

The Glasgow Climate Pact – was it a success & what does it mean for Australia & Queensland?

Griffith Sciences End-of-Year Event
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UN CLIMATE CHANGE CONFERENCE UK 2021

IN PARTNERSHIP WITH ITALY

Was the Glasgow
CoP26 a success?

Implementation of Paris
Agreement (post-2020
agenda on climate action

	United Nations	ADVANCE VERSION
	Framework Convention on Climate Change	FCCC/PA/CMA/2021/L.16
		Distr.: Limited 13 November 2021
		Original: English
<hr/>		
Conference of the Parties serving as the meeting of the Parties to the Paris Agreement		
Third session		
Glasgow, 31 October to 12 November 2021		
Agenda item 2(c)		
Organizational matters		
Organization of work, including for the sessions of the subsidiary bodies		
Organization of work, including for the sessions of the subsidiary bodies		
Proposal by the President		
Draft decision -/CMA.3		
Glasgow Climate Pact		

The Glasgow Climate Pact is the latest stage in a 30 year long process of international negotiations under the 1992 UNFCCC



Fig. 1. Key adaptation decisions and initiatives emerging from UNFCCC CoP process.



About 30% of Australia's population have lived and will continue to live all their lives under constant climate change negotiations



**UN CLIMATE
CHANGE
CONFERENCE
UK 2021**

IN PARTNERSHIP WITH ITALY



- 1. Secure global net zero by mid-century and keep 1.5 degrees within reach**
- 2. Adapt to protect communities and natural habitats**
- 3. Mobilise finance**
- 4. Work together to deliver**

1. Secure global net zero by mid-century and keep 1.5 degrees within reach

Countries are being asked to come forward with ambitious 2030 emissions reductions targets that align with reaching net zero by the middle of the century.

To deliver on these stretching targets, countries will need to:

- accelerate the phase-out of coal
- curtail deforestation
- speed up the switch to electric vehicles
- encourage investment in renewables.

Articles 20, 21, 22 & 23

Recognizes that the impacts of climate change will be much lower at the temperature increase of 1.5 °C compared with 2 °C and **resolves to pursue efforts to limit the temperature increase to 1.5 °C**;

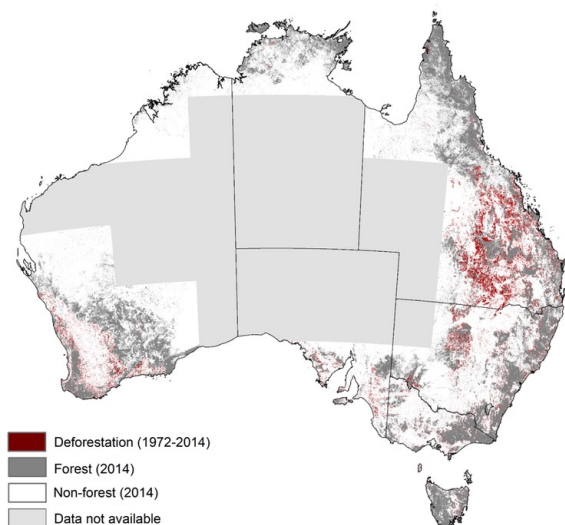
Recognizes that limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by **45 per cent by 2030** relative to the 2010 level and to net zero around midcentury, as well as deep reductions in other greenhouse gases;

Recognizes that this requires accelerated action in this **critical decade**

Requests Parties to revisit and **strengthen the 2030 targets** in their nationally determined contributions as necessary to align with the Paris Agreement temperature goal by the end of 2022

For the first time, forest protection is recognized as mitigation strategy

Article 38. Emphasizes the importance of **protecting**, conserving and restoring nature and ecosystems to achieve the Paris Agreement temperature goal, including through **forests** and other terrestrial and marine ecosystems acting as sinks and reservoirs of greenhouse gases and by protecting **biodiversity**, while ensuring social and environmental safeguards;



Source: Evans (2016) <http://dx.doi.org/10.1071/PC15052>



Source: The Mercury November 29th, 2021

Under UNFCCC definitions, clearfelling, woodchipping and burning old growth native forests is not deforestation as there is no change in land use

Yet, in Australian, emissions from logging ~30 M t CO₂ per year

But, as state parties have “given their consent”* to CoP decisions arrived at through consensus...

An 11th hour intervention by India in which a key article in final agreement was watered down from “phase out” to “phase down” coal power

In an emotional final speech, COP26 president Alok Sharma apologised for this last-minute change



Image: The Conversation



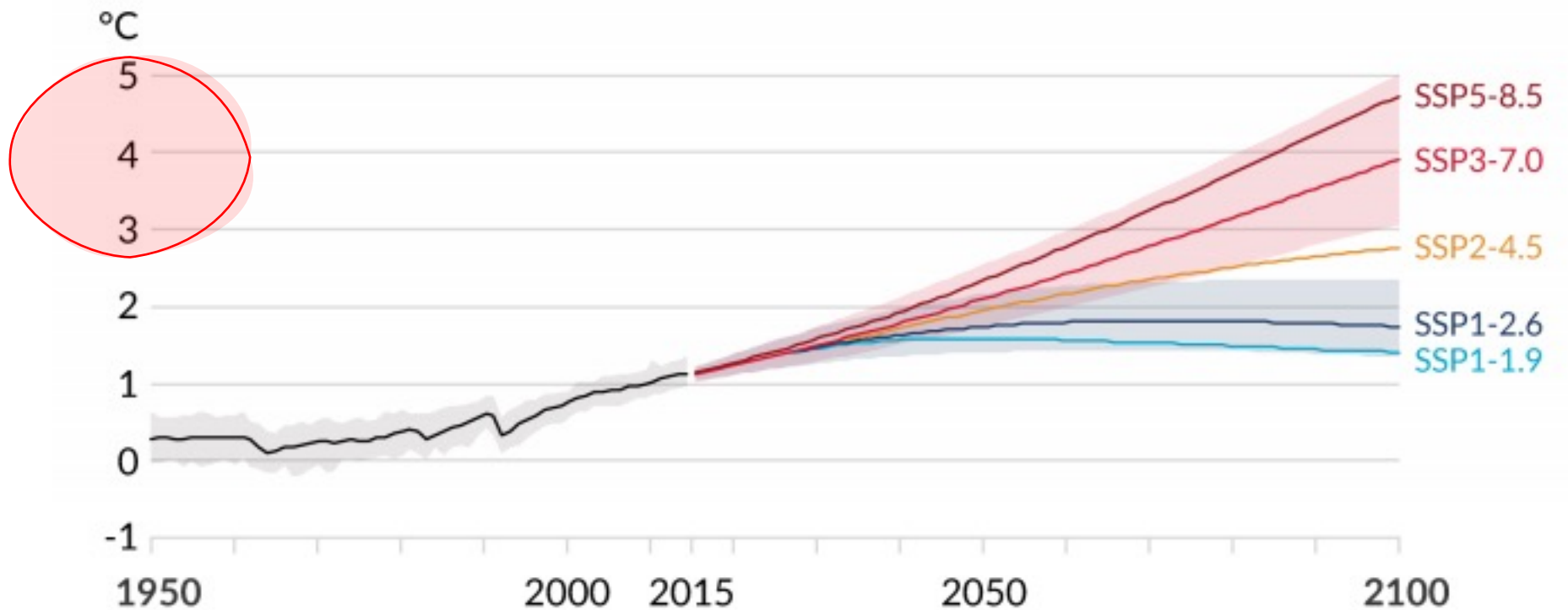
Article 36

Calls upon Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, including accelerating efforts towards the **phasedown** of **unabated** coal power and phase-out of **inefficient** fossil fuel subsidies...

* Vienna Convention on the Law of Treaties

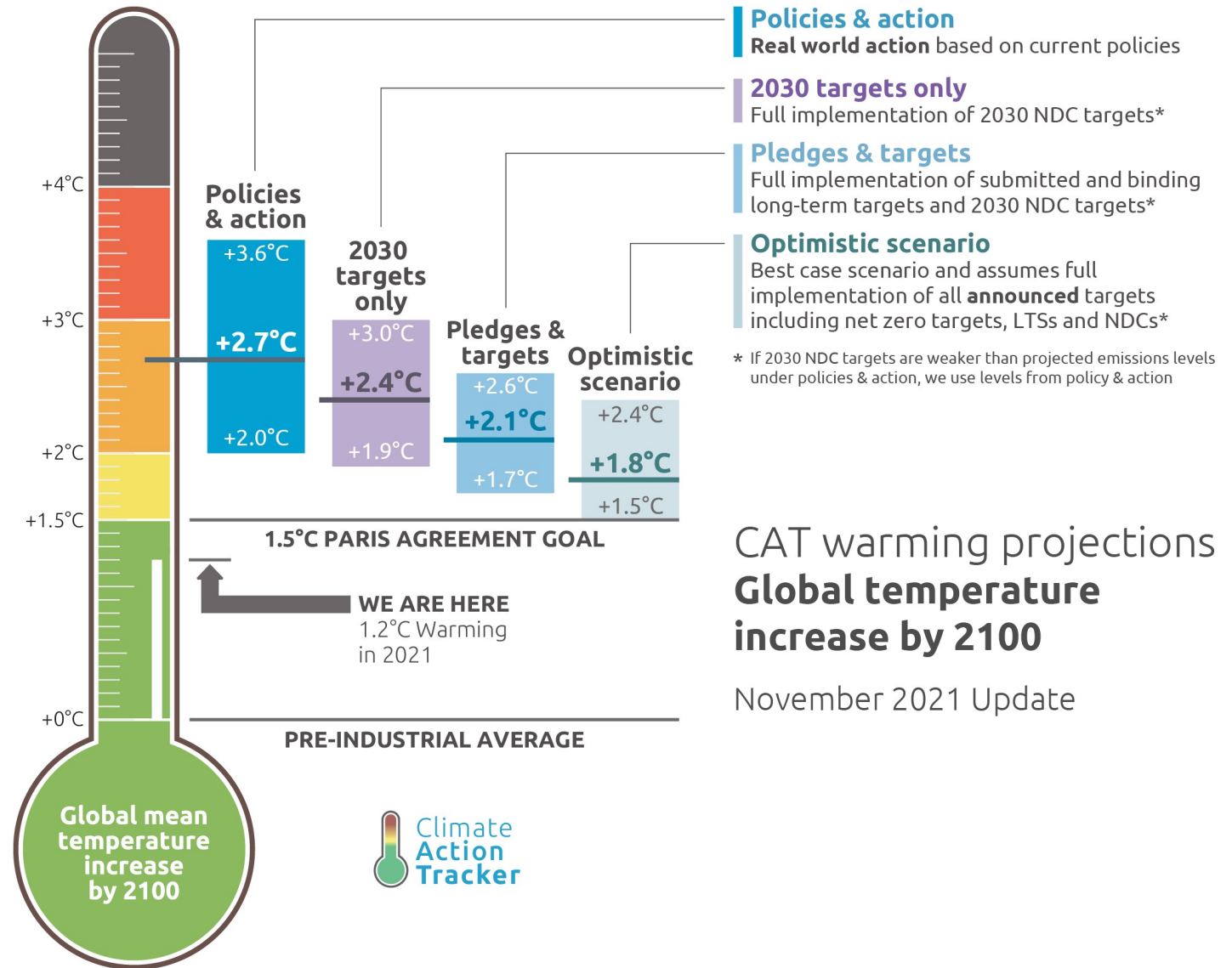
Glasgow commitments, if implemented, have flattened the curve

a) Global surface temperature change relative to 1850-1900



But, Glasgow mitigation commitments still not Paris Agreement compliant...

- Several governments submitted the same target as 2015 (Australia, Indonesia, Russia, Singapore, Switzerland, Thailand, Viet Nam) or less ambitious target (Brazil, Mexico)
- Even with all new Glasgow pledges for 2030, we will emit roughly twice as much in 2030 as required for 1.5°



Source: Climate Action Tracker

2020-2030 The Critical Decade

“The United States and China, alarmed by reports including the Working Group I Contribution to the IPCC Sixth Assessment Report released on August 9th, 2021, further recognize the seriousness and urgency of the climate crisis. They are committed to tackling it through their respective accelerated actions in the critical decade of the 2020s, as well as through cooperation in multilateral processes, including the UNFCCC process, to avoid catastrophic impacts.”



U.S. China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s

global warming level	remaining carbon budget @83% change of success (@63%)	years remaining before budget expired assuming 2020 emissions (42.2 Gt CO ₂ _e)	year budget expires & NZE deadline
1.5	300 (400)	8 (11)	2029 (2032)
1.7	550 (700)	15 (19)	2036 (2040)
2	900 (1150)	25 (32)	2046 (2053)

C-budget for 1.5 °C leaves 8-11 years of current emissions (~36 GtCO₂/yr)

Source: IPCC (2021) Table SPM.2

“Global warming degrees above pre-industrial level” is an index, much like a thermometer reading of “Earth’s health”



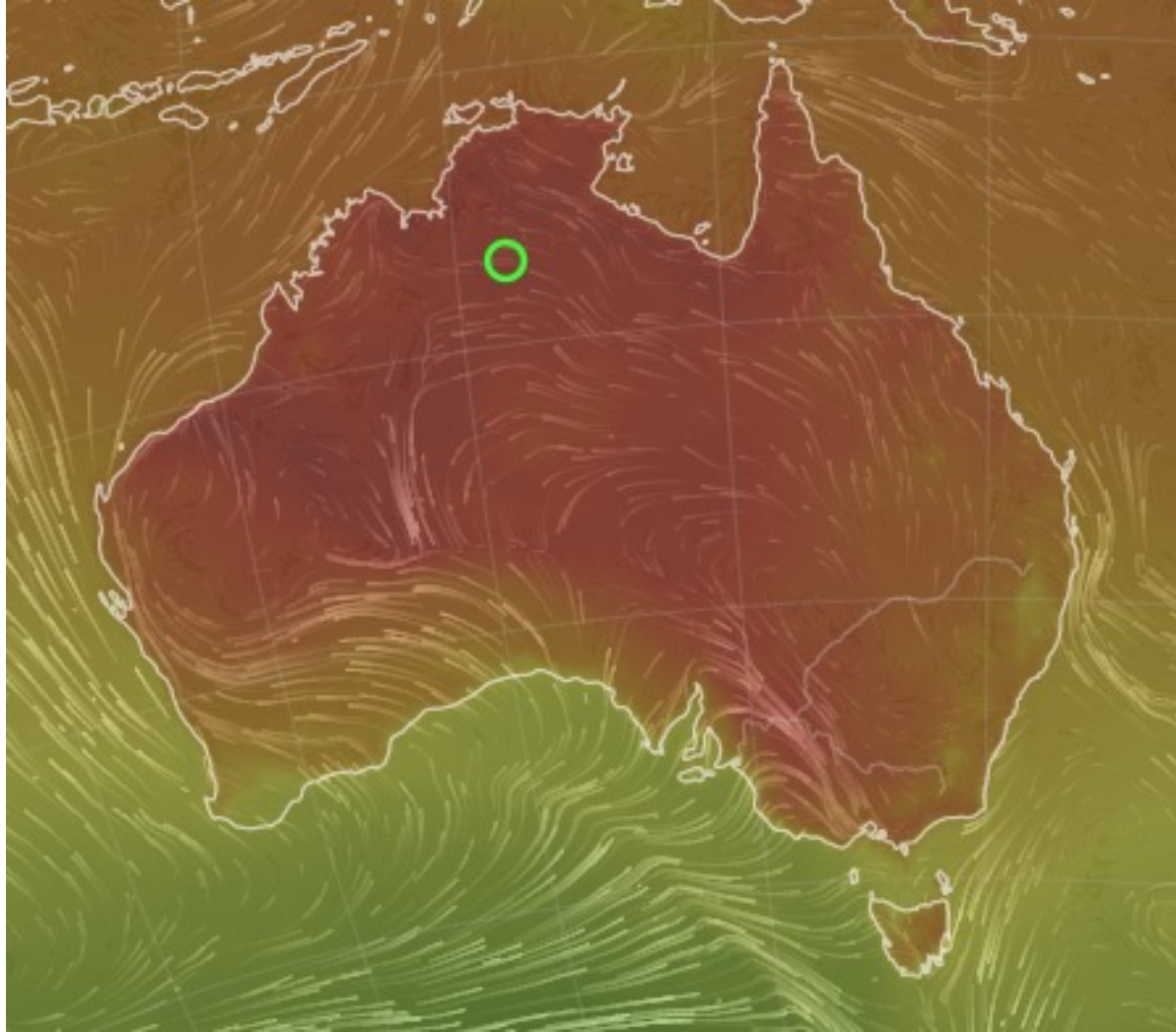
- 36.1 °C - 37.2 °C is safe average body temperature for a healthy adult
- 38 °C is diagnostic of a fever
- Above 40 °C is life-threatening



- Average annual daily global surface temperature of 0.0 °C above pre-industrial levels is a health planetary temperature
- 1.5 °C is equivalent of a planetary fever
- Above 2 °C is equivalent of life-threatening

Climate risks rise with every increment about 1.1°C with increasingly non-linear and irreversible impacts and consequences



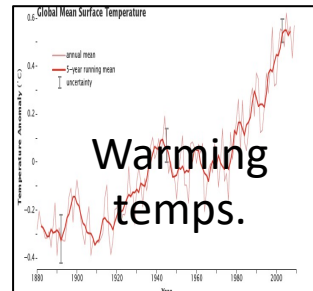
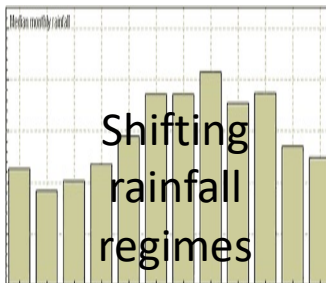
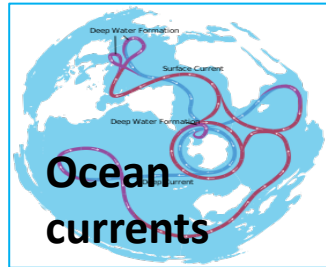


What does Glasgow
Climate Pact mean
for Australia &
Queensland”

Australia and Queensland will experience more, increasingly irreversible, impacts as global warming > 1.5 °C

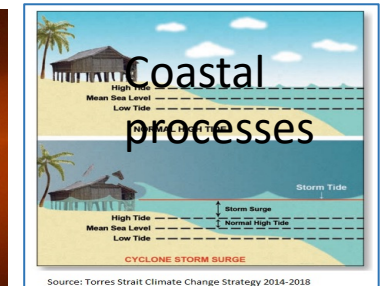
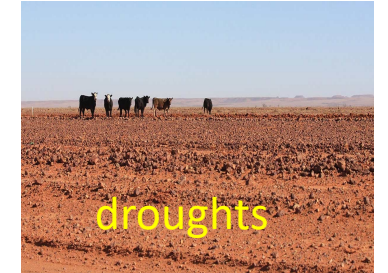
Chronic impacts

gradual, continuous and disruptive



Acute impacts

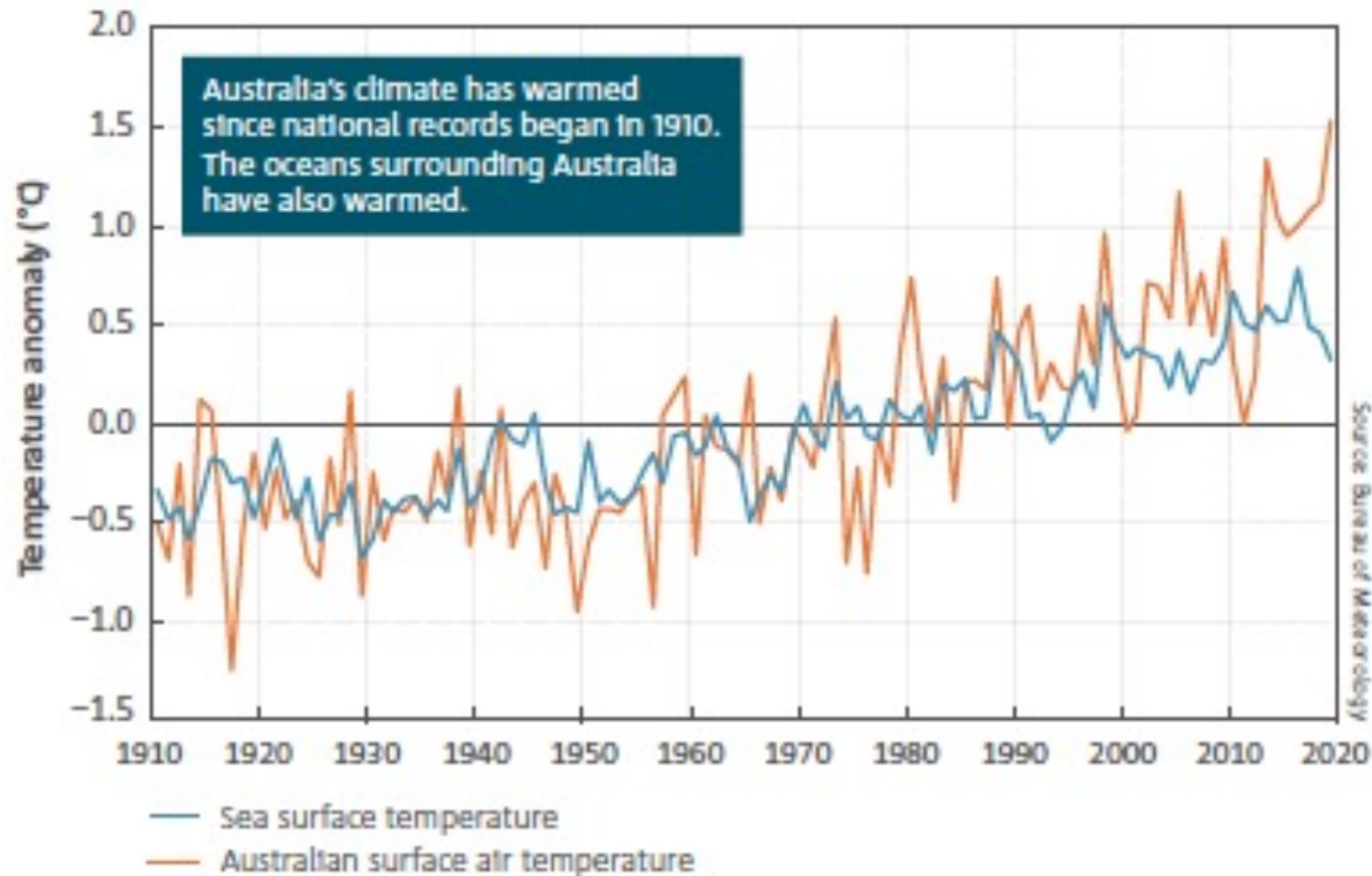
Increasing intensity, frequency and duration of extreme weather event



Chronic impacts

gradual, continuous and disruptive

temperatures are warming, everywhere



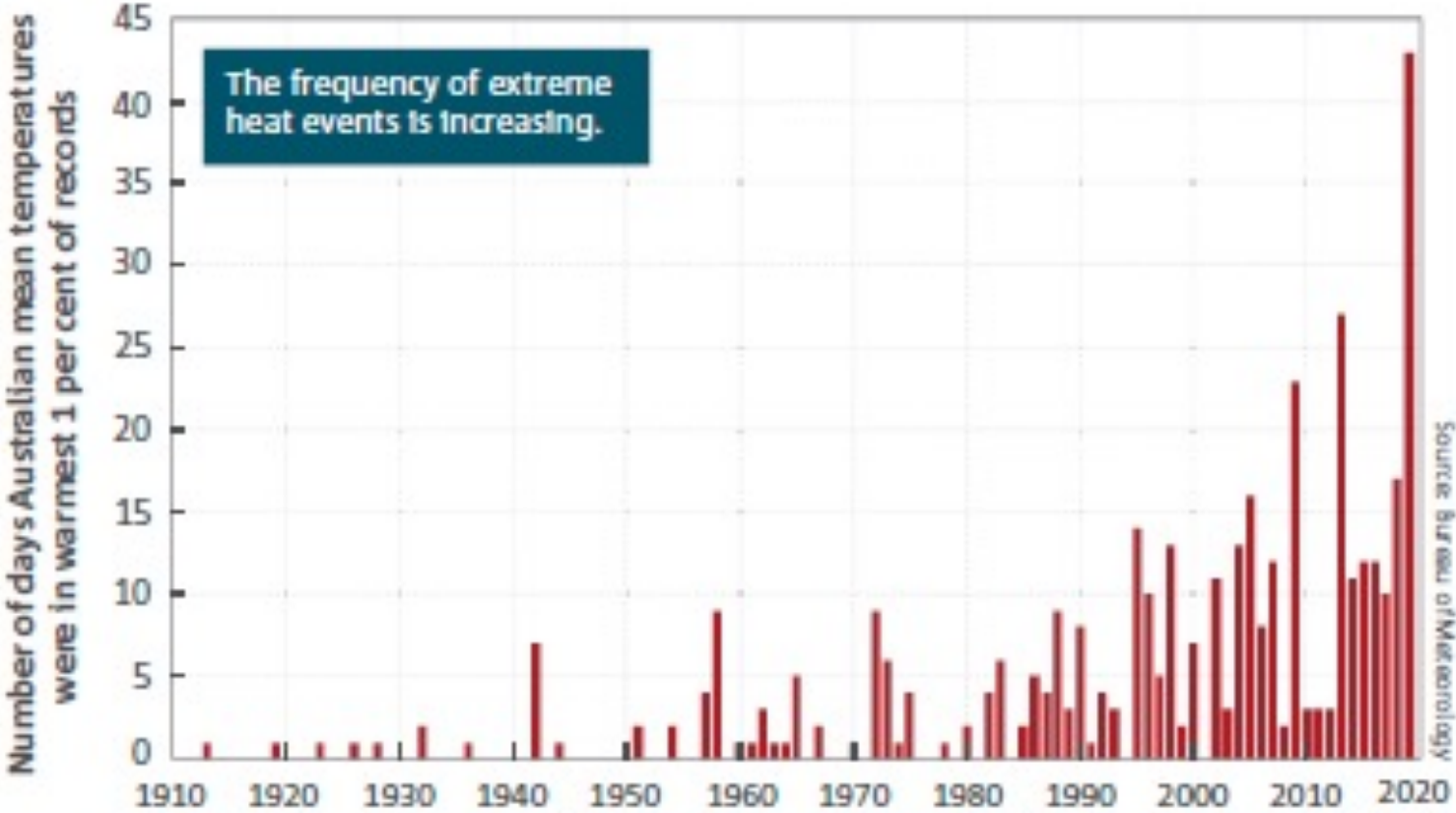
Anomalies in annual mean sea surface temperature, and temperature over land, in the Australian region. Anomalies are the departures from the 1961–1990 standard averaging period. Sea surface temperature values (data source: ERSST v5, www.esrl.noaa.gov/psd/) are provided for a region around Australia (4–46 °S and 94–174 °E).

Acute impacts

Increasing intensity, frequency and duration of extreme weather event

Heatwaves are more frequent, severe and of longer duration

non-linear response



Number of days each year where the Australian area-averaged daily mean temperature for each month is extreme. Extreme daily mean temperatures are the warmest 1 per cent of days for each month, calculated for the period from 1910 to 2019.

The Bureau of Meteorology (BOM) has released a special climate review, officially calling the rain in north Queensland "exceptional".

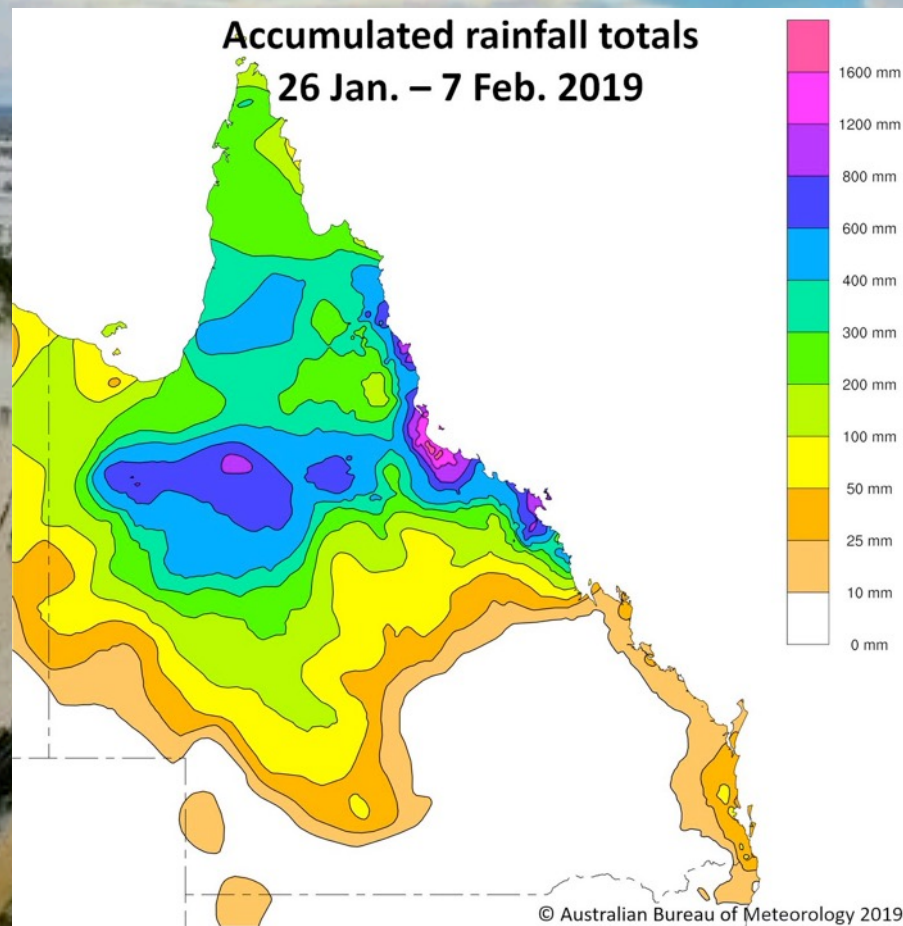
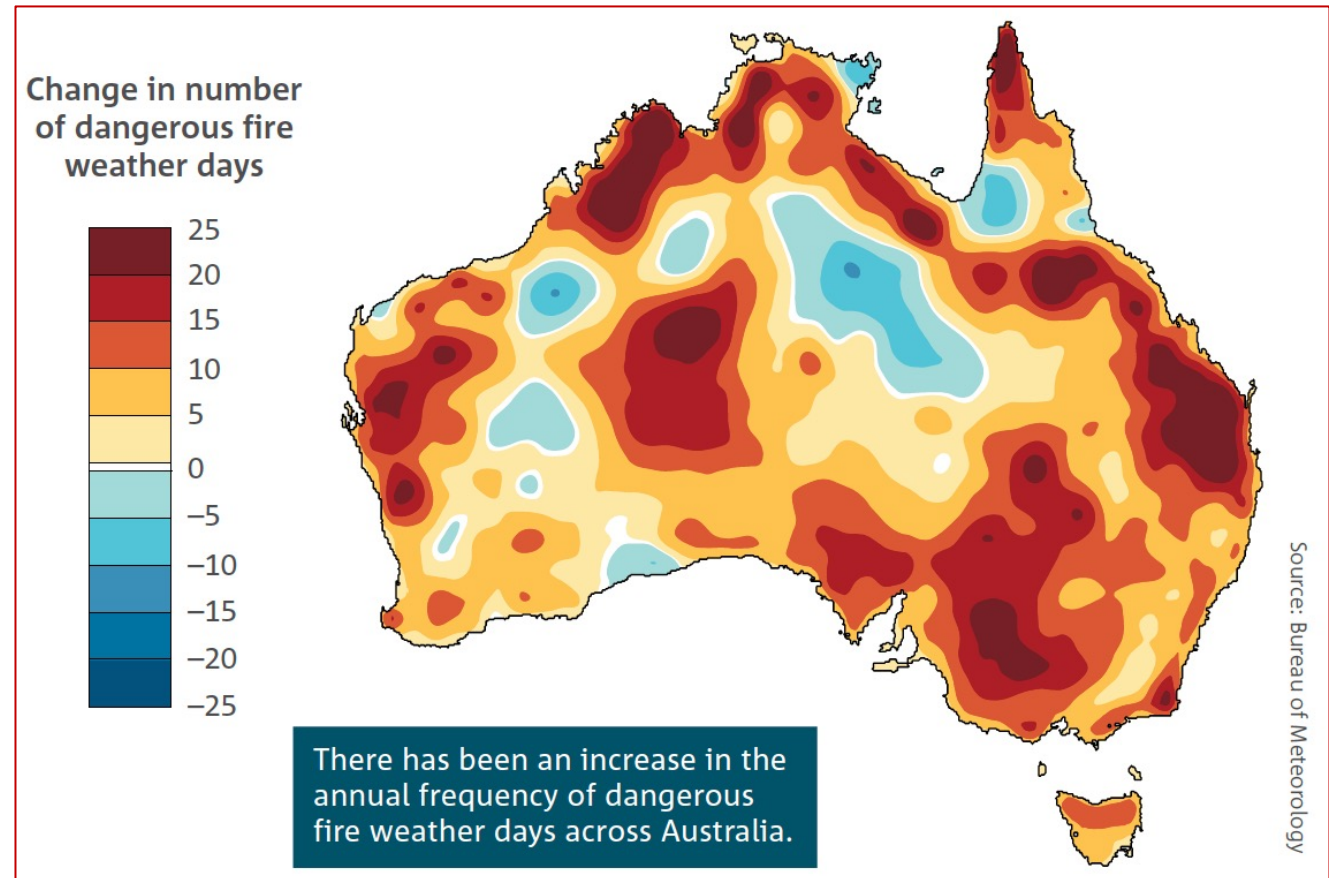


Image: ABC Weather by Kate Doyle 15 February,

Climate change has already increase fire weather conditions in Australia

The world is already experiencing 1°C of global warming above pre-industrial levels

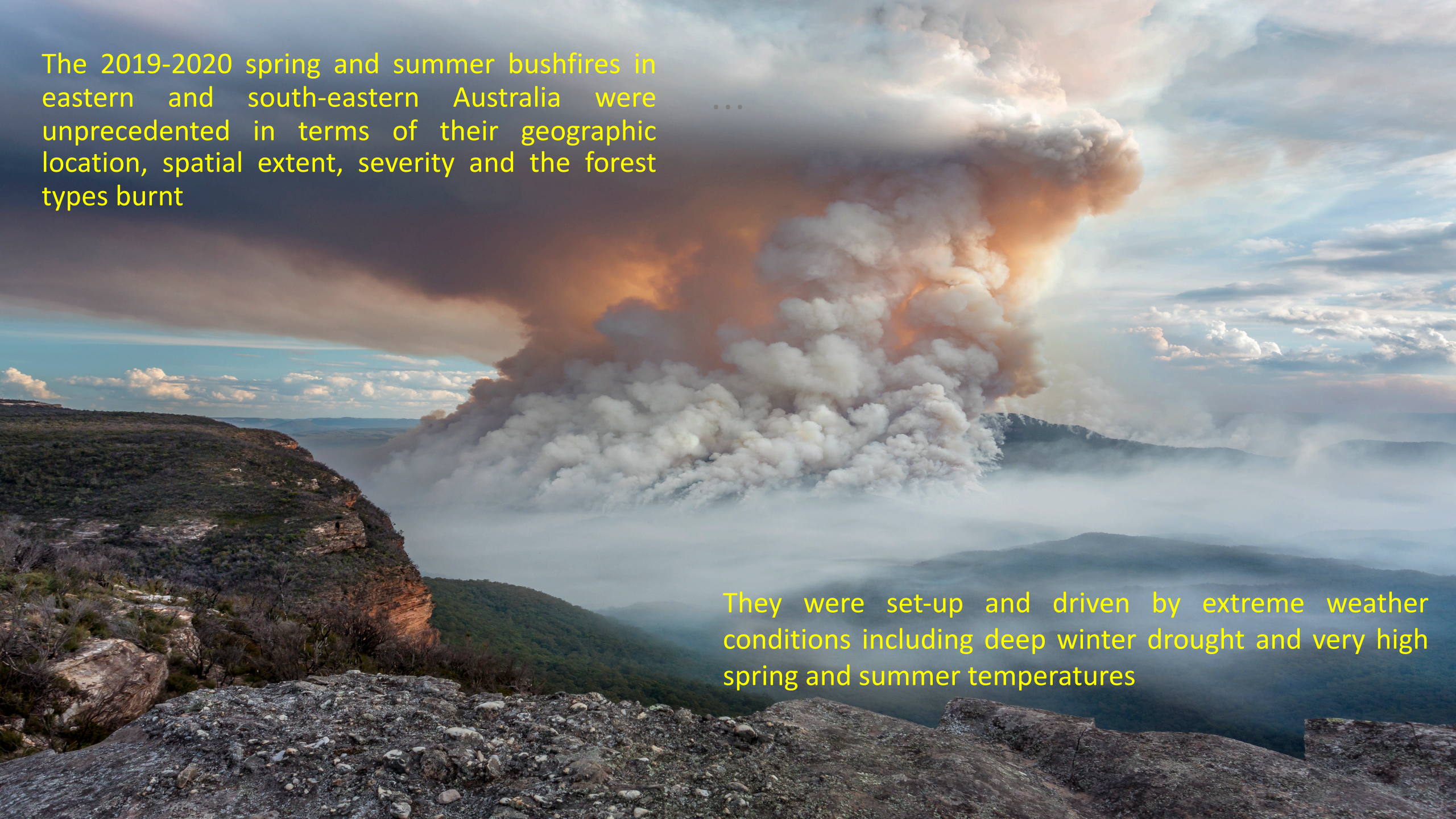
- A decline in winter rainfall in southern Australia & increasingly higher temperatures in spring & summer
- Over last 50 years we have seen an increase in the frequency and severity of dangerous bushfire conditions in Australia
- Particularly in southern and eastern Australia, including a lengthening of the fire season

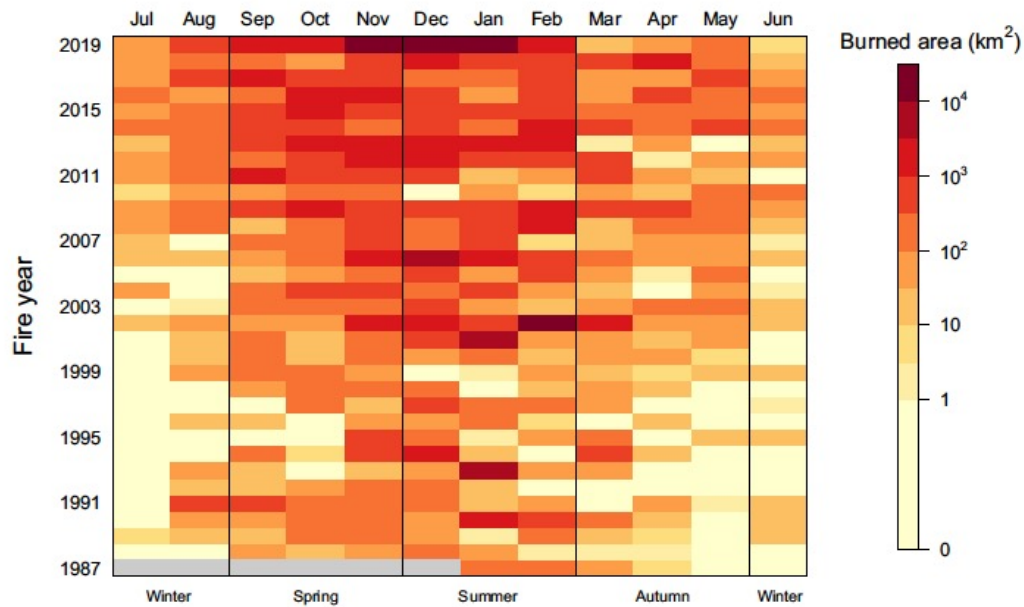


The 2019-2020 spring and summer bushfires in eastern and south-eastern Australia were unprecedented in terms of their geographic location, spatial extent, severity and the forest types burnt

...

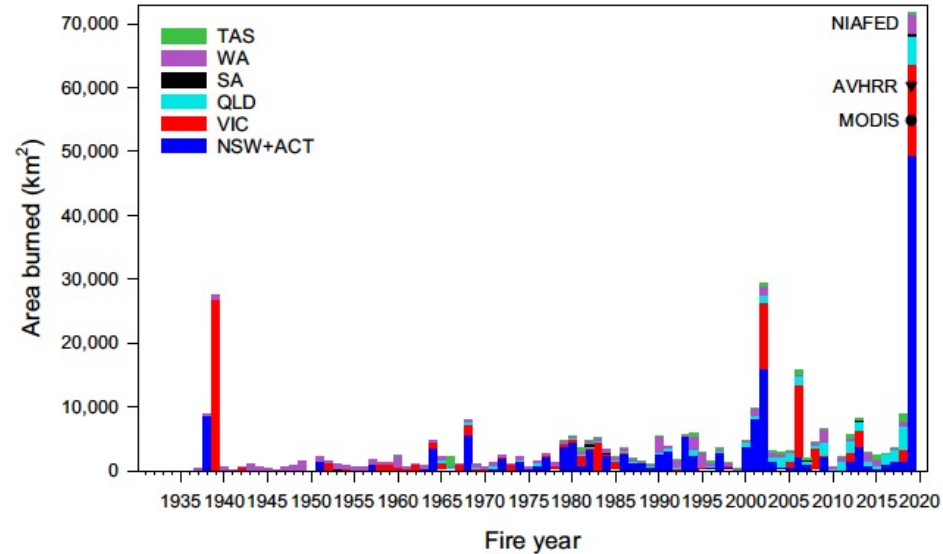
They were set-up and driven by extreme weather conditions including deep winter drought and very high spring and summer temperatures





Further recent evidence of (non-linear) climate change impacts on Australia's wildfires

For the last 32-year period (1988–2018), burned area in forest ecosystems increased exponentially with the number of days in which FFDI was equal to or greater than either 25 or 50



These trends equate to 21% increase in the burned area for every additional day of $FFDI \geq 25$, and about 3 to 5 times increase in the burned area for every additional day of $FFDI \geq 50$

Fig. 2 Monthly burned forest area for fire years (July to June). Data: AVHRR-Landgate (1988–2019).

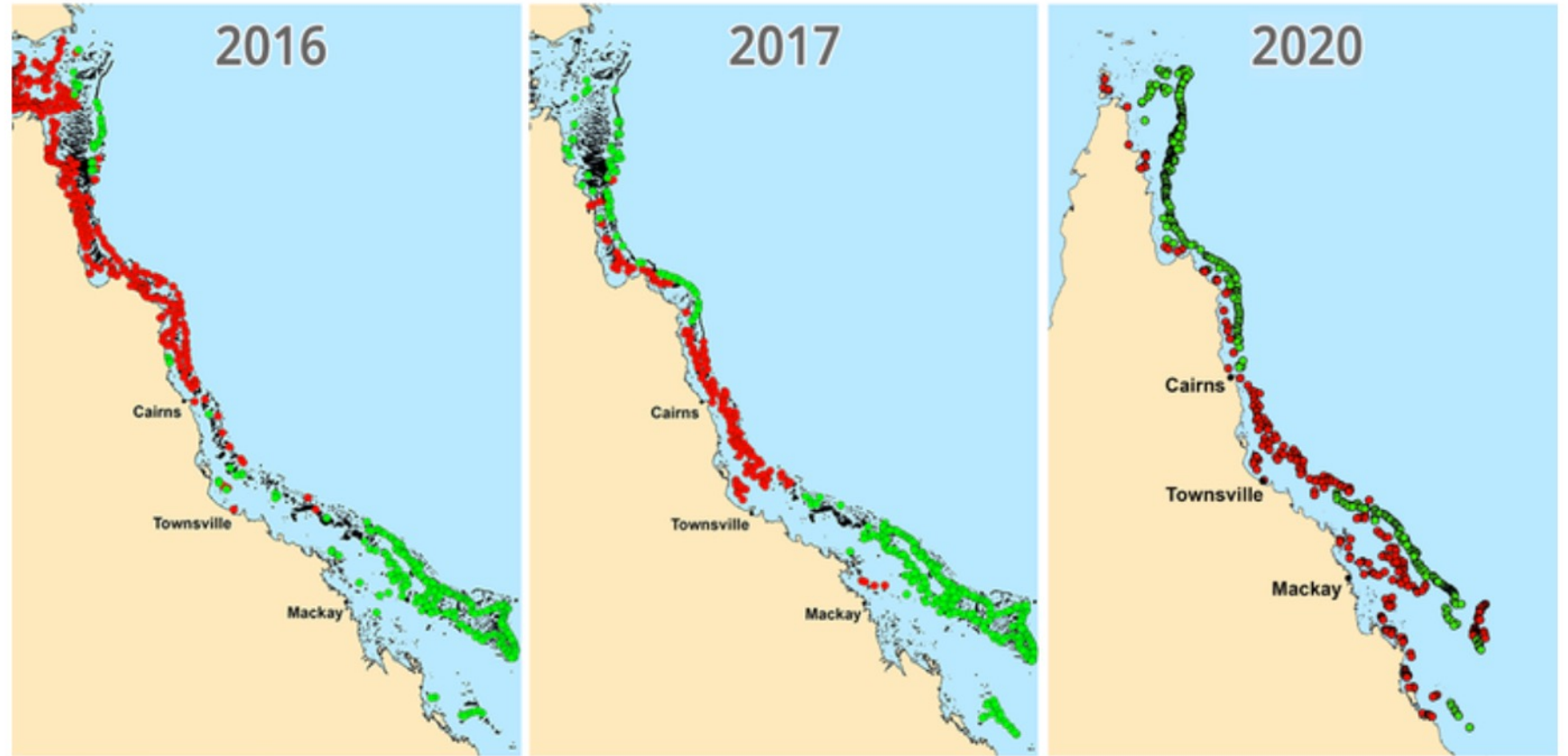
Fig. 3 Wildfire burned area by states and territory in forest ecosystems for the 1930 to 2019 fire years. New South Wales and Australian Capital Territory (dark blue), Victoria (red), Queensland (light blue), South Australia (black), Western Australia (violet) and Tasmania (green). Data for 1930–2018 stacked bars are State and Territory agencies fire histories, supplemented with MODIS for Queensland in 2016–2018. Data for 2019 fire year are National Indicative Aggregated Fire Extent Dataset (NIAFED) by States and Territories (stacked bar), AVHRR-Landgate (filled triangle), and MODIS (filled circle). See "Methods": Burned area data.

Source: Canadell et al. 2021 NATURE COMMUNICATIONS | <https://doi.org/10.1038/s41467-021-27225-4>

Mass coral bleaching events on the Great Barrier Reef



■ Most severe bleaching ■ No or negligible bleaching



Source: ARC Centre of Excellence for Coral Reef Studies

Figure 1: Maps of the GBR during the past three massive bleaching events. Notice how the most severe bleaching areas expand southward with each year. Photo credit to ARC

Source: Hughs & Pratchett
<https://www.coralcoe.org.au/>

1.5 °C is existential for tropical coral reefs?

- 1.5 °C is a threshold for coral bleaching for warm water, shallow coral
- Coral reefs are projected to decline by a further 70–90% at 1.5oC (high confidence) with larger losses (>99%) at 2oC (very high confidence)
- GBR employs 63,000 people, bring \$6.4B to economy and has an asset value of \$56B

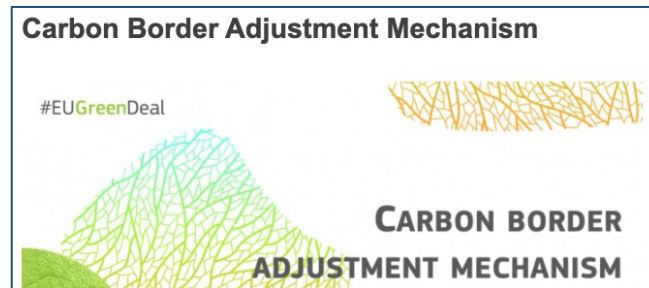
NZE and 2030 “ratcheting” means end of coal, oil and gas is a matter of when not if...



- Solar PV and wind already most cost effective means of energy production and increasingly so relative to fossil fuel
- Accelerating bi-partisan state government action on NZE policies and programmes
- Financial implications of climate related risks (credit ratings, company director responsibilities, shareholder climate activism, insurance costs and red zones, climate litigation)
- International carbon price on imports (i.e. our exports)



Nation and international regulatory regimes & investment landscapes are shifting rapidly towards NZE



Managing climate risk for directors

By Commissioner Cathie Armour

ASIC Commissioner Cathie Armour says disclosing and managing climate-related risk is a key director responsibility.

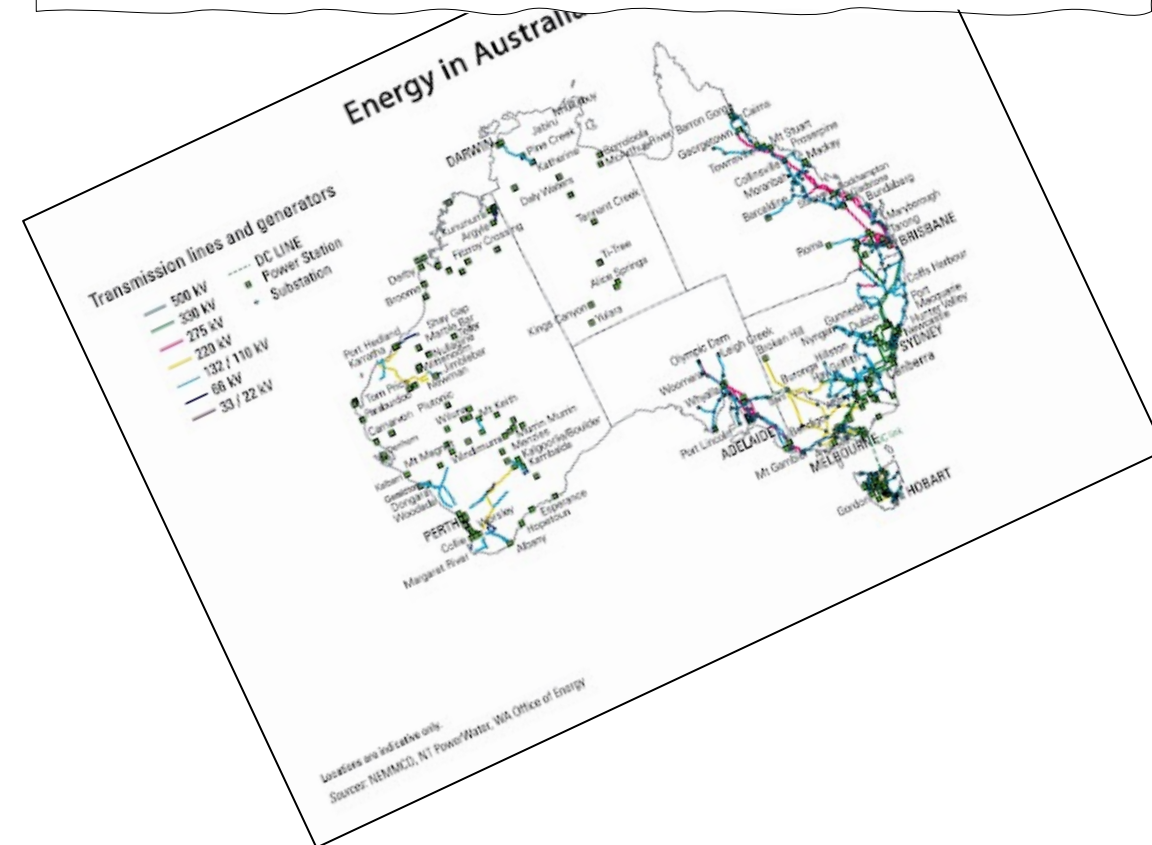
ASIC has previously highlighted climate-related risk as a systemic risk in our market that has the potential to significantly impact companies, investors and consumers. Our focus is on ensuring listed companies have appropriate governance structures in place to manage this issue, and providing the market with reliable and useful information on their exposure to material climate-related risks and opportunities.



Carbon Border Adjustment
selection of products so that
e'. This will ensure that European
ad of pushing carbon-intensive
ide the EU and our international

Investments in upgrading national grid to run off solar PV, wind

Additional energy storage and stronger interconnection between regions necessary for stability e.g. pumped hydro energy storage, plus HVDC and HVAC transmission connectors; see Blakers et al. 2017 <http://dx.doi.org/10.1016/j.energy.2017.05.168>



The Glasgow Climate Pact

Was it a success or a
failure?

Glasgow Climate Pact has many positives but does suffer from sins of omission, commission and emission



cup half empty

- **Omission** – Finance: US\$100 B per year every year for GCF still “missing in action”; “unleashing the trillions in private and public sector finance required to secure global net zero” yet to flow
- **Commission** - Fossil fuel is brought into mitigation action through invoking yet-to-be-invented technologies
- **Emission** - Mitigation gap has narrowed but remains too wide to avoid catastrophic climate change



At the summit's outset, UN Secretary-General António Guterres urged countries to “keep the goal of 1.5°C alive”, to accelerate the decarbonisation of the global economy, and to phase out coal

At the close, COP26 President Alok Sharma that delegations could say “with credibility” that they have kept 1.5 degrees within reach. “But its pulse is weak. And it will only survive if we keep our promises. If we translate commitments into rapid action. If we deliver on the expectations set out in this Glasgow Climate Pact to increase ambition to 2030 and beyond. And if we close the vast gap that remains, as we must”



