



AUSTRALIA

Science-based climate policies that will mitigate the climate crisis

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October 2023

© Roy Mayne, June 2010, Sunlight illuminates the coral at the Great Barrier Reef

Domestic decarbonisation

Where are we up to on the journey to 1.5C aligned emissions reduction targets and matching renewable energy targets?



© Troy Mayne – Variety of fish swimming in the Great Barrier Reef, Queensland, Australia – taken 16 April 2007

Australia's 2030 NDC falls well short of a 50% change of holding warming to 1.5 degrees Celsius.

Australia's targets and 1.5°C pathways June 2023

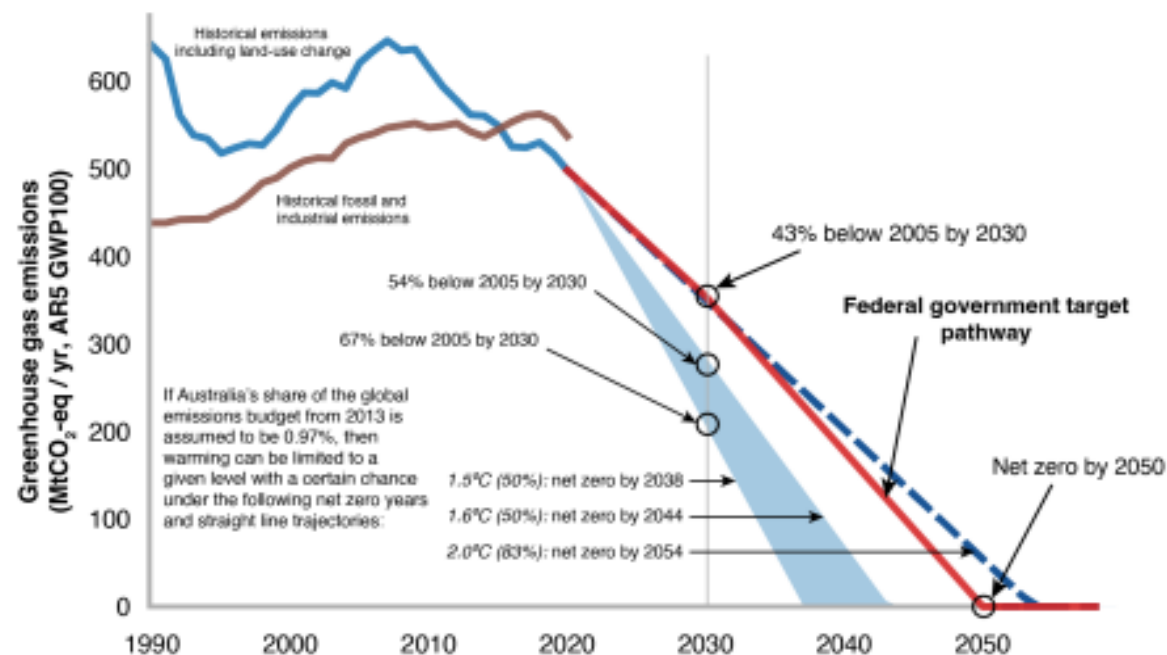
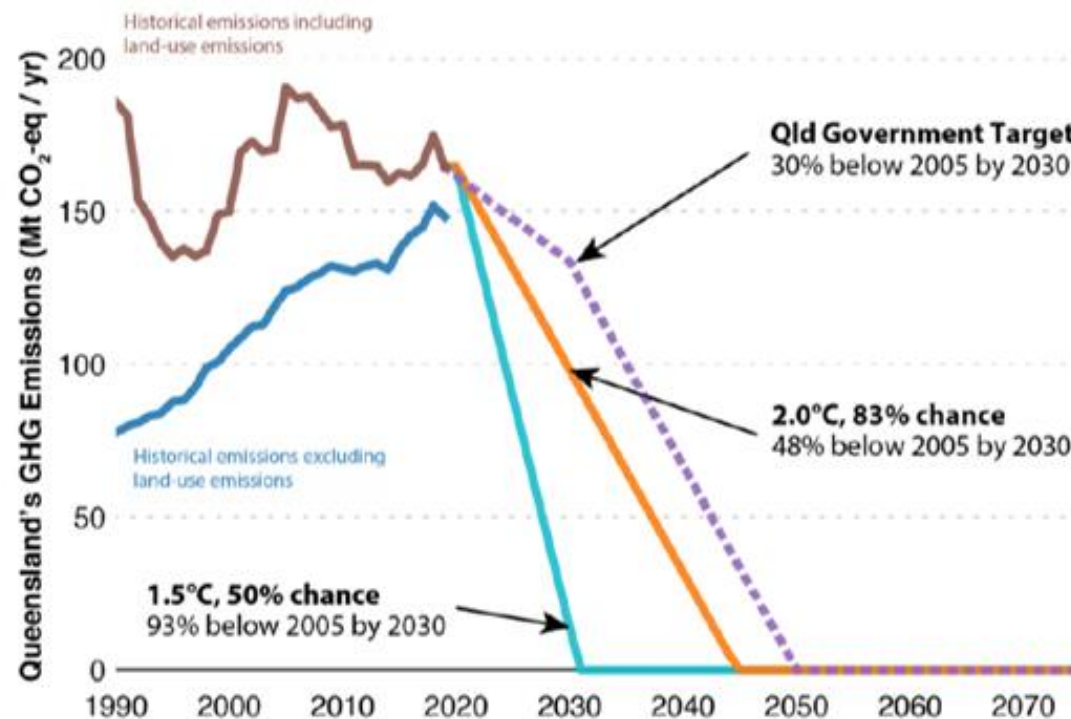


Figure 1 Historical emissions and pathways in line with different emissions budgets.

Queensland's emissions reduction targets currently fall well short of a 1.5 degrees Celsius aligned pathway

Climate Resource analysis by Meinshausen and Nicholls commissioned by the WWF-Australia Great Barrier Reef Program



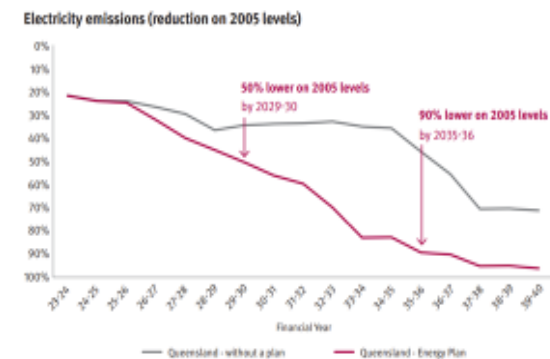
Qld new RETs' are
“step change”
scenario aligned,
which means 2 degree
emissions budget
scenario aligned

Win in QLD but more work to do

The Queensland Government's Energy and Jobs Plan will result in significant electricity emission reductions compared with their previous policies however, as seen in the previous slide the emissions reductions are not in line with 1.5°C.

Electricity emissions reductions

Lower electricity emissions – **90 per cent lower** by 2035-36



Source: Queensland Government, 2022

Decarbonising Australia's exports industries

Where are we up to on the
journey to 1.5C aligned
policies and actions for
Australia's exported
emissions?



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Decarbonising Australia's exports industries

What does the climate science say?

Science based climate policies and regulations require a consideration of all the science, not just questions of domestic emissions budgets and Paris Agreement NDCs. For exported/scope 3 emissions and fossil fuel policy this analysis is highly relevant: [Existing fossil fuel extraction would warm the world beyond 1.5 °C - IOPscience](#)

Continued and expanded fossil fuel exports in Australia are incompatible with holding warming to 1.5C . For example see this piece from Carbon Brief. [Guest post: Hundreds of planned coal mines 'incompatible with 1.5C target' - Carbon Brief.](#)

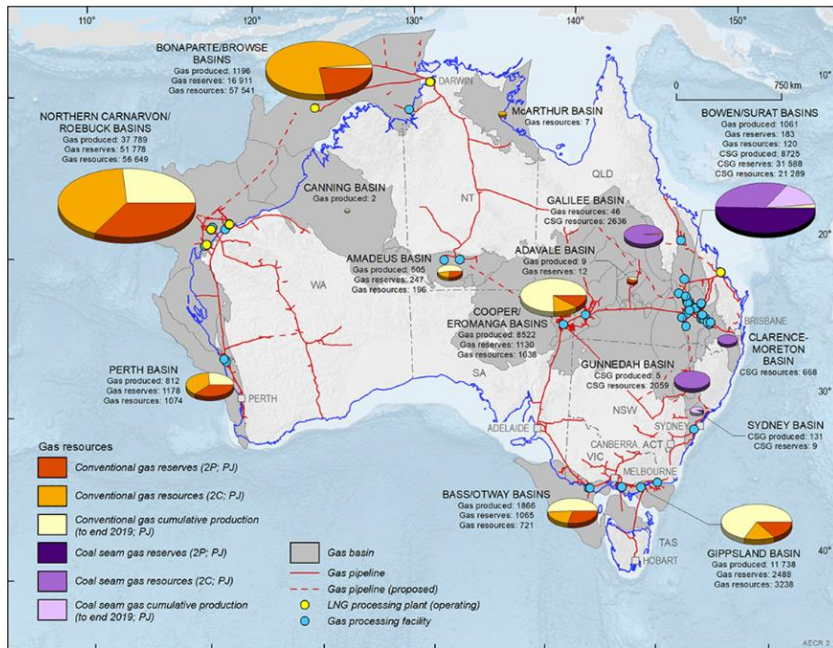


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Fossil Resources: Production & Reserves

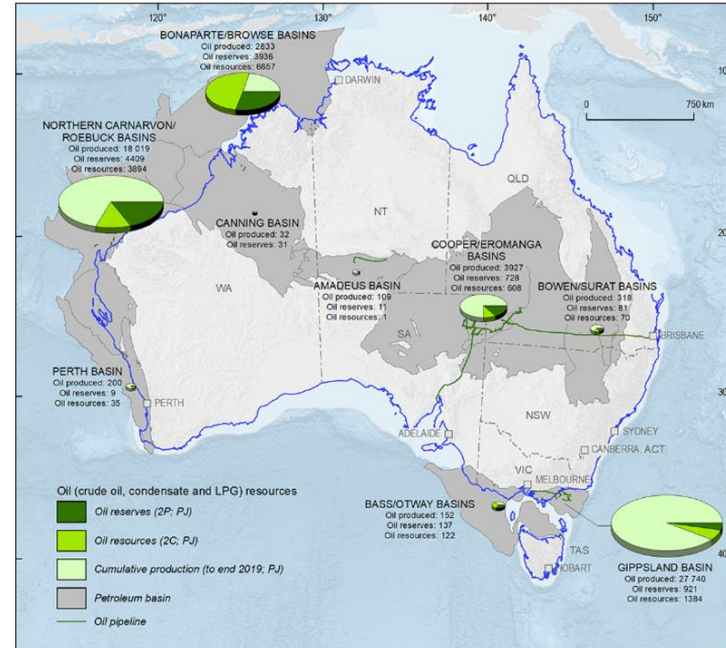


Gas



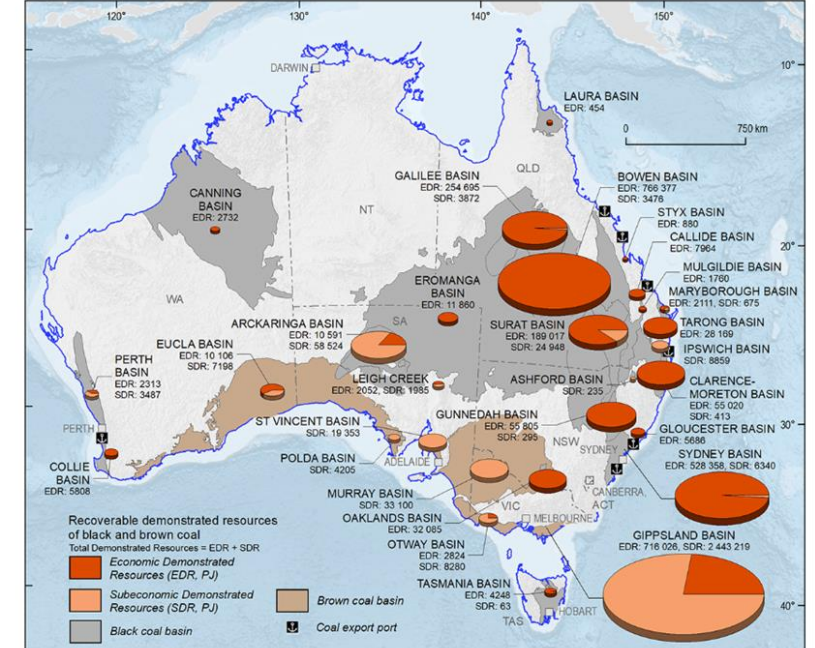
Sources: Geoscience Australia, Encom GPlato, a Datamine Australia Pty Ltd
Field outlines and pipeline routes from the GPlato petroleum database.
Note: LNG = liquefied natural gas, PJ = Petajoules.

Oil



Sources: Geoscience Australia, Encom GPlato, a Datamine Australia Pty Ltd
Pipeline routes from the GPlato petroleum database.
Note: LPG = liquefied petroleum gas, PJ = Petajoules.

Coal



Source: Geoscience Australia.

Source: Geoscience Australia, 2021

If you look at the emissions budgets and the energy transformation pathways, domestic decarbonisation (emissions reduction targets, Paris Agreement NDCs) ,decarbonising exported emissions (clean exports campaigns) and 1.5 degree aligned climate policies are all linked.

If you review the Australian Energy Market Operators Integrated System Plan pathways, 1.5C aligned domestic decarbonisation is only **technically possible** within the emissions budget with a clean exports scale of renewables.

(but for the "strong electrification scenario)

Ramping up clean exports also changes what's **politically possible as it provides avenues for a just energy transition.**



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Updated Scenario Names:

- Hydrogen Export > 1.5°C Green Energy Exports
- Step Change > 1.8°C Orchestrated Step Change
- Exploring Alternatives > 1.8°C Diverse Step Change
- Progressive Change > 2.6°C Progressive Change

**Green Energy Exports Scenario
Aligned with 1.5°C**

Source: [AEMO, 2022](#)

Cumulative Carbon Budgets¹

To model emissions reductions, cumulative carbon budgets have been determined using multi-sectoral modelling commissioned from the CSIRO / ClimateWorks to reflect the emissions reduction requirements consistent with each scenario/sensitivity's Representative Concentration Pathway (RCP). The carbon budget applies to the NEM only. More information on the derivation of these budgets can be found in the Draft 2023 IASR.

	1.5°C Green Energy Exports	1.8°C Orchestrated Step Change	1.8°C Diverse Step Change	2.6°C Progressive Change
Global mean temperature increase by 2100 (°C)	1.5°C	1.8°C	1.8°C	2.6°C
Australia's 2030 carbon budget - NEM carbon budget for FYE 2025-2030 (Mt CO ₂ -e) ²	630	630	630	630
Long-term temperature linked targets - NEM carbon budget for FYE 2025-52 (Mt CO ₂ -e)	357	681	670	1,203

Source: Cumulative carbon budgets determined from multi-sectoral modelling commissioned from the CSIRO.

Notes

1. Carbon budgets start from FY2025 to be consistent with the ISP modelling horizon.

2. The carbon budget to 2030 has been derived to meet the carbon budget as stipulated in the Climate Change Act (2022). The commensurate NEM carbon budget proposed in the table has been calculated based on the 2.6°C Progressive Change scenario's forecast NEM emissions from the multi-sectoral modelling conducted by CSIRO and ClimateWorks Centre. For further details please see the draft IASR report, section 3.3.5.

Our overarching science-based Goal:

Australia urgently needs a 1.5 degree Celsius aligned climate policies to protect our communities and comply with our obligations and duties under the Paris Agreement



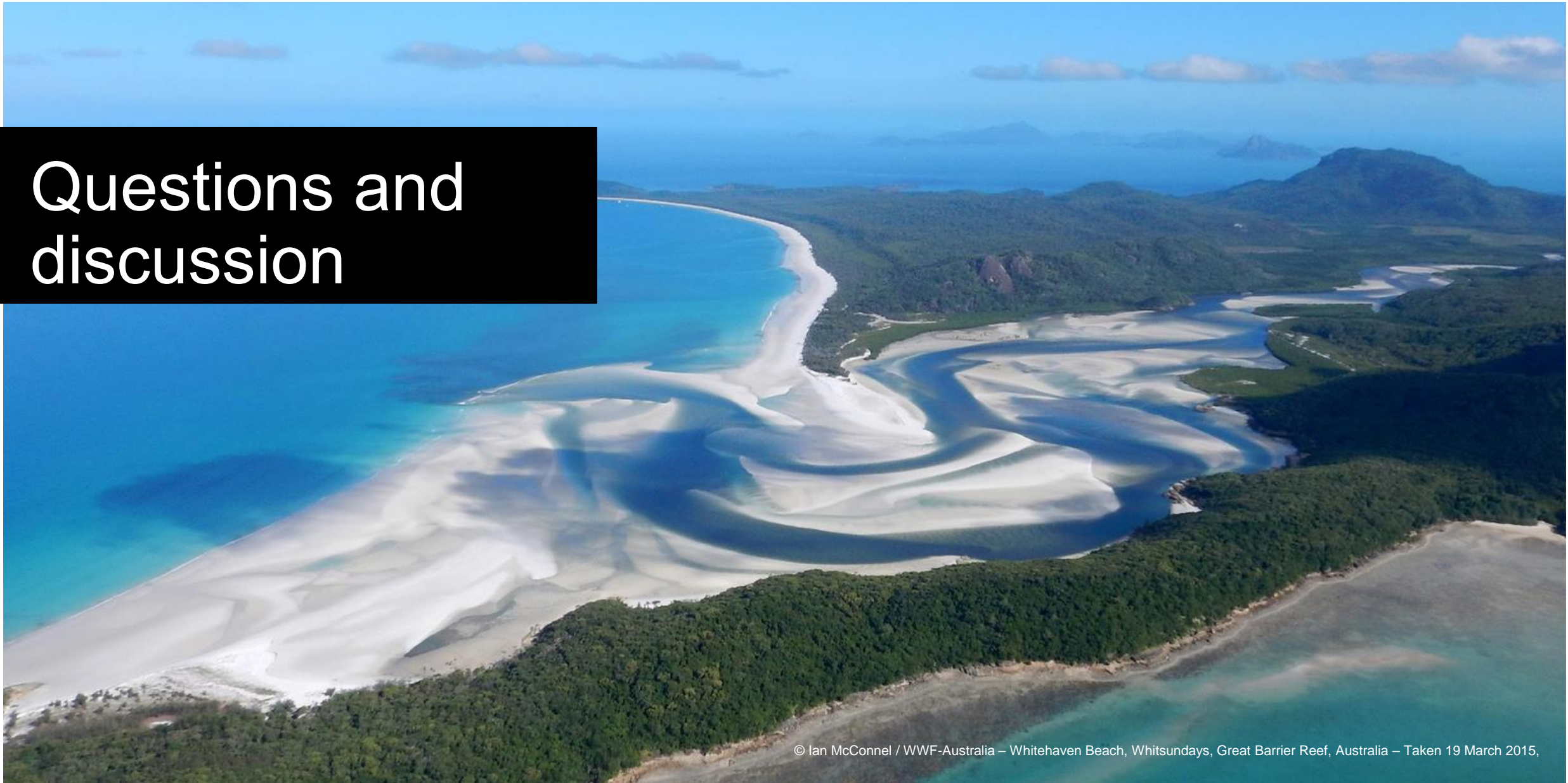
Science-based targets for Governments

Australia urgently needs a 1.5 degree Celsius aligned climate policies which require a significantly improved 2030 NDC and a strong 2035 NDC

Replace fossil fuel exports with clean exports as a renewable energy exports superpower

These climate policies must cover ALL of Australia's emissions, onshore and exports

Questions and discussion



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