



UNIVERSITY OF
CAMBRIDGE

INSTITUTE FOR
SUSTAINABILITY LEADERSHIP

A photograph of a large, historic building in Cambridge, likely a college hall, at dusk. The building has many windows, some of which are lit up, and a large, ornate tower with many spires is visible in the background. The sky is a deep blue. The image is partially obscured by a dark purple overlay on the right side, which contains the title text.

Climate change, financial risks and regulation

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AGENDA

1. Climate change and the risks to the financial sector
2. The role of financial regulators and central banks
3. How financial regulations can reflect climate change

CO₂ in the atmosphere is 80% above normal

On all
charts:

Note the
variance as
well as the
trends

Atmospheric CO₂ concentration

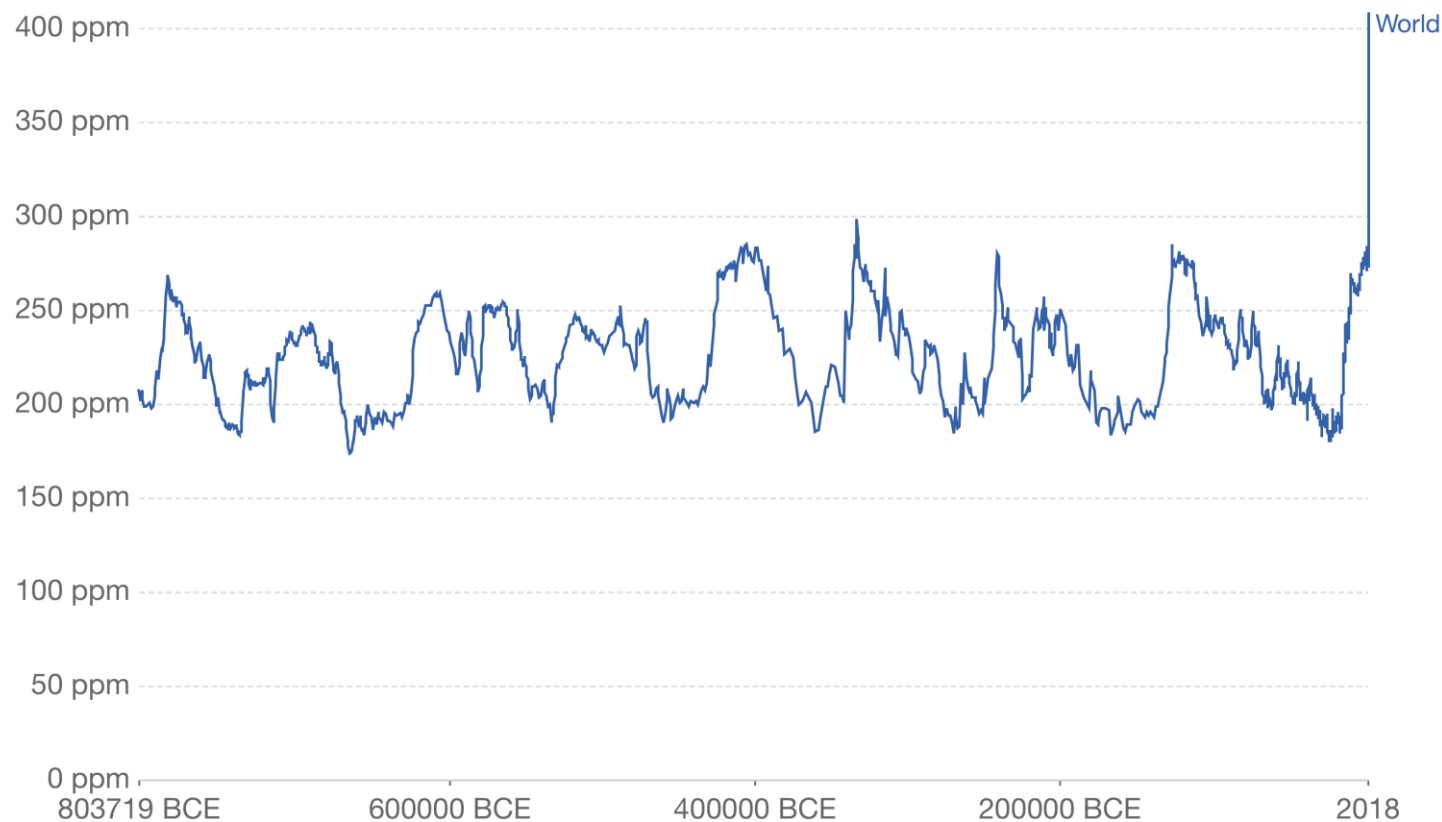
Global average long-term atmospheric concentration of carbon dioxide (CO₂), measured in parts per million (ppm). Long-term trends in CO₂ concentrations can be measured at high-resolution using preserved air samples from ice cores.

Our World
in Data

Source

Apr 18 2022
= 420 ppm

1960
= 316 ppm



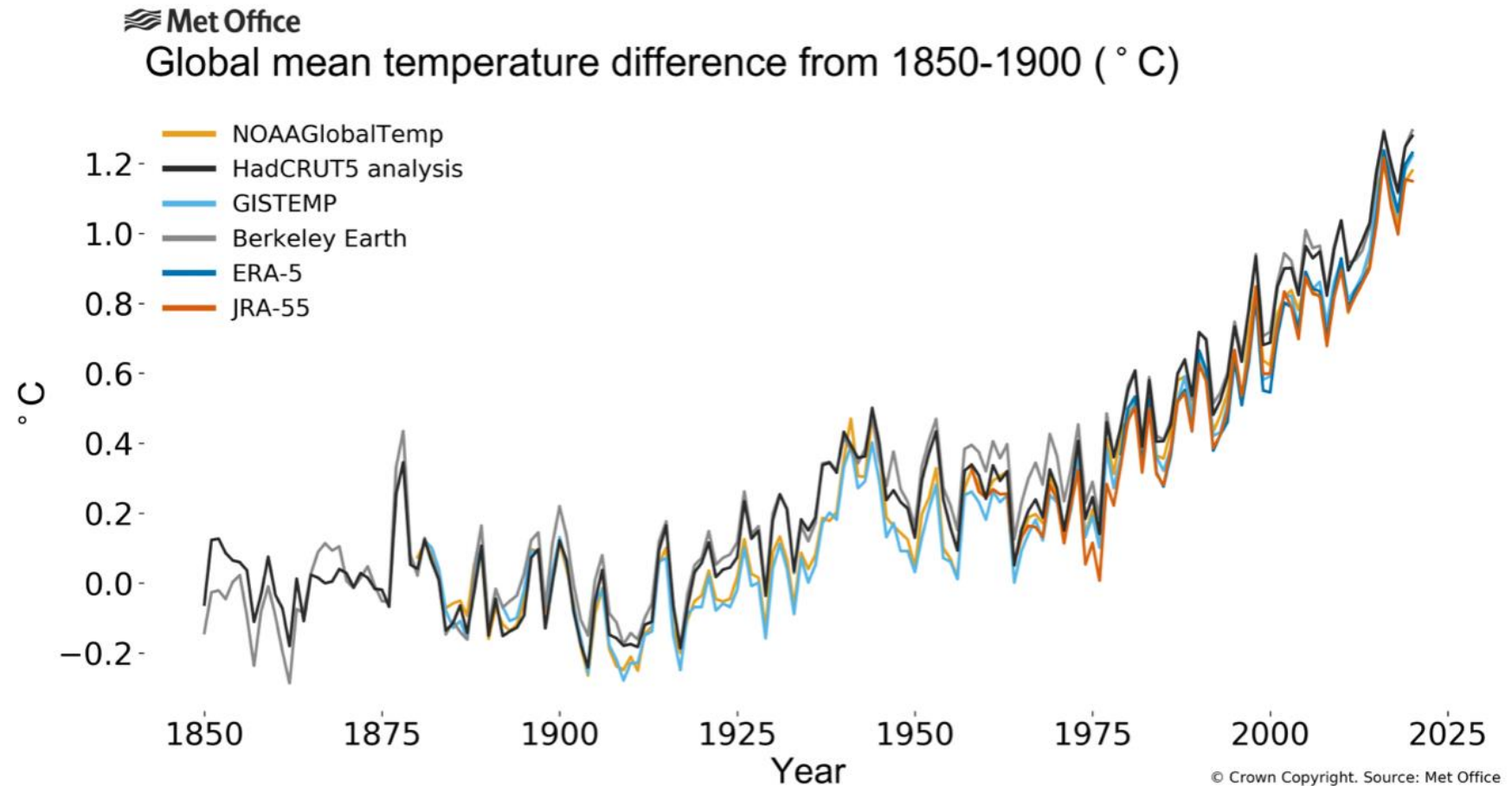
Source: EPICA Dome C CO₂ record (2015) & NOAA (2018)

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY

Global warming

The planet is
 $+1.1^{\circ}$ to $+1.3^{\circ}$ C
already

2020 close to
record

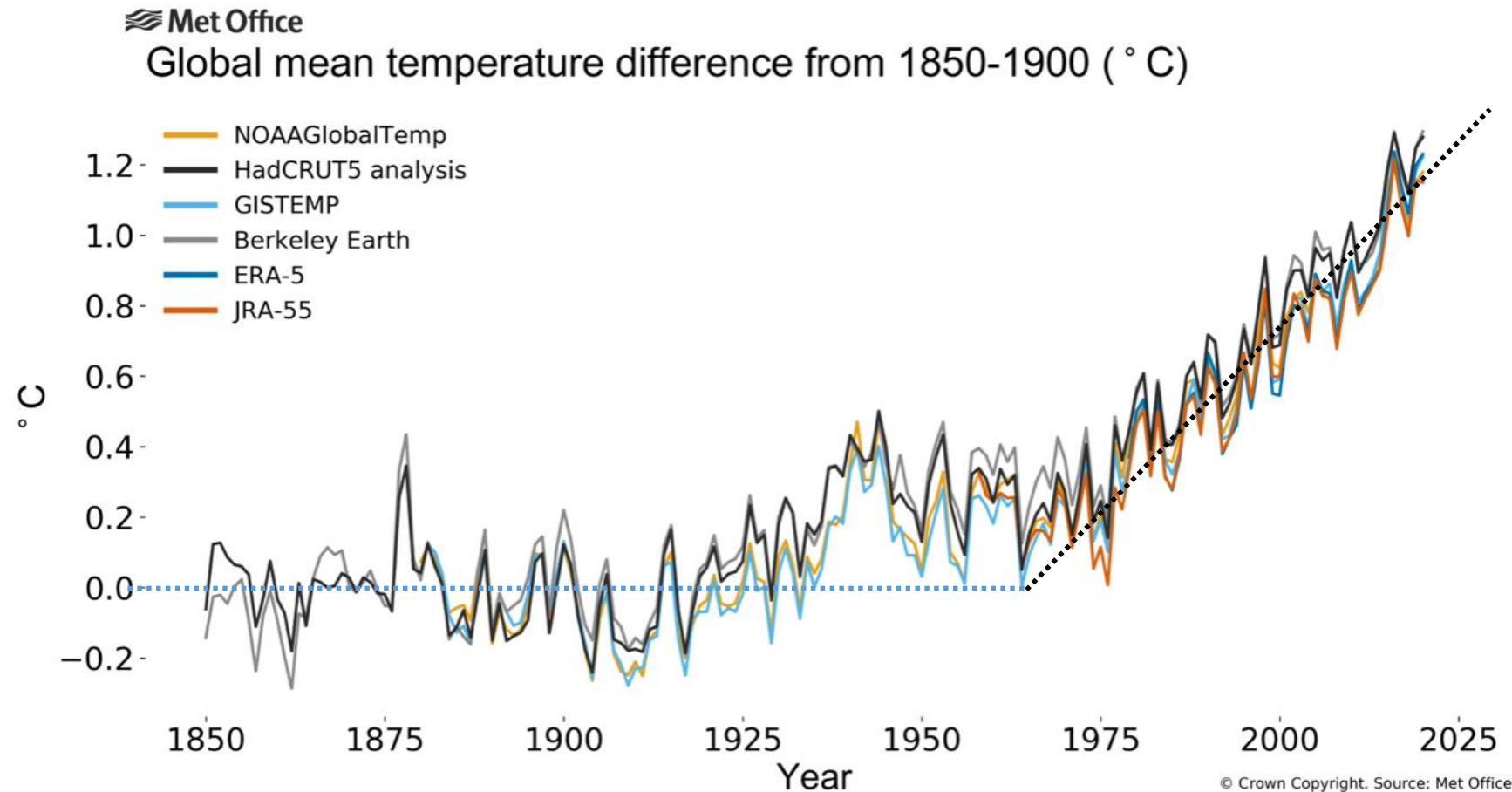


Source: UK Met Office

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Source: UK Met Office

What are the financial risks?

- Physical
- Transition – economy
- Transition – policy
- Legal (Liability)



Can be mapped into credit risks – incl sovereign - market, operational ...

Bank of England:

“The impact of climate change on the insurance sector” (PRA 2015)

“Transition in Thinking: The impact of climate change on the UK banking sector” (PRA 2018)

<http://www.bankofengland.co.uk/prd/Documents/supervision/activities/pradefra0915.pdf>

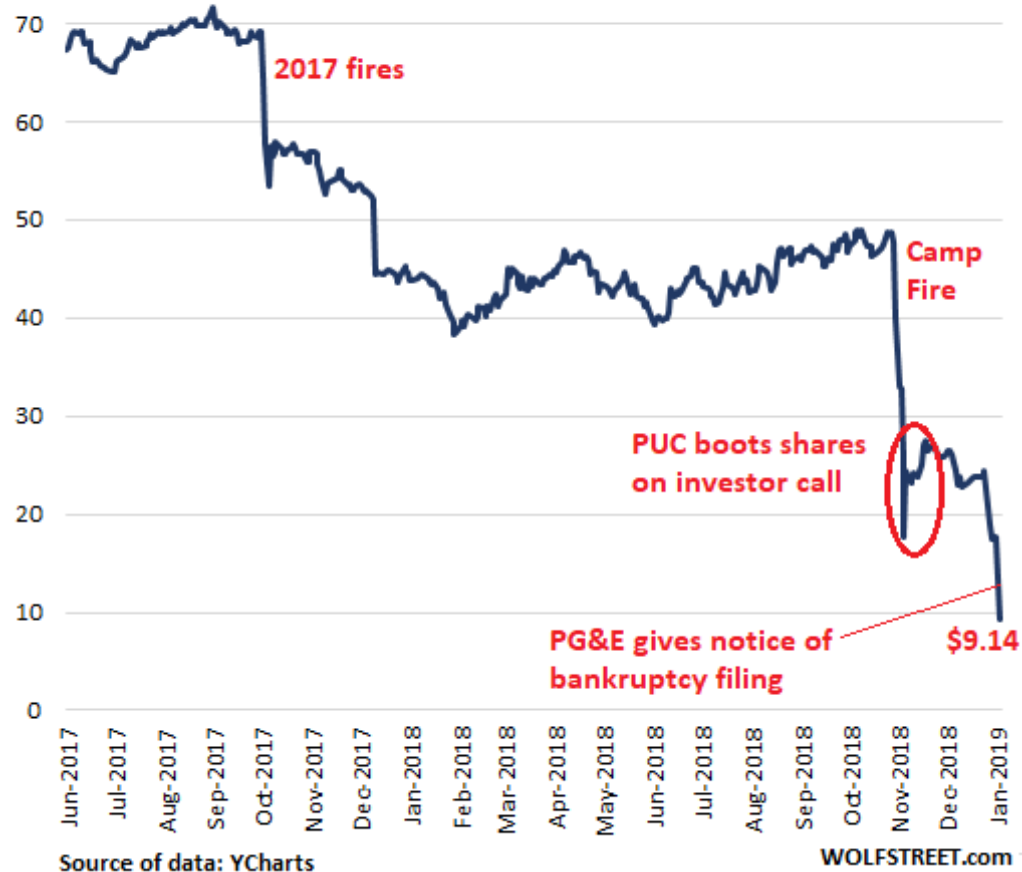
<https://www.bankofengland.co.uk/prudential-regulation/publication/2018/transition-in-thinking-the-impact-of-climate-change-on-the-uk-banking-sector>

Examples of value loss

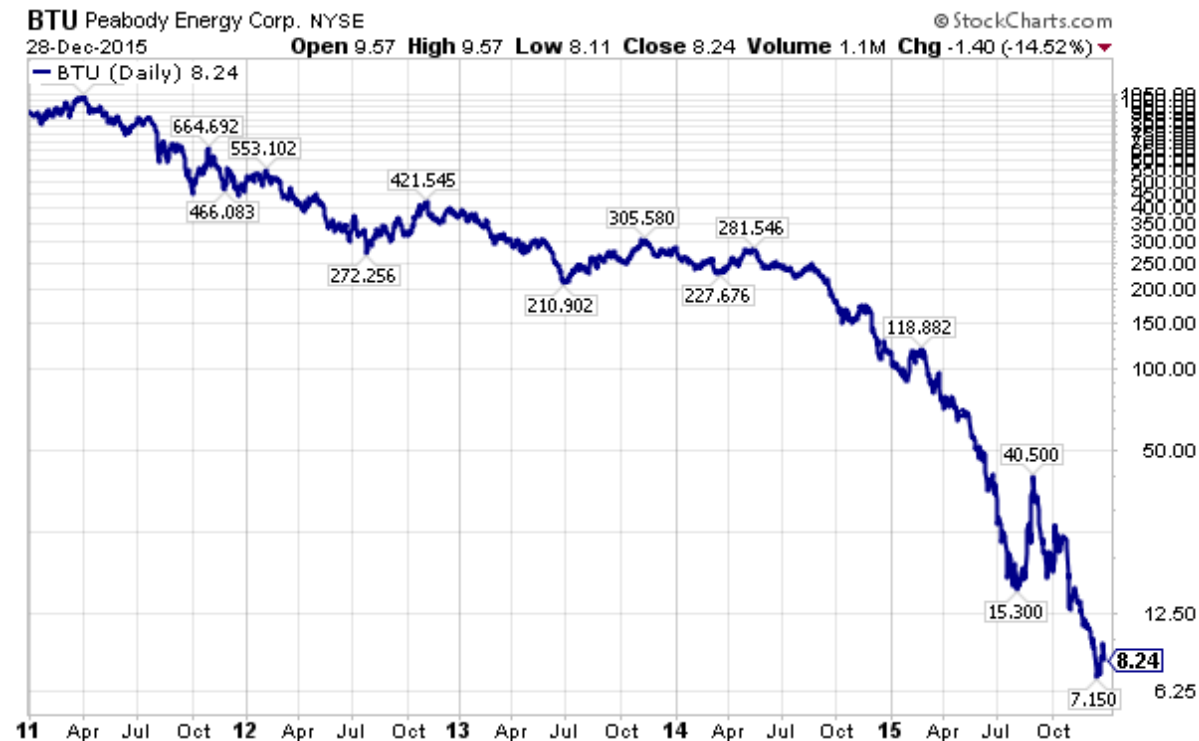
Peabody Energy, US

California Wildfires and PG&E Shares

PCG, daily, Jan 14 intraday



Pacific Gas & Electric, California, US



Are physical risks quicker to impact on stock prices than transition risk?



<https://www.lse.ac.uk/granthaminstitute/publication/global-trends-in-climate-litigation-2021-snapshot/>

The role of regulators and central banks : Two channels (double materiality)



COMISIÓN
PARA EL MERCADO
FINANCIERO

Uncontroversial ?

Impact ?



Motivations :



a) Moral/social/ethical/political – climate change is an existential threat that requires action from everyone.

b) Secondary objectives – support other government objectives.

c) It impacts all a regulator's primary objectives.



It can be a legal requirement!

Given (c) it does not need a new objective or a change to mandate.

Should, could, must ...

Issues for regulators and central banks:



- Microprudential Regulation and Supervision
- Conduct regulation
- ❖ Monetary Policy
- ❖ Financial Stability
- ❖ Balance Sheet Management ([Fisher&Murphy, 2021](#))
- ❖ Internal processes, banknote production

Microprudential issues: Regulation and supervision

Basel – doesn't need to change to allow climate risks to be taken into account. [CISL \(2014\)](#):

- **Pillar 1:** Pressure for changes to minimum capital requirements. But
 - (a) a 'Green Supporting Factor' is difficult to justify and implement properly.
 - (b) Carbon-exposed assets may carry more risk than currently estimated.
- **Pillar 2:** Role for prudential regulators in ensuring appropriate risk management. Governance. Stress tests. Business model risks.
- **Pillar 3:** Role for greater disclosure of risks : Task Force on Climate-related Financial Disclosures (TCFD).
- Problem of backward-looking data underpinning risk calculations.
- Conduct regulation: 'green washing'; IFAs; investor preferences etc.



Regulation and supervision: specific actions and measures

- *Supervisory expectations* see [PRA SS3/19](#).
Mostly around risk management of climate-related risks.
PRA will be ‘moving through the gears’ on supervision in 2022.
- Co-ordinated climate *stress tests* – still preliminary.
Not yet leading to extra capital requirements, but could in future.
- *Governance* – UK Senior Managers Regime. A senior individual has to take personal responsibility for managing climate-related risks. Usually the CRO.
- *Disclosure* – should be implicit in existing requirements to disclose material risks, but may need new rules to ensure (as in UK, EU).
- *Co-ordination* – Climate Analytics Risk Forum, NGFS etc.

What are regulators/central banks/governments doing now?

Central banks & supervisors
**stress tests, governance,
risk management,
expectations**

*Network for Greening the
Financial System*
114 members:
central banks, banking
supervisors; 18 observers

Greening
corporate bond portfolios –
BoE, ECB, Riksbank.
Own disclosure – BOE.

Objectives: explicit
secondary objective set for
BoE in UK,
EBA/EIOPA/ESMA in EU.

*Task Force on Climate-
Related Financial
Disclosures (G20/FSB)* –
disclosures are to be
mandatory in UK & EU.

UN: Principles for
Responsible Banking

Green Taxonomies on the
way; transition plans next?

Nature-related risks and
biodiversity on the agenda.

Questions and discussion

