

Submitted by website

21 May 2024

Australian Academy of Science submission to the Climate Change Authority consultation on 2024 Issues paper: Targets, Pathways and Progress

In 2023, the Academy made a submission to the Climate Change Authority recommending that five major actions relating to emission reduction should be undertaken. This submission notes issues relating to these five major actions that are still relevant to the 2024 Issues Paper.

Australia's reduction targets should be as ambitious as possible

Australia is a signatory to the Paris Agreement: a global temperature target “well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change”¹.

The Academy continues to support an emissions reduction target of 74% below 2005 levels by 2030, with net-zero emissions reached by 2035 (in keeping with Article 4.4 of the Paris Agreement¹ and the Climate Targets Panel)². To be consistent with the Paris Agreement goal, these emissions targets must be met.

This is a more ambitious target than the one currently suggested in the 2024 Issues Paper (a 2035 target in the range of 65-75% below 2005 levels, with net-zero emissions reached by 2050). **The Academy supports achieving this more ambitious target.** Australia is more rapidly depleting its national equitable carbon budget because its per capita emissions are higher than for all other developed countries. A much earlier net-zero emissions date than 2050 is needed.

The Authority's 2024 Issues Paper has noted that “while Australia should strive to reduce emissions as quickly as possible, going too fast would risk significant levels of economic and social disruption”. Current analysis indicates that the damages already outweigh mitigation costs,³ and that aggressive mitigation action is economically sound. Transition should be managed to ensure justice for all workers to reduce economic and social disruption, but a more ambitious target can be met.⁴

Australia should measure its scope 3 emissions

The Academy's 2023 submission noted the importance of measuring Scope 3 emissions and stated that Australia should play a leading role in developing an internationally accepted accounting scheme that attributes Scope 1, 2 and 3 emissions to sources. The Academy is committed to constructive contributions to this challenging issue.

Australia exports coal and gas to other countries, leading to carbon dioxide emissions. These exports are Australia's direct responsibility as scope 3 export emissions. Although measuring scope 3 emissions is complex, this complexity is not insurmountable—indeed, it must be surmounted.

¹ Article 4.4 of the Paris Agreement refers specifically to developed countries like Australia: “Developed country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets.” See: United Nations (2015), Paris Agreement, https://unfccc.int/sites/default/files/english_paris_agreement.pdf

² Climate Targets Panel (2021). *Australia's Paris Agreement pathways: Updating the Climate Change Authority's 2014 emissions reductions targets*, <https://www.climatecollege.unimelb.edu.au/files/site1/docs/%5Bmi7%3Aami7uid%5D/ClimateTargetsPanelReport.pdf>

³ Kotz, M., Levermann, A. & Wenz, L. (2024) The economic commitment of climate change. *Nature* 628, 551–557
<https://doi.org/10.1038/s41586-024-07219-0>

⁴ Future Earth Australia (2022). *A National Strategy for Just Adaptation*. Australian Academy of Science, Canberra, Australia.
<https://www.futureearth.org.au/sites/default/files/2022-09/a-national-strategy-for-just-adaptation.pdf>

The magnitude of these emissions could be quantified from the amounts of coal and gas exports and how it is likely to be used. A comprehensive and nuanced approach is required. The Academy supports further discussion of scope 3 emissions in the Authority's final report.

The Australian government should stop all new projects to extract fossil fuel in Australia to phase out all extraction of coal and gas in Australia by 2035, the net zero emissions date. The IPCC has made it clear that there are more than enough fossil fuel emissions in the pipeline to exceed the Paris targets: "projected CO₂ emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for 1.5°C".⁵

The Academy supports a target for greenhouse gas removal

The Academy's 2023 submission called for **Australia to announce a GHG removal target encompassing nature-based and technological solutions. This should be in addition to ambitious emission reduction targets.**

Deep and urgent emissions reductions must make the major contribution to the net-zero target. However, greenhouse gas removal, as identified by the Issues paper, can also play a role in achieving climate goals by offsetting residual emissions and achieving net-negative emissions in the longer term.⁶

The Authority's 2024 Issues paper discusses carbon dioxide removal activities and considers the development of land sector and engineered removal targets. The Academy supports the development of GHG removal targets and the authority's proposed long-term removal target. These long-term removal targets should include increasing targets for substantial removal of greenhouse gases from the atmosphere for 2035, 2050 and up to 2100.

In March 2023, the Academy convened experts to determine the scientific capability, research and collaboration needed to support breakthroughs in greenhouse gas removal.⁷ The Academy is pleased to note that some of the approaches canvassed in the roundtable, such as direct air capture and mineral carbonation, have been considered in the 2024 Issues Paper. All viable solutions must continue to be considered to ensure Australia can meet any future GHG removal targets.

Australia has been active in promoting nature-based approaches such as afforestation, reforestation and carbon farming. These carry environmental and biodiversity co-benefits but do not have long-term storage capability and are likely to be adversely affected by climate extremes now and in the future, including further increases in temperature extremes, increases in drought intensity, and increases in extreme fire weather.

To achieve a GHG removal target, the acceleration of viable technologies for greenhouse gas removal and storage, with long-term storage capabilities with minimal leakage for periods of longer than 500 years, should be a priority.

Adaptation and resilience building is an essential part of our response to climate change

The Academy's 2023 submission called for **early, comprehensive and coordinated consideration of the impact of policies on communities, including indigenous communities, disadvantaged communities, rural communities, and children/young people.**

The Academy welcomes the Authority's plan to undertake targeted engagement with First Nations people, regional and rural communities, and young people. Targeted engagement with First Nations people could be

⁵ IPCC (2023) *AR6 Synthesis Report – Headline Statements*, <https://www.ipcc.ch/report/ar6/syr/resources/spm-headline-statements/>.

⁶ Smith, S. M., Geden, O., Nemet, G., Gidden, M., Lamb, W. F., Powis, C., Bellamy, R., Callaghan, M., Cowie, A., Cox, E., Fuss, S., Gasser, T., Grassi, G., Greene, J., Lück, S., Mohan, A., Müller-Hansen, F., Peters, G., Pratama, Y., Repke, T., Riahi, K., Schenuit, F., Steinhauser, J., Strefler, J., Valenzuela, J. M., and Minx, J. C. (2023). *The State of Carbon Dioxide Removal - 1st Edition*. The State of Carbon Dioxide Removal. doi: [10.17605/OSF.IO/W3B4Z](https://doi.org/10.17605/OSF.IO/W3B4Z)

⁷ Australian Academy of Science (2023) *Greenhouse gas removal in Australia: A report on the novel negative emissions approaches for Australia roundtable*, <https://www.science.org.au/supporting-science/science-policy-and-analysis/reports-and-publications/greenhouse-gas-removal-in-australia-a-report-on-the-novel-negative-emissions-approaches-for-australia-roundtable>

undertaken in part through the [National First Peoples Platform on Climate Change \(NFPPCC\)](#), led by First Nations people in Australia and supported by the NESP Climate Systems Hub.

The Academy also recommends targeted engagement is undertaken with older adults, who are particularly vulnerable to the health and economic impacts of climate change.⁸

International partnerships to manage climate change impacts

The Academy's 2023 submission stated that **Australia should be building partnerships of all types at multiple levels – scientific, technological, commercial, local, national and international (particularly our neighbourhood) – to make every possible attempt to manage effectively the impact of climate change here and overseas.**

The Academy continues to support this position. Building international partnerships ensures we can set strong targets together rather than creating “targets [that] are too much stronger than our competitors”⁹ that could adversely impact Australia's economy.

This submission is supported by Future Earth Australia.

To discuss or clarify any aspect of this submission, please contact Mr Chris Anderson, Director Science Policy at Chris.Anderson@science.org.au.

⁸ Future Earth Australia (2022). *A National Strategy for Just Adaptation*. Australian Academy of Science, Canberra, Australia. <https://www.futureearth.org.au/sites/default/files/2022-09/a-national-strategy-for-just-adaptation.pdf>

⁹ Climate Change Authority (2024) [2024 Issues Paper: Targets, Pathways and Progress](#) p13