



Environmental Defenders Office

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Submitted via email: presidencies@unfccc.int

Dear Presidents,

Submission to the Belém Mission to 1.5

Environmental Defenders Office (**EDO**), Australia, is a national community legal centre specialising in public interest environmental law. We welcome the opportunity to make a submission to inform discussions and to help jointly shape the Belém Mission to 1.5.

EDO will address the following at a global, country and regional scale:

1. What action areas and solutions have the highest impact potential to support the submission, ambition and implementation of Nationally Determined Contributions (**NDCs**) and National Adaptation Plans (**NAPs**), including consideration of:
 - a. priority solutions and innovations across policies, technologies, practices and investments;
 - b. finance, technology, capacity building and institutional opportunities; and
 - c. the most significant barriers.
2. What is required to further strengthen international cooperation to enhance ambition and enable the effective implementation of NDCs and NAPs?

1. Action areas and solutions with the highest impact potential

As recognised in the preamble to the Call for Inputs, the paramount action for all parties is “urgent action and support for achieving deep, rapid and sustained reductions of greenhouse gas

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emissions in line with 1.5°C pathways”.¹ At a global scale, the action area with the highest impact potential is to reduce anthropogenic greenhouse gas (GHG) emissions by preventing further fossil fuel expansion, production, subsidies and use.

Action areas and purported solutions that detract or distract from this fundamental goal are, in EDO’s view, a significant barrier to the submission, ambition and implementation of NDCs and NAPs. The timeline for action is very short, with significant reductions and a downward global trajectory in GHG emissions expected from NDCs by 2035 and Net Zero to be achieved by 2050². EDO is particularly concerned about false narratives and risks of certain technologies creating distractions and barriers to real emissions reduction.

Barriers

Technologies and geo-engineering approaches

Many technologies and planetary geo-engineering approaches have been put forward as potential protectors against catastrophic climate change, but they are scientifically controversial and come with significant risks, and they do not address the constant and continuing addition of greenhouse gases to the atmosphere.³ Climate geo-engineering generally falls into two streams: solar radiation management (**SRM**) and CO₂ removal (**CDR**).

SRM seeks to cool the planet by reflecting solar radiation back into space; it remains a small-scale experimental and modelling activity. SRM primarily focuses on stratospheric aerosol injection⁴; however, other techniques have also been considered,⁵ including marine-cloud brightening (i.e. spraying fine sea-salt aerosols into low-level marine clouds to increase their reflectivity or *albedo*); surface albedo geo-engineering that increases the reflectivity of natural and constructed surfaces (e.g., selective use or modification of flora over broad areas; white roofs on aggregations of urban buildings); and space-based mirrors or shields.

All SRM applications come with considerable risks,⁶ because of unexpected complexity in the atmosphere that has not been effectively modelled and/or uneven outcomes on the major drivers

¹ <https://unfccc.int/sites/default/files/resource/Belem%20Mission%201.5%20call%20for%20inputs.pdf>

² See United Nations Framework Convention on Climate Change. (2015). *Paris agreement*. United Nations. <https://unfccc.int/process-and-meetings/the-paris-agreement>; IPCC. (2023). *Climate change 2023: Synthesis report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Core Writing Team, H. Lee & J. Romero, Eds.) <https://www.ipcc.ch/report/sixth-assessment-report-cycle/>; United Nations Framework Convention on Climate Change. (2025). *Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat* <https://unfccc.int/documents/650664>; United Nations Framework Convention on Climate Change. (2025) *Nationally Determined Contributions Synthesis Report – Update* <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs/2025-ndc-synthesis-report>

³ Give research into solar geoengineering a chance. Editorial, (2021, May 12). *Nature*, 167. <https://www.nature.com/articles/d41586-021-01243-0>; Cho, R. (2024) Solar Geoengineering To Cool the Planet: Is It Worth the Risks? 24 April 2024. Columbia Climate School, New York City, NY, USA. <https://news.climate.columbia.edu/2024/04/24/solar-geoengineering-to-cool-the-planet-is-it-worth-the-risks/>; Church, M and Recuperio, R., 2024 Why geoengineering is a false solution to the climate crisis. 15 October 2024. Center for International Environmental Law, Washington, DC, USA. <https://www.ciel.org/why-geoengineering-is-a-false-solution-to-the-climate-crisis/>.

⁴ Huynh, H. N., & McNeill, V. F. (2024). The potential environmental and climate impacts of stratospheric aerosol injection: a review. *Environmental Science: Atmospheres*, 4(2), 114 - 143 <https://doi.org/https://doi.org/10.1039/d3ea00134b>.

⁵ The Royal Society. Solar radiation modification: Policy briefing. (2025, October) ISBN: 978-1-78252-803-6.

⁶ Xing, C., Stevenson, S., Fasullo, J., Harrison, C., Chen, C., Wan, J., Coupe, J. and Pflieger, C., 2025. Subtropical marine cloud brightening suppresses the El Niño–Southern Oscillation. *Earth’s Future*, 13(8), e2025EF006522. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2025EF006522>.

of planetary climate and weather, e.g., hydrological cycle, ozone distribution and tropical cyclones. SRM effects will also fall unevenly across Earth's surface—benefiting some regions/nations and disadvantaging others—for instance, changing rainfall, insolation/evaporation and biodiversity. Unintended consequences can also arise⁷ and unknown effects can materialise because of our incomplete understanding of the planetary system.

CDR seeks to provide removals, or negative emissions outcomes.⁸ CDR encompasses conventional approaches such as reafforestation, reforestation and soil carbon sequestration, as well as novel approaches such as biochar, direct air capture and storage (**DAC+S**), ocean alkalinity enhancement and ocean fertilisation.

CDR approaches have existed for decades⁹. However, they have been almost universally small-scale and tactical (e.g. deployed at an industrial facility to suit internal requirements, tracts of land consigned to carbon offsets), rather than global/regional scale or for strategic mitigation of climate change.¹⁰ Conventional land use (i.e. land use, land-use change & forestry - LULUCF) dominates CDR in Australia. Carbon stored in this fashion can be stable for decades to centuries but is highly susceptible to precipitate released in bushfires (increasing with climate change). DAC+S and ocean-based CDR technologies (e.g. ocean alkalinity enhancement, ocean fertilisation) remain unproven at scale.¹¹

Carbon Capture, Utilisation and Storage

Carbon capture, (utilisation) and storage, (**CC(U)S**), differs from other CDR technologies as it seeks to prevent carbon from entering the atmosphere, CC(U)S has been seen by some actors as an essential solution for mitigating climate change by large-scale removal of atmospheric CO₂,¹² however, it has regularly and persistently failed to meet expectations and performance.¹³ One of the most significant poor performers is the Gorgon CCS project in Western Australia.¹⁴ CC(U)S has fundamental drawbacks¹⁵—energy penalties (often requiring additional combustion of fossil fuels),

⁷ Ibid.

⁸ See *Australian Carbon Dioxide Removal Roadmap*, CSIRO, [Australian Carbon Dioxide Removal Roadmap - CSIRO](https://www.csiro.au/australian-carbon-dioxide-removal-roadmap) 3.

⁹ See *Carbon Dioxide Removal*. IPC AR6 WGII: Factsheet. <https://www.ipcc.ch/report/ar6/wg3/downloads/>;
https://www.ipcc.ch/report/ar6/wg3/downloads/outreach/IPCC_AR6_WGII_Factsheet_CDR.pdf

¹⁰ See *The State of Carbon Dioxide Removal*. <https://www.stateofcdr.org/>; *Palgrave Encyclopedia of Sustainable Resources and Ecosystem Resilience* (pp. 1-11). Springer Nature Switzerland. https://doi.org/10.1007/978-3-030-67776-3_64-1 Bu

¹¹ Buesseler, K. O., Bianchi, D., Chai, F., Cullen, J. T., Estapa, M., Hawco, N., John, S., McGillicuddy, D. J., Morris, P. J., Nawaz, S., Nishioka, J., Pham, A., Ramakrishna, K., Siegel, D. A., Smith, S. R., Steinberg, D., Turk-Kubo, K. A., Twining, B. S., Webb, R. M., . . . Yoon, J. E. (2024). Next steps for assessing ocean iron fertilization for marine carbon dioxide removal [Perspective]. *Frontiers in Climate*, 6. <https://doi.org/10.3389/fclim.2024.1430957>.

¹² For example – Australia-based Global CCS Institute. <https://www.globalccsinstitute.com/>

¹³ Ballard, B. (2022, October 23-27). *Simple, Transparent CCS Metrics for All* [Paper presentation]. 16th International Greenhouse Gas Control Technologies Conference, Lyon, France

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4286033; Kazlou, T., Cherp, A., & Jewell, J. (2024). Feasible deployment of carbon capture and storage and the requirements of climate targets. *Nature Climate Change*, 14(10), 1047-1055. <https://doi.org/10.1038/s41558-024-02104-0>; Rasool, M. H., & Moiz Hashmi, S. A. (2026). Carbon capture and storage: An evidence-based review of its limitations and missed promises. *Petroleum Research*, 11(1), 176-205. <https://www.sciencedirect.com/science/article/pii/S2096249525000973>.

¹⁴ Milne, P. (2021, July 18). *Time's up on Gorgon's five years of carbon storage failure*. Boiling Cold. <https://www.boilingcold.com.au/times-up-on-gorgons-five-years-of-carbon-storage-failure/>.

¹⁵ Robertson, B., & Mousavian, M. (2022). *The carbon capture crux: Lessons learned*. Institute for Energy Economics and Financial Analysis (IEEFA). <https://ieefa.org/resources/carbon-capture-crux-lessons-learned>.

high water consumption, operational risks and high costs. Other technologies exist only in theory (e.g., bioenergy with CCS) and are unlikely to match the theory in practice.¹⁶

Ultimately, these technologies cannot be deployed at the rate and extent needed to see the rapid and ongoing reduction in emissions required by the Paris Agreement. “[C]ontinued reliance on CCS is a high-cost gamble that risks delaying the deployment of truly effective climate solution”.¹⁷ Both the IEA¹⁸ and IPCC¹⁹ have made it clear recently that the critical and incontrovertible first step in climate change mitigation is to cut GHG emissions quickly and aggressively. It is the EDO’s view that CDR applications should only be used as subsidiary and adjunct actions and should not come at the expense of direct action to mitigate climate change.

Other barriers

In addition to unbated fossil fuel production and subsidies, EDO considers the following to be significant barriers to the action areas and solutions that have the highest impact potential to support the submission, ambition and implementation of NDCs and NAPs:

- False and misleading information and the denigration of accurate, evidence-based information on climate issues. This is a barrier that is recognised at all levels. On a global scale, the Global Initiative for Information Integrity On Climate Change drove the launch of the *Belém Declaration on Information Integrity on Climate Change* at COP30. The declaration has been endorsed by 26 countries and the European Union, but Australia has not yet endorsed it.²⁰ At a country scale, the Australian Senate Select Committee on Information Integrity on Climate Change and Energy concluded that “the most direct impact of false and misleading information is that it delays energy projects, Australia’s clean energy transition, and action on climate change, confusing the public’s understanding of climate change as well as reducing support for climate policy”.²¹
- False and misleading information is also a significant barrier to effective climate actions by corporations, particularly with respect to their corporate sustainability plans and goals. This is clear from the growing number of ‘greenwashing’ cases globally including *Greenpeace France and Others v TotalEnergies SE and TotalEnergies Electricité et Gaz France* and the *Australian Centre for Corporate Responsibility v Santos* appeal.
- The Investor State Dispute Settlement (**ISDS**) mechanism in trade and other agreements. The use of, or even threat of ISDS, inhibits effective climate policy and legislative change,

¹⁶ Duval-Dachary, S., Beauchet, S., Lorne, D., Salou, T., Helias, A., & Pastor, A. (2023). Life cycle assessment of bioenergy with carbon capture and storage systems: Critical review of life cycle inventories. *Renewable and Sustainable Energy Reviews*, 183, 113415. <https://doi.org/https://doi.org/10.1016/j.rser.2023.113415>

¹⁷ Rasool & Moiz Hashmi (n 13) 176.

¹⁸ For example – <https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-c-goal-in-reach/a-renewed-pathway-to-net-zero-emissions%20>; <https://www.iea.org/reports/world-energy-outlook-2025/net-zero-emissions-by-2050>

¹⁹ Carbon Dioxide Removal. IPCC AR6 WGIII: Factsheet. https://www.ipcc.ch/report/ar6/wg3/downloads/outreach/IPCC_AR6_WGIII_Factsheet_CDR.pdf.

²⁰ See [Global Initiative for Information Integrity on Climate Change | United Nations](https://www.giicc.org/).

²¹ Australian Senate Select Committee on Information Integrity on Climate Change and Energy, *The Integrity Gap: Restoring Trust in the Climate and Energy Debate* (March 2026) at [4.26]. https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Information_Integrity_on_Climate_Change_and_Energy/ClimateIntegrity/Report

prioritising corporate profit over environmental, health and human rights outcomes. Furthermore, the United Nations Framework Convention on Climate Change report *Baku to Belém Roadmap to 1.3T* explicitly identified ISDS in trade agreements as a systemic barrier to financing climate action in developing countries.²²

2. What is required to further strengthen international cooperation to enhance ambition and enable effective implementation

EDO advocates full and unqualified incorporation and application of the International Court of Justice *Advisory Opinion on the Obligations of States in respect of Climate Change* between and within States beyond the adoption of *UN General Assembly Resolution 80/263*.

To that end, at a country and regional level (in the Australian context), this could include:

- Setting mandatory consideration – requiring public reasons – for all fossil fuel production, consumption, exploration license and/or or subsidy decisions of:
 - the risk of committing an internationally wrongful act by failing to take all measures that are within a State’s power to prevent significant harm to the climate system and other parts of the environment;²³
 - the customary duty to cooperate for the protection of the environment.²⁴
- Requiring all emissions, including exported or downstream emissions, to be taken into account in all fossil fuel production, consumption, exploration license and/or or subsidy decisions and in setting NDCs and developing NAPs.
- Phasing out fossil fuel production, by legislating restrictions on fossil fuel production.
- Incorporating the right to a clean, healthy and sustainable environment, as an essential precondition to the enjoyment of other human rights,²⁵ into all existing human rights legislation. Where a jurisdiction does not have a comprehensive human rights framework, one should be enacted, incorporating the right to a clean, healthy and sustainable environment.
- Requiring interim emissions targets to be set and linked to carbon budgets. This would hold governments accountable on an ongoing basis, rather than deferring responsibility to distant milestone years that can be ignored or deprioritised in the short term.
- Embedding a ‘duty to Act’ in law, supported by an independent body tasked with evaluating whether the government will reach its legally binding climate targets. If it is not deemed probable, the government is legally compelled to present new short-term and long-term initiatives aimed at achieving the target.

²² *Baku to Belém Roadmap to 1.3T* (November 2025), p 52. Available at: [Relatorio_Roadmap_COP29_COP30_EN_final.pdf](#).

²³ International Court of Justice *Advisory Opinion on the Obligations of States in respect of Climate Change (ICJ AO)* at [409], [427].

²⁴ ICJ AO at [140]-[142], [183], [214]-[218], [301]-[308].

²⁵ ICJ AO at [373], [377], [381]-[382], [386].

Thank you for the opportunity make a submission. For further information, please contact Revel Pointon, Managing Lawyer, Policy and Law Reform on revel.pointon@edo.org.au.

Yours sincerely,

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