fuel production

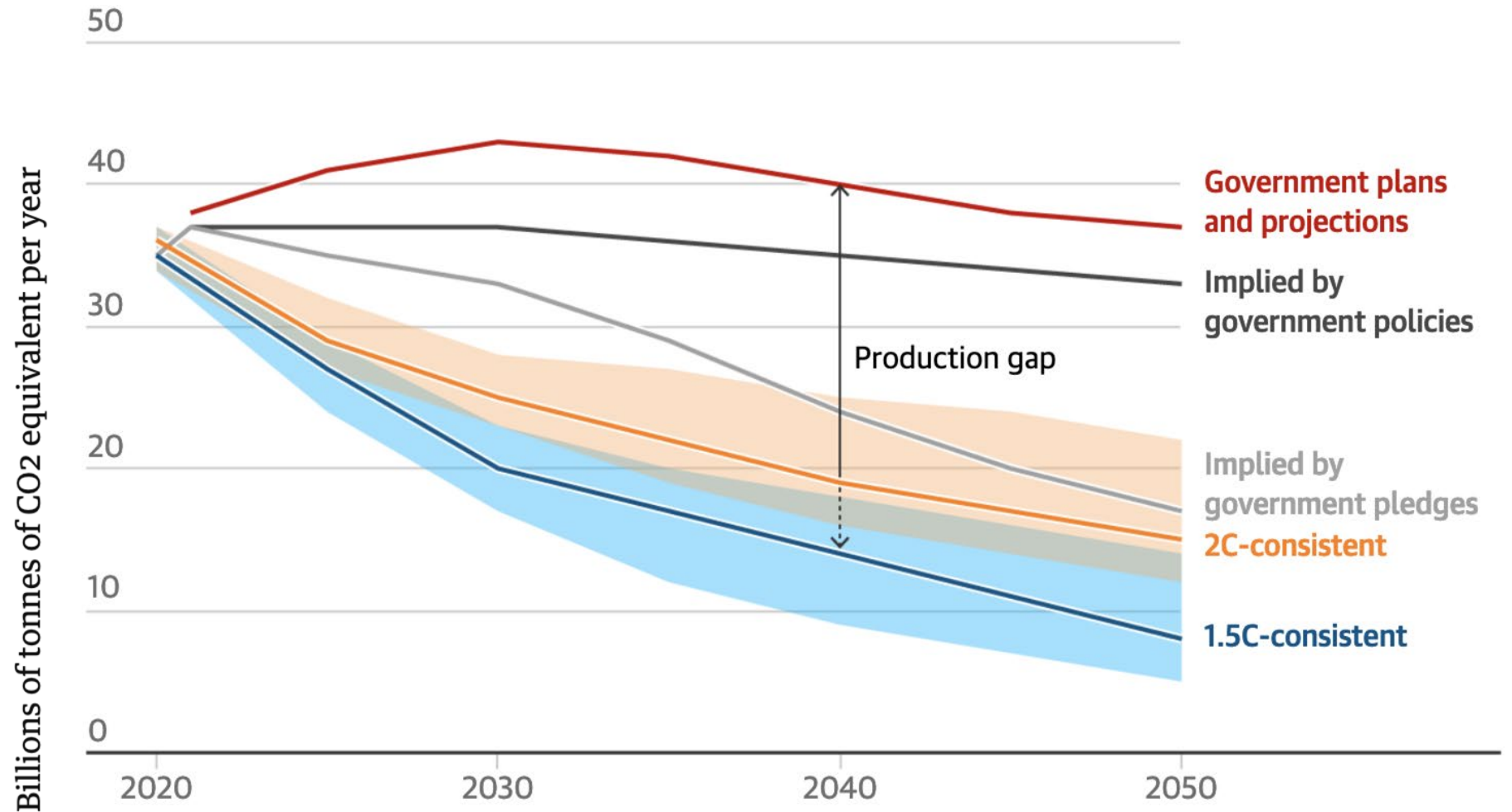
- Greenhouse gases and coal hit record highs in 2023...
- ...and gas and oil producers plan to keep on expanding production





# Expanding fossil fuel production

Current government plans worldwide will likely result in emissions in 2050 almost as high as they are today



Guardian graphic. Source: The Production Gap: SEI, Climate Analytics, E3G, IISD and UNEP 2023

# Existential (civilisation-threatening) risk management

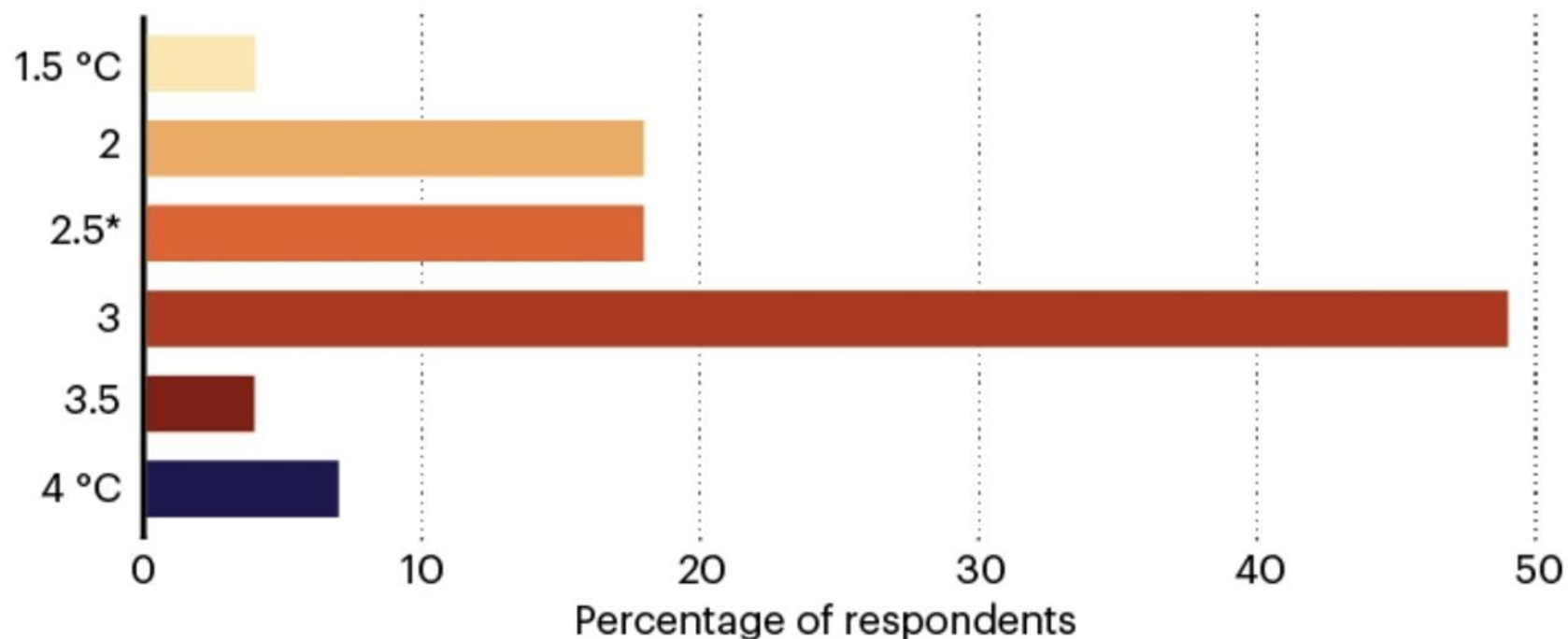
- “When the issue is the survival of civilization is at stake, **conventional means of analysis may become useless,**” instead “we should identify possibilities” especially at the high end of the range of uncertainty.  
— Hans Joachim Schellnhuber, Potsdam Institute Director-Emeritus
- The most important issue is to **understand the plausible worse-case outcomes/possibilities and actions required to prevent them,** because that is where the risk is greatest.
- Policymakers and governments have **failed on the very basic issue of understanding climate risk.**

## 3°C and more

- The world is heading towards 3°C of warming...
- ... and likely a good deal more, because current climate models do not adequately account for all the system-level reinforcing feedbacks.
- The pre-eminent UK think-tank, Chatham House, suggests a “plausible worst-case scenario” is 3.5°C or more, but says...
- ... “this could be an underestimate if tipping points are reached sooner than the orthodox science suggests”, which now seems to be the case.

# What scientists say

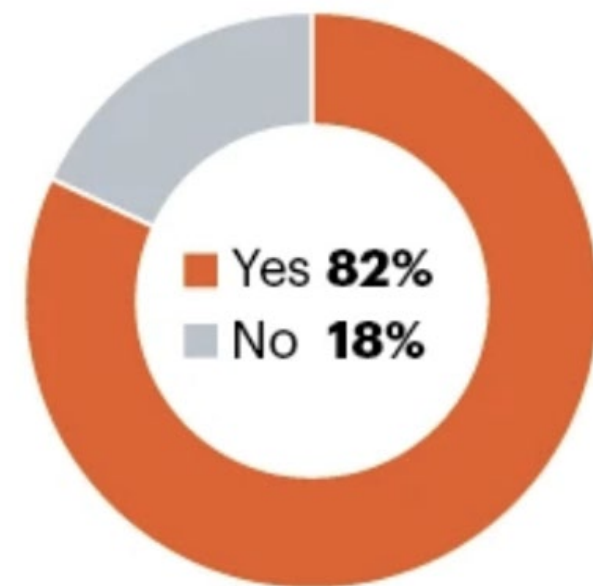
## How much warming above pre-industrial times do you think is likely by 2100?



\*Includes 2 responses between 2.7 °C and 2.75 °C; 2.5 °C and 3.5 °C were write-in answers.

©nature

Do you think you will see catastrophic impacts of climate change in your lifetime?



# Civilisational threat

- Scientists warn “an equilibrium climate under *current* carbon dioxide concentrations would have a **sea level 5–25 metres higher**”.
- Warming exceeding the 1.5-2°C range may create feedbacks that would prevent stabilization, and drive the system to a “Hothouse Earth” of self-reinforcing warming.
- Eminent scientists say that “we are in a climate emergency... **this is an existential threat to civilization.**”
- “If we carry on the way we are going now, I can’t see this civilization lasting to the end of this century”, says Professor Tim Lenton.

# Extreme heat

“Push ourselves to 2.5°C... Over one-third of the planet around the equatorial regions will be uninhabitable because you will pass the threshold of health, which is around 30°C [average temp].” — Prof. Johan Rockström



Katherine, NT

239 - 297  
days over 35°C  
42 - 100  
days over 40°C  
157 - 215  
nights above 25°C

Regions subject to unprecedented heat at 2.7°C  
(beyond the niche of historically experienced temperatures)

[nature.com/articles/s41893-023-01132-6](https://www.nature.com/articles/s41893-023-01132-6)

# Global conflict

## Chatham House *Climate Risk Assessment 2021*:

- Impacts likely to be locked in for the period 2040-50 unless emissions rapidly decline include:
  - a 30 per cent drop in crop yields by 2050
  - while food demand will be 50 per cent higher.
- Cascading climate impacts will “drive political instability and greater national insecurity, and fuel regional and international conflict”.



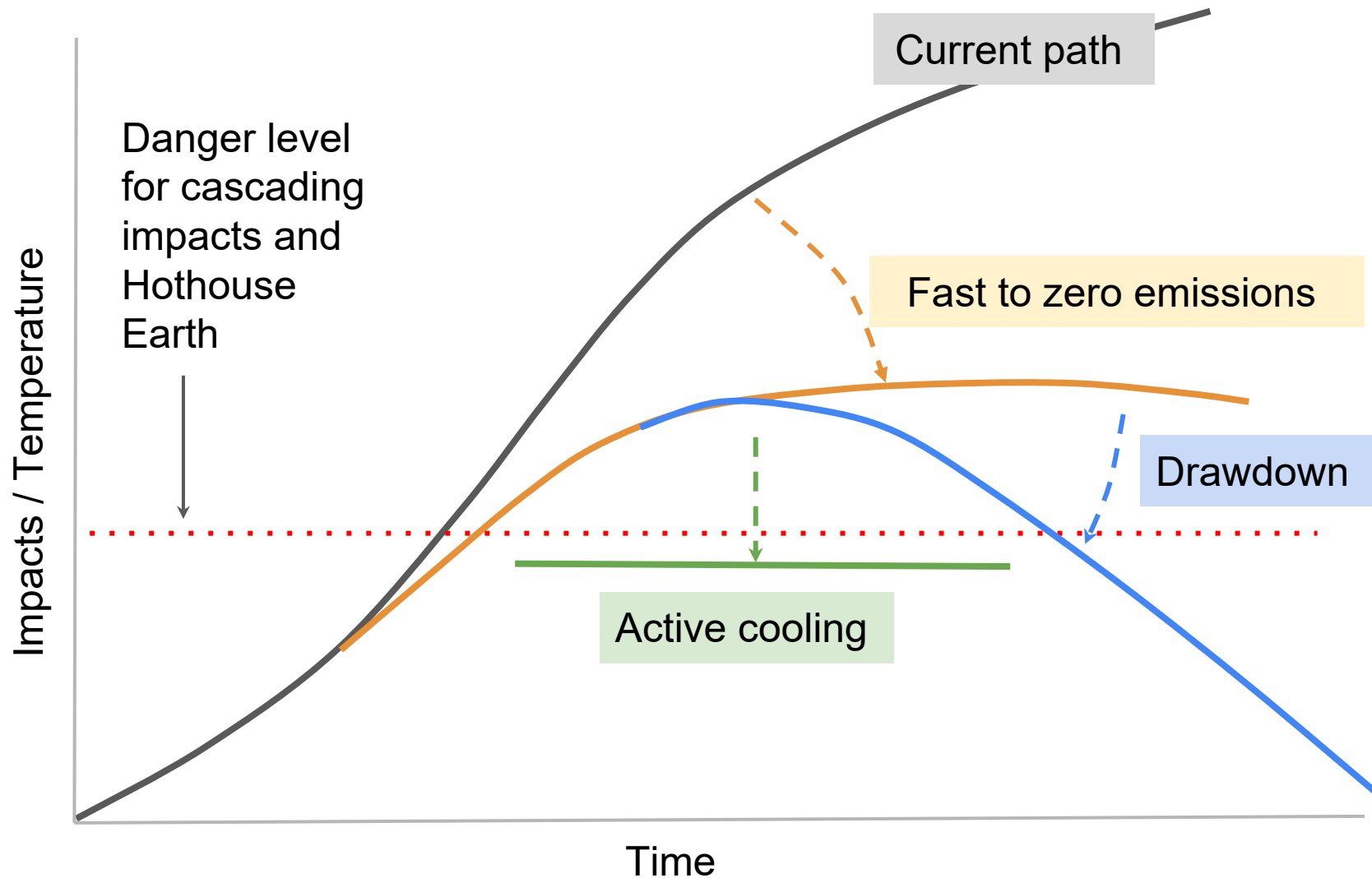
# What are safe climate conditions?

- Andrew King et al.: “From a geologic perspective, a justifiable aim for a future climate is one akin to **pre-industrial conditions.**”
- James Hansen: “We will need to return to a global climate **no warmer than the middle of the 20th century, and likely somewhat cooler**, for the sake of maintaining global shorelines.” [ $<0.25^{\circ}\text{C}$ ]
- John Schellnhuber: “Our survival would very much depend on how well we were able to **draw down  $\text{CO}_2$  to 280 parts per million**” (i.e. pre-industrial).



# KEY ACTIONS

## Reduce, remove, reflect and repair



Finding safe ways to actively cool the planet is vital to keep Earth below a warming level where more system tipping points are activated and cascade.

# Drawdown

## *Nature-based solutions*

- Ecosystem sequestration
- Regenerative land management practices
- Marine upwelling
- Ocean iron fertilisation
- Enhanced mineralisation

## *Technical solutions*

- Negative emissions construction
- Ocean alkalization
- Direct chemical capture by machines
- Bioenergy with carbon capture and storage (BECCS)?

# Fast Cooling

- Enhancing surface reflection with mirrors
- Marine cloud brightening
- Solar radiation management
- Increasing reflection of the terrestrial surface
- Decreasing the amount of high-altitude cirrus clouds

# Critical actions & messages

- **Zero emissions at emergency speed:** within a decade — not 2050 — is the crucial time frame.
- The Earth is already too hot: **large-scale carbon drawdown** is vital.
- Damage is — and will become more — dangerous before long-term solutions are mitigation alone are effective, so...
- **A safe means of immediate cooling** is critical to protect people & nature.



**Reduce**

**+**



**Remove**

**+**



**Reflect**

**=**



**Repair back  
to safe climate  
conditions**

# Turning full circle: Back to the Arctic



“Today the level of greenhouse gases in the atmosphere is already so high that rapid emissions reduction is no longer sufficient to avoid an unmanageable future for mankind. We also must have the capability to remove GHGs at scale from the atmosphere, and to repair those parts of the climate system, such as the Arctic Circle, which are passing or have passed their tipping point.”

— **Sir David King**, fmr UK Chief Scientist & head of the Climate Crisis Advisory Group

Thank you

—  
**Safe  
Climate  
Australia**  
—

**Action to equal the challenge**

---



**David Spratt**

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[breakthroughonline.org.au](http://breakthroughonline.org.au)



# CURRENT AND FUTURE CLIMATE IMPACTS

on communities and ecosystems

Featuring:

Anjali Sharma, Duty of Care campaign

Serena Joyner, Bushfire Survivors for Climate Action

Jordan Crook, Victorian National Parks Association

Australian Farmers for Climate Action

Cr (Waskam) Emelda Jacobs and Cr William Chan, City of Sydney



Cr Trent McCarthy  
Darebin City Council  
CEA Executive Committee

# How we as councils can save the world



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**Christiana Figueres** 

@CFigueres

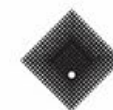
Now we need both radical collaboration and relentless optimism

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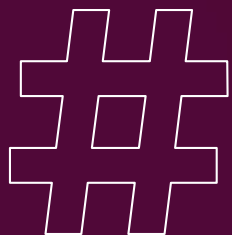
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# BREAK

**Please come back at 11:10AM for Plenary 2.**

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