Submission No 27

INQUIRY INTO EMISSIONS FROM THE FOSSIL FUEL SECTOR

Organisation: Environmental Defenders Office (EDO)

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Submission to the NSW Joint Standing Committee on Net Zero Future Inquiry into emissions from the fossil fuel sector

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About EDO

EDO is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 30 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

www.edo.org.au

Submitted to:

Joint Standing Committee on Net Zero Future
NSW Parliament
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Acknowledgement of Country
The EDO recognises First Nations Peoples as the Custodians of the land, seas, and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander Elders past, present, and emerging, and aspire to learn from traditional knowledge and customs so that, together, we can protect our environment and cultural heritage through both Western and First Laws. In providing submissions, we pay our respects to First Nations across Australia and recognise that their Countries were never ceded and express our remorse for the deep suffering that has been endured by the First Nations of this country since colonization.

Introduction

EDO welcomes the establishment of the Inquiry into emissions from the fossil fuel sector and the opportunity to make a submission on this important matter.

For 40 years, EDO has provided legal advice and representation to communities in NSW on public interest environmental matters, including clients who are concerned about the environmental, health, social and economic impacts of the fossil fuel sector in NSW. This submission is informed by this work.

NSW's latest greenhouse gas emissions projections have borne out and quantified the finding of the NSW Net Zero Commission's 2024 Annual Report that NSW will not meet its 2030, 2035, or 2050 targets without faster and more significant action.

As the most recent NSW State of the Environment Report noted, climate change is having an impact on all aspects of the NSW environment: "[c]limate change is already affecting NSW communities. Impacts to human health, the environment, water resources, the economy, properties and infrastructure will continue to increase."[1]

EDO is concerned that the pace and level of ambition for change in this area demonstrated by the NSW Government and relevant agencies to date do not reflect the guiding principles of the *Climate Change (Net Zero Future) Act 2023* (**Net Zero Act**) and will not achieve the legislated emissions reduction targets. The recently released *NSW Government Response to Net Zero Commission 2024 Annual Report and the Parliamentary inquiry report by the Joint Standing Committee on Net Zero Future*[2] (**Government Response**), although expressing significant commitment to addressing the problem, does not in our view make specific commitments to do so, in particular with respect to the coal sector of the resources industry.

The NSW Government has indicated that its new Net Zero Plan will specifically identify transport and built environment as priority sectors for emissions reductions to meet the 2030 and 2035 targets. [3] However, it has not identified the fossil fuel sector as a priority, despite the significant direct emissions from the sector, and the NZC's concerns about "the risks to the state's targets from increased emissions in the resources sector" particularly the significant pipeline of coal mine applications in the planning process. It is vital that this sector is scrutinised. Not only does its direct emissions jeopardise NSW meeting its emission reductions targets, but the sector's indirect emissions, which are significantly greater than the total direct emissions of the NSW economy, have played a significant historical and continuing role in exacerbating climate change and its impacts on the environment, community, and economy of NSW.

[1] NSW EPA, NSW State of the Environment 2024 'Climate Change', 'Impacts', https://www.soe.epa.nsw.gov.au/all-themes/climate/climate-change#impacts-overview
[2] NSW Government Response to Net Zero Commission 2024 Annual Report and the Parliamentary inquiry report by the Joint Standing Committee on Net Zero Future
[3] NSW Government Response, p 10.

Summary of recommendations

Our key recommendations are:

1. **Recommendation 1:** In considering the impact of Scope 3 emissions of a development on the people, environment, and economy of NSW, an assessment of Scope 3 emissions should be undertaken against the remaining global carbon budget to limit global temperature increase to 1.5C above pre-industrial levels.

2. **Recommendation 2:** No new coal or expanded coal mines or gas projects be approved in NSW, as is necessitated by NSW emissions reduction targets, the purpose and guiding principles of the Net Zero Act, best available science, and the public interest.

3. **Recommendation 3:** The NSW Government immediately formally revoke the outdated *Strategic Statement on Coal Exploration and Mining in NSW* (dated 2020) (**Strategic Statement on Coal**). Any revised Statement must set out a pathway for the managed decline of the industry in accordance with NSW legislated emission reduction targets, the purpose and Guiding Principles of the Net Zero Act, and consistent with Australia's international obligations in relation to climate change clarified by the Advisory Opinion of the International Court of Justice.

4. **Recommendation 4:** The NSW Government should ensure that its decisions (including planning decisions), emissions data and projections are based on best available science, including:

    a. Using higher order methods and source site verification for fugitive emissions from fossil fuel development, and in particular from open cut coal mines;

    b. Using a Global Warming Potential (**GWP**) for short lived pollutants such as methane that is commensurate to the timeframe covered by the emissions reduction targets, that is, a 20 year timeframe rather than a 100 year timeframe.

5. **Recommendation 5:** Amendments should be made to the EP&A Act or prescribed in regulations or in a State Environmental Planning Policy to ensure planning decisions are consistent with NSW's emissions reduction targets. Consent authorities should be required to assess the impact of a development's direct emissions on NSW emissions reduction targets in relation to modelled emissions-reduction pathways consistent with the targets, purpose and Guiding Principles of the Net Zero Act.

6. **Recommendation 6:** The Net Zero Commission should exercise its functions under s 15(3) of the Net Zero Act to provide advice to the Secretary of the Department of Planning and the NSW Independent Planning Commission on applications for new or expanded coal mines. Such advice should ensure that the development's implications for NSW's emissions reduction targets are scrutinised and assessed in light of current predicted overshoot of the 2030 and 2035 targets. Consent authorities should place substantial weight on the Commission's advice in its assessment of the development, commensurate with the legislative status of the emissions reductions targets.

7. **Recommendation 7:** Coal mines must be required to implement best available techniques/ best available technology (**BAT**), including ventilation air methane abatement, to address methane emissions.
8. **Recommendation 8:** Economic assessments for fossil fuel projects be required to include the costs of the impacts of the project's scope 3 emissions, using a social cost of carbon or damage cost approach.
9. **Recommendation 9:** A binding sectoral emissions reduction pathway for the coal sector must be developed and implemented. This pathway must be consistent with NSW achieving its 2030, 2035 and 2050 emissions reduction targets and with the purpose and Guiding Principles of the Net Zero Act. The consistency with the pathway must be binding on all coal mines in NSW.
10. **Recommendation 10:** Limits must be imposed on methane emissions from fossil fuel projects as air pollution under the *Protection of the Environment Operations Act 1997* (**POEO Act**). These limits should be determined based on a sectoral emissions reduction pathway consistent with the NSW emissions reduction targets.
11. **Recommendation 11:** The EPA must require, through its climate policies such as the Greenhouse Gas Mitigation Guide for NSW Coal Mines that GHG mitigation measures be taken immediately, consistent with the critical need to address climate change as early as possible (as recognised by the Guiding Principles of the Net Zero Act).
12. **Recommendation 12:** The new Net Zero Plan must identify the fossil fuel sector as a priority sector for emissions reductions to meet the 2030 and 2035 targets.

1. Note on scope of Terms of Reference – Direct and Indirect Fossil Fuel Emissions

EDO notes that the Terms of Reference for this inquiry appear to limit the focus of the inquiry to *direct* fossil fuel emissions, that is, emissions that are released from fossil fuel projects within NSW.[4]

In EDO's view, it is critical that the NSW Government meaningfully grapple with the full emissions profile of fossil fuels projects in NSW, which includes, in particular, their scope 3 emissions. Scope 3 emissions represent the vast majority (approximately 98%) of GHG emissions from the NSW fossil fuel industry, being released from the inevitable combustion of the coal or gas outside of Australia. These emissions, regardless of whether they occur in NSW or elsewhere, contribute to global climate change and to impacts of climate change on the people, environment, and economy of NSW.

While the scope 1 and 2 emissions of these projects pose serious risks to NSW's net zero targets, their scope 3 emissions are of such a scale that they far exceed all scope 1 and 2 emissions of NSW's whole economy. The generation of additional scope 3 emissions from the coal produced by

[4] See chapeau to Terms of Reference: "That the Joint Standing Committee on Net Zero Future inquire into and report on the scale and nature of current and likely future **direct** greenhouse gas emissions from fossil fuel projects and related infrastructure in New South Wales, and in particular…"

the ongoing extension and expansion of coal mines in NSW is inconsistent with the guiding principles and purposes of the Net Zero Act, and incompatible with meeting global temperature goals under the Paris Agreement. Experts at the UNSW Australian Human Rights Institute have drawn attention to the serious implications posed by Australia's exported emissions in their comprehensive 2024 report, *Escalation: The destructive force of Australia's fossil fuel exports on our climate*.[5] The authors note that *"[m]uch more powerful and direct policy action will be needed for Australia to bring down its fossil fuel production for export to any substantial extent".* In the absence of federal leadership, this must include policy action in NSW.

The recent ICJ Advisory Opinion on States' Obligations in relation to Climate Change (**ICJ Advisory Opinion**) delivered on 23 July 2025 represents an authoritative statement of international law, with unanimous findings by 15 judges of the International Court of Justice confirming that States have international obligations in relation to climate change under climate treaties such as the Paris Agreement as well as customary international law. The ICJ has found that *"States have a duty to prevent significant harm to the environment by acting with due diligence and to use all means at their disposal to prevent activities carried out within their jurisdiction or control from causing significant harm to the climate system and other parts of the environment, in accordance with their common but differentiated responsibilities and respective capabilities".*[6] Given the serious risks currently posed to the climate system by anthropogenic activities, the ICJ found that the standard of due diligence required for preventing significant harm to the climate system is "stringent" and requires a "heightened degree of vigilance and prevention".[7] Further, in determining whether a State has complied with such obligations, the conduct of "any organ of a State must be regarded as an act of that State".[8] That includes the conduct of NSW government agencies in regulating fossil fuels.

In relation to mitigating climate change, the purpose of NSW's Net Zero Act is *"to give effect to the international commitment established through the Paris Agreement to – (a) hold the increase in the global average temperature to well below 2°C above pre-industrial levels, and (b) pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels".*[9] The ICJ Advisory Opinion has confirmed that the 1.5C threshold is the primary temperature goal for limiting the global average temperature increase under the Paris Agreement: *"while the Paris Agreement provides for limiting the global average temperature increase to well below 2°C above pre-industrial levels as a goal and 1.5°C as an additional effort, 1.5°C has become the scientifically based consensus target under the Paris Agreement*".[10] The objects of the Net Zero Act should now be interpreted in light of this confirmed temperature goal.

[5] UNSW Australian Human Rights Institute, *Escalation: The destructive force of Australia's fossil fuel exports on our climate*, August 2024.
[6] ICJ Advisory Opinion, finding B(a).
[7] ICJ Advisory Opinion, [138].
[8] ICJ Advisory Opinion, [427].
[9] Net Zero Act, section 3.
[10] ICJ Advisory Opinion, [224].

Further, the ICJ Advisory Opinion clarifies that all activities under the jurisdiction and control of States are relevant for consideration regarding whether they are meeting international law obligations in respect of climate change. Those activities include production of fossil fuels, subsidies, and granting licences for fossil fuel exploration.[11] The ICJ confirms that States may attract responsibility under international law for deficiencies in its regulation of emissions caused by private actors at [428]: *"a State may be responsible where, for example, it has failed to exercise due diligence by not taking the necessary regulatory and legislative measures to limit the quantity of emissions caused by private actors under its jurisdiction."* In EDO's view, this includes emissions arising from the consumption of coal that is sold by private actors to overseas buyers.

While specific findings of state responsibility attributable to Australia would require confirmation by specialist counsel and the courts, the ICJ Advisory Opinion makes clear that failure to effectively regulate private actors to ensure "deep rapid, and sustained" reductions of greenhouse gas emissions necessary to prevent significant harm to the climate system may constitute an internationally wrongful act.[12]

In addition, continued approval of coal mine expansions is inconsistent with the purpose of the Net Zero Act. New coal and gas development is incompatible with the Paris Agreement temperature goals. This has been clear since 2021, when the International Energy Agency found that "beyond projects already committed as of 2021, there are no new oil and gas fields approved for development in our pathway, and no new coal mines or mine extensions are required".[13]

This remains the case. The best available science suggests that the global carbon budget for a 50% chance of staying on a 1.5 degree warming pathway is already exceeded by existing and under-construction fossil fuel projects.[14]

The scope 3 emissions of the NSW coal (and gas) industry also engage a number of the Guiding Principles. Continued approvals of fossil fuel projects in NSW are incompatible with the following Guiding Principles, in particular:

- (2) There is a critical need to act to address climate change, which is a serious threat to the social, economic and environmental wellbeing of New South Wales.
- (3) Action to address climate change should be taken as early as possible to minimise the cost and adverse impacts of climate change.
- (10) The Government of New South Wales is responsible for—
    - (a) urgently developing and implementing strategies, policies and programs to address climate change, and

[11] ICJ Advisory Opinion, [427].
[12] ICJ Advisory Opinion, [282].
[13] Net Zero by 2050 A Roadmap for the Global Energy Sector Net Zero by 2050 - A Roadmap for the Global Energy Sector - Summary for Policy Makers, p 11.
[14] Trout, Kelly, et al. "Existing fossil fuel extraction would warm the world beyond 1.5 C." *Environmental Research Letters* 17.6 (2022): 064010. Existing fossil fuel extraction would warm the world beyond 1.5 °C - IOPscience

- (b) ensuring the Government of New South Wales pursues best practice in addressing climate change.

In addition to the impact of new or expanded fossil fuel developments on NSW emission reduction targets, the magnitude of the Scope 3 emissions associated with the NSW fossil fuel industry, and the best available science on pathways to 1.5°C, support the case for a managed phase out of the fossil fuel industry in NSW, commencing with a prohibition on new or expanded coal mines or gas projects.

In the absence of an express prohibition, policy-makers, administrative decision-makers (such as consent authorities under the EP&A Act) , and regulators must in any event meaningfully consider the scope 3 emissions of the NSW fossil fuel industry (or, as relevant, the fossil fuel project before them) and the cumulative impacts of such emissions on the remaining global carbon budget for a 1.5C global warming pathway.

Scope 3 emissions from NSW coal mine projects are a mandatory consideration for consent authorities under clause 2.20(1) of the *State Environmental Planning Policy (Resources and Energy) 2021.* However, in practice, consent authorities have rarely engaged meaningfully with the true implications of the scope 3 emissions from such projects, stating that a project's scope 3 emissions are dealt with by customer countries as scope 1 emissions under the Paris Agreement and therefore do not need to be regulated in NSW.

However, the recent decision of the NSW Court of Appeal in *Denman Aberdeen Muswellbrook Scone Healthy Environment Group Inc v MACH Energy Australia Pty Ltd* [2025] NSWCA 163 made clear that this established practice of proponents and decision-makers under the EP&A Act to only cursorily address the scope 3 emissions of resources projects is unlawful. It is not sufficient for decision-makers to note that greenhouse gas accounting frameworks count emissions at the point of release. This is immaterial to a framework that requires the assessment of the environmental impacts of a particular project, where the release of GHGs (and associated climate change impacts) is the inevitable result of the project and contributes to climate change impacts.

A similar finding was made by the UK Supreme Court in *Finch v Surrey County Council* [2024] UKSC 20, in which it was determined that the environmental impacts of the scope 3 emissions from a fossil fuel development must be assessed as part of the development's environmental impact assessment, regardless of where those emissions take place. This is supported by the ICJ Advisory Opinion, which has confirmed the requirement as part of the obligation to prevent significant harm to the environment under customary international law, to assess the transboundary climate impacts of activities and their "possible downstream effects" that may have a significant adverse impact on the climate, on the basis of the best available science.[15]

In response to the *Finch* decision, the UK government has recently published new guidance Environmental Impact Assessment (EIA) – Assessing effects of downstream scope 3 emissions on climate, which provides robust assessment requirements for scope 3 emissions. Importantly, this

[15] ICJ Advisory Opinion, [296]-[297].

guidance addresses the deficiencies of an approach (commonly used in Australia) that seeks to downplay the impact of any one project by comparing project emissions to global emissions:

> *OPRED's current view is that characterising scope 3 emissions from a project solely in numeric terms against global GHG emissions would not on its own provide a meaningful expression of the global effect of those scope 3 emissions, because of the obvious difference in scale between individual projects and global emissions levels. Therefore, OPRED considers that an assessment of scope 3 emissions in relation to the current state of climate and global emissions-reduction pathways (IPCC, 2023) is more likely to support a reasoned conclusion on significance.* [16]

This represents a strong model for more accurately assessing the impact of the Scope 3 emissions of a project, consistent with the Purpose and Guiding Principles of the Net Zero Act.

Recommendation 1:

In considering the impact of Scope 3 emissions of a development on the people, environment, and economy of NSW, an assessment of Scope 3 emissions should be undertaken against the remaining global carbon budget to limit global temperature increase to 1.5C above pre-industrial levels.

2. The scale and nature of current and likely future direct greenhouse gas emissions from fossil fuel projects and related infrastructure in New South Wales (ToR 1)

2.1. The scale of current and likely future direct GHG emissions from NSW fossil fuels

On 26 June 2025, the NSW Government released its latest GHG emissions projections (**2024 Emission Projections**). It found that on current policy settings, NSW will not meet any of its legislated emissions reduction targets, with projected emissions reductions of 46% (rather than the 50% target) below 2005 levels by 2030 and 62% (in contrast to the 70% target) by 2035. [17]

Its modelling forecasts that, on current policy settings, the abatement gap to reaching the 2030 target is 7.2 Mt CO2-e, while the abatement gap to achieving the 2035 target is 12.6 Mt CO2-e. In 2050, there are 18.0 Mt CO2-e of residual emissions projected.[18]

[16] UK Government, Department for Energy Security and Net Zero, Environmental Impact Assessment (EIA) – Assessing effects of downstream scope 3 emissions on climate (June 2025), p 12.
[17] NSW greenhouse gas emissions projections 2024.
[18] NSW greenhouse gas emissions projections 2024, p 14.

With respect to fugitive emissions, the 2024 Emissions Projections model for both "business as usual" and "current policy".

Business as usual emissions projections

Under BAU assumptions, fugitive emissions in NSW are projected to increase from an inventoried 10.6 Mt CO2-e in 2022 to:

1. 11.2 Mt CO_2-e in 2023; to
2. 15.4 Mt CO_2-e by 2027, "primarily due to increasing coal production in the short term".[19]

Emissions are then projected to decline to 7.2 Mt CO_2-e in 2042, and "**[b]y 2050 all coal mines are projected to close**, bringing emissions from the sector down to 1.8 Mt CO_2-e (arising from decommissioned mines)".[20]

BAU projections have been broken down into three scenarios to consider the impact of the "pipeline of coal projects" in the planning system. These scenarios are:

1. Scenario 1, which included all coal mines with approval as at 15 November 2024. We note this scenario is now out of date, because between 15 November 2024 and the date of this submission, four further coal mine expansions representing an additional 3.97 Mt CO_2-e in direct emissions, have been approved by the Department of Planning (three of which are included in Scenario 2, and one - HVO North Mod 8 - which does not appear to have been included in any scenario);
2. Scenario 2, which included (in addition to the mines in Scenario 1):
    1. Chain Valley Consolidation SSD
    2. Hunter Valley Operations North Continuation SSD
    3. Hunter Valley Operations South Continuation SSD
    4. Mount Arthur Modification 2 (**approved on 16 April 2025**)
    5. Moolarben OC3 SSD
    6. Newstan SSD
    7. Tahmoor South Modification 3 (**approved on 27 May 2025**)
    8. Ulan MOD 6 (**approved on 22 May 2025**)
3. Scenario 3, which included (in addition to the mines in Scenarios 1 and 2):
    1. Angus Place West SSD
    2. Appin Modification 4
    3. Appin Modification 6
    4. Bloomfield Modification 5
    5. Boggabri Modification 10
    6. Clarence Modification 8
    7. Dartbrook Modification 8

[19] NSW greenhouse gas emissions projections 2024, p 73.
[20] NSW greenhouse gas emissions projections 2024, p 73.

8. Maules Creek Continuation SSD
9. Metropolitan Modification 4
10. Russel Vale Modification 2
11. Rix's Creek North Continuation SSD
12. Ulan Modification 8
13. Wilpinjong Modification 3

Scenario 2 was relied on for the purposes of the 2024 Projection and therefore for the Net Zero Dashboard. That is, **none of the projects listed above at Scenario 3 are included in any of the data on GHG emissions in NSW at this stage, and any approvals of those projects would add to the already sizeable emissions gaps**.

Emissions projections on "current policy"

The projections estimate that fugitive emissions in the resources sector (largely methane associated with coal mining and gas production) will rise from an inventoried 10.6 Mt CO2-e in 2022 to 13.2 Mt CO2-e in 2030, then decline gradually to 7.6 Mt CO2-e in 2035 and 1.8 Mt CO2-e in 2022. [21]

However, in our view this is an overly optimistic estimation of the impact of current policies on business as usual in the fossil fuel sector. The Projections state that "[a]batement in this sector is projected to come from either programmatic funding, such as the Net Zero Industry and Innovation Program (NZIIP) or leveraged by the Australian Government's Safeguard Mechanism reforms and Environment Protection Authority's (EPA) climate change policy and action plan (CCPAP). Action under future stages of the Net Zero Plan is also assumed to abate the emissions in this sector after 2030."

None of the policies cited has a track record of meaningfully reducing on-site emissions at coal mines (or gas projects). This is discussed further below at **Section 7** and in EDO's May 2025 Report *Improving coal mine methane regulation in NSW*, which examines the current regulation of coal mine methane emissions in NSW and makes a number of recommendations for improvement.

The assumptions are therefore not grounded in fact, but rely on policies which have (in relation to the coal sector) either yet to commence or which have been ineffective, and regulators that have not used their powers to avoid and mitigate GHG emissions in NSW.

Projections are flawed and significantly underestimate the impact of direct emissions of fossil fuel projects in the period to 2050

The 2024 Emissions Projections (both "business as usual" and "current policy") contain significant flaws in addition to those identified above, with respect to quantifying fugitive emissions including:

[21] NSW greenhouse gas emissions projections 2024, p 77.

- Underestimation of fugitive emissions. With respect to emissions from open cut coal mines, fugitive methane emissions are likely to be twice as high as the estimates currently factored into NSW's emissions inventory and thus its emissions projections.[22] (see **Section 4.1** below);
- The GWP of methane emissions is calculated using an inappropriate time-scale. Where a timescale appropriate to the emissions reduction targets is used, the GWP (and therefore, the CO_2e-) is approximately four times higher (see **Section 4.2** below); and
- The projections take a point in time approach for each target year and do not consider total/cumulative emissions or a carbon budget approach.[23]

NSW is one of the largest coal exporters in the world, with approximately 36 operational coal mines.

In this term of Parliament, six new or expanded coal projects have been approved. Four of these mines were approved following the 2024 Annual Report of the Net Zero Commission, which warned that NSW is not on track to meet its legislated emissions reduction targets and explicitly identified the large number of coal mine applications (for new and extended mines) currently under assessment as a risk to NSW being able to meet its emission reduction targets.

There are 18 coal mine expansions (that is, with GHG emissions impacts through seeking to mine for more coal, for more time, or both) currently under assessment by the NSW Department of Planning, Industry and Housing.[24]

Additionally, according to the Lock the Gate Alliance, a further six coal mine extension projects have been raised by proponents as under development but for which applications under the *Environmental Planning and Assessment Act* (**EP&A Act**) have yet to be made.[25]

The Net Zero Commission noted that emissions increases associated with extended or expanded coal projects would require other sectors to make greater emissions cuts, and that emissions increases associated with extended or expanded projects "pose a major challenge for the state's regulatory arrangements".[26]

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[22] Climate Change Authority, *2023 Review of the National Greenhouse and Energy Reporting Legislation* (2023), pp 5-6, 65-84, 117. See also: International Energy Agency, *Global Methane Tracker 2022 Methane and Climate Change*,; Institute for Energy Economics and Financial Analysis, *Fugitive methane emissions cast dark cloud over Australia's Net Zero ambitions* (5 July 2023); P Rayner and A Grant, *Open Methane's First Results Build the Urgent Case for Improved Emissions Measurement*, Open Methane, 30 April 2024.

[23] See, for example, Mc Guire et al. (2020). The role of carbon budgets in translating the Paris Agreement into national climate policy Discussion Paper, Discussion-Paper_The-role-of-carbon-budgets-in-translating-the-Paris-Agreement-into-national-climate-policy.pdf, pp 6, 12.

[24] Lock the Gate Alliance submission to the Net Zero Commission 2025 Consultation Lock the Gate Alliance.pdf p 1.

[25] See Appendix 2 to the Lock the Gate Alliance submission to the Net Zero Commission 2025 Consultation Lock the Gate Alliance.pdf .

[26] Net Zero Commission 2024 Annual Report, 2024 Annual Report, p 12.

2.2. The nature of the emissions in NSW: predominantly methane

The Federal Climate Change Authority's Sector Pathway Review found that reported fugitive emissions from coal mining in Australia are predominantly methane emissions (95%), and that fugitive emissions account for almost half of the resources sector's reported emissions, with 25% from coal mining.[33]

In NSW, 72.7% of the resources sector's direct GHG emissions are fugitive emissions from coal mining. [27]

In 2022, fugitive emissions from underground coal mines in NSW were estimated at 8.1 Mt CO2-e, while open cut coal mining contributed a reported 2 Mt CO2-e.[28] However, as set out below at **Section 3.1** below, these figures are likely to significantly underestimate fugitive emissions from open cut coal mining.[29]

Methane is responsible for around 30% of the rise in global temperatures since the industrial revolution.[23] The concentration of methane in the atmosphere is increasing at a rate faster than in any period since record-keeping began.[24]

Given its short atmospheric lifetime, acting now to rapidly reduce methane emissions will result in rapid reduction of warming, making the reduction of methane emissions one of the best ways of limiting warming in this and future decades.[25] The United Nations Environmental Program's 2021 Global Methane Assessment found that "mitigation of methane is very likely the strategy with the greatest potential to decrease warming over the next 20 years."[26] This view is supported by the International Energy Agency which has stated that rapid and sustained reductions in methane emissions is critical to limiting near-term warming.[27]

If currently available technologies were used to cut global methane emissions by 50% by the end of this decade, the rate of warming being experienced now could be slowed by 30%.[28]

In 2022, Australia recognised the significant contribution of methane to climate change and became a signatory to the Global Methane Pledge, which committed to cut global methane emissions by 30% by 2030.[29]

Methane is a significant contributor to Australia's GHG emissions, contributing approximately 29% of total reported emissions in Australia,[30] with fugitive emissions accounting for 10.9% of Australia's national inventory.[31] Reported fugitive emissions increased 0.6% in trend terms over the September 2024 quarter, driven by an increase in NSW coal production.[32]

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[27] NZC Annual Report 2024, p 47.
[28] NZC Annual Report 2024, p 47.
[29] Climate Change Authority, *2023 Review of the National Greenhouse and Energy Reporting Legislation*, December 2023.

3. The relevance and consequences of fossil fuel greenhouse gas emissions for achieving New South Wales emissions reductions targets and complying with the guiding principles and purposes of the Climate Change (Net Zero Future) Act 2023 (TOR 1(a))

The *Climate Change (Net Zero Future) Act 2023* (NSW) (**Net Zero Act**) sets out the NSW Government's commitment to action on climate change and enshrines emissions reduction targets into NSW law.

The statutory purpose of the Act, set out at s 3, is "to give effect to the international commitment established through the 2015 Paris Agreement" to hold the increase in the global average temperature to well below 2°C above pre-industrial levels, pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, and increase the ability to adapt to the adverse impacts of climate change.[30]

It also provides that, in enacting the Act, the Parliament of NSW recognises that "there is a scientific consensus that human activity is causing abnormal changes to the climate" and "action is urgently required to reduce greenhouse gas emissions and to address the adverse impacts of climate change",[31] and is "committed to effective action on climate change to ensure a sustainable and fair future for the people, economy and environment of New South Wales".[32]

The Net Zero Act specifies the following emissions reduction targets for NSW:

- 50% reduction on 2005 emissions by 2030;
- 70% reduction on 2005 emissions by 2035; and
- by 2050, to reduce net GHG emissions in NSW to zero. [33]

The Act provides that the Premier and Minister must ensure NSW achieves the legislated 2050 target.[34]

The Act, at s 8, sets out guiding principles for action to address climate change (**Guiding Principles**), which include:

- that there is a critical need to act to address climate change which is a serious threat to the social, economic and environmental wellbeing of New South Wales;
- that action to address climate change should:
    - be taken as early as possible to minimise the cost and adverse impacts of climate change;
    - be taken in a way that: is fiscally responsible; promotes sustainable economic growth; considers the economic risks of delaying action to address climate change;

[30] *Climate Change (Net Zero Future) Act 2023* (NSW) (**Net Zero Act**), s 3(1).
[31] Net Zero Act, s 3(2).
[32] Net Zero Act, s 3(3).
[33] Net Zero Act, s 9.
[34] Net Zero Act, ss 8(5) and 11.

and considers the impact on rural, regional, and remote communities in New South Wales;
- be consistent with the right to a clean, healthy and sustainable environment;
- be consistent with the principles of ecologically sustainable development[35]
- take into account the best available science (amongst other things)

The Guiding Principles also provide that the Government of New South Wales is responsible for "urgently developing and implementing strategies, policies and programs to address climate change" and "ensuring the Government of New South Wales pursues best practice in addressing climate change." [36]

3.1. NSW cannot meet its emissions reduction targets with an expanding fossil fuel resources sub-sector

NSW cannot meet its legislated emissions reduction targets with an expanding fossil fuel resources sub-sector.

As the Joint Standing Committee noted in its March 2025 report on the inquiry into the Annual Report "there is considerable uncertainty regarding whether emissions targets can be achieved - particularly the 2030 and 2035 interim targets - given what the Net Zero Commission describes as a 'sizeable pipeline' of new coal expansions currently being assessed by the NSW Department of Planning, Housing and Infrastructure."[37]

The NSW Productivity and Equality Commission's (**P&E Commission**) March 2025 *Achieving Net Zero Paper 2 - Decarbonising buildings, industry, and waste* examines how to achieve NSW's legislated emissions reduction targets in a range of sectors, including the mining and extractive industry sector. The P&E Commission earlier made clear that in its view the most cost effective and efficient emissions reduction measure would be a broad-based, economy wide, price on carbon.[38] In the absence of such a price however, it noted that "strategic decisions around the future of coal could also be a cost-effective option for reducing mining emissions".[39]

It noted that one such decision could be to prevent further coal mine approvals, which it said would mean current development consents would provide a predictable pathway to significantly reduced fugitive methane emissions (based on coal output) by 2050, because all current approvals are set to expire by 2048.[40]

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[35] As described in the *Protection of the Environment Administration Act 1991*, section 6(2).
[36] Net Zero Act, s 8(10).
[37] New South Wales Parliament Legislative Council Joint Standing Committee on Net Zero Future, *Report no. 1. 2024 Report of the Net Zero Commission*, March 2025, Finding 3 and Recommendation 2.
[38] NSW Productivity and Equality Commission, Achieving net zero: Ensuring a cost-effective transition, November 2024, p 2.
[39] NSW Productivity and Equality Commission, March 2025, Achieving Net Zero Paper 2 - Decarbonising buildings, industry, and waste, (**P&E Commission Net Zero Paper 2**), p 37.
[40] P&E Commission Net Zero Paper 2, pp 37-39.

It also noted that (our emphasis) "NSW Government emissions projections currently include some 'likely' coal mine extensions based on published proposals. **Not approving these extensions could reduce mining emissions in the 2030s and 2040s markedly**."[41]

Scenario 2 projects contribute more than one quarter of the projected 2030 target overshoot

This is illustrated by considering the GHG assessments produced by proponents for the projects included in Scenario 2 of the 2024 Emissions Projections.

These GHG assessments estimate that, if approved, the developments and modifications set out at Scenario 2 will cumulatively contribute approximately 37.6 Mt CO2-e in direct emissions over the lifetime of those developments and modifications. In 2030, the Scenario 2 developments and modifications, if approved, would emit approximately 1.9 Mt Co2-e. The projected emissions gap for 2030 is 7.2 Mt CO2-e. That is, the Scenario 2 projects, if approved, will contribute approximately 26.4% of the overshoot of the 2030 target. It follows that, if these projects were not approved[42] (and nor were those set out for Scenario 3 of the projections), the 2030 overshoot would be 26.4% lower, and therefore the emissions reduction task for the whole NSW economy would be substantially reduced.

In October 2024, the Federal Climate Change Authority released its Sector Pathways Review - a review of the potential technology transition and emissions pathways for six sectors of the economy that best support Australia's transition to net zero emissions by 2050.[43] Its sectoral pathway for the resources industry set out existing and prospective technologies for decarbonization of the sector, and was informed by published literature where available, as well as views expressed during stakeholder engagement. Ultimately, however, the Climate Change Authority noted that "[d]eclining domestic production of coal and gas will contribute to a reduction in Australia's emissions," and the sectoral pathway sees "output from the fossil fuels subsector declines steadily to 2050, whereas the non-fossil fuels subsector continues to grow". [44]

The 2024 Projections, which nonetheless show that NSW is not on track to meet its emissions reduction targets, include in its assumptions a contracting fossil fuel sub-sector with the closure of all coal mines in NSW by 2050 (our emphasis):

> Fugitive emissions from fuels: Emissions are projected to increase by 2030 due to increased mining activity. **A downward trend post-2030 is driven by reduced mining activity, mine closures** and assumptions for feasible abatement that may be achievable on a mine-by-mine basis. Relative to 2005, sector emissions decreased by 47% in 2022, with projected reductions of 34% in 2030, 62% by 2035 and 91% by 2050.[45]
>
> …

[41] P&E Commission Net Zero Paper 2, p 39.
[42] And, as set out at Section 1.1 of this submission, three of the Scenario 2 projects have now been approved.
[43] CCA Sector Pathways Review 2024.
[44] CCA Sector Pathways Review 2024, pp 118-119.
[45] NSW greenhouse gas emissions projections 2024, p 18.

> "**[b]y 2050 all coal mines are projected to close**, bringing emissions from the sector down to 1.8 Mt CO_2-e (arising from decommissioned mines)".[46]

That is, there is no credible place for an expanding fossil fuel subsector in the resources sector if NSW is to meet its legislated emissions reduction targets. This is even more apparent when the likely underestimation of fugitive emissions from open cut coal mines is taken into account, and the GWP of methane is considered on a timeframe commensurate with the emissions reduction targets (see **Section 4** below).

Recommendation 2:

No new coal or expanded coal mines or gas projects be approved in NSW, as is necessitated by NSW emissions reduction targets, the purpose and guiding principles of the Net Zero Act, best available science, and the public interest.

However, this is not reflected in regulation of that sector (see below and **Section 5.1**).

The Strategic Statement on Coal should address an orderly decline of the industry and support for affected communities

The Government Response to the Committee's first report[47] stated that a revised Strategic Statement on Coal is currently being developed by the NSW Government. This is a key policy relied on by proponents of coal mines, and by government agencies and decision makers, as a reason to approve new and expanded coal mines that undermine the ability of NSW to meet its emissions reduction targets.

As is set out above, if NSW is to meet its legislated emissions reduction targets, the coal industry must cease production by 2050. The policy of the NSW Government is that (at least) sectors ratchet down their emissions in line with the legislated emissions reduction targets.

It is critical that a revised policy sets out a pathway by which the coal industry in NSW complies with these legislative and policy prescriptions and facilitates NSW meeting its emissions reduction targets and act consistently with the guiding principles of the Net Zero Act. This could be, for example, by way of annual sub-sectoral GHG limits, which ratchet down consistent with NSW targets.

A revised policy must consider and plan for affected workforces and communities, consistent with the Guiding Principles.

[46] NSW greenhouse gas emissions projections 2024, p 73.
[47] NSW Government Response to Net Zero Commission 2024 Annual Report and the Parliamentary inquiry report by the Joint Standing Committee on Net Zero Future, https://www.energy.nsw.gov.au/sites/default/files/2025-06/NSW-DCCEEW-response-to-Net-Zero-Commission.pdf

Recommendation 3:

The NSW Government immediately formally revoke the outdated *Strategic Statement on Coal Exploration and Mining in NSW*.

Any revised Statement must set out a pathway for the managed decline of the industry in accordance with NSW legislated emission reduction targets, the purpose and Guiding Principles of the Net Zero Act, and consistent with Australia's international obligations in relation to climate change clarified by the Advisory Opinion of the International Court of Justice.

4. Quantification and measurement of coal-mine and gas industry methane and related greenhouse gas emissions in New South Wales including fugitive emissions (ToR 1(b))

4.1. The accuracy of emissions reporting from coal mines and gas fields (ToR 1(b)(i))

Emissions data and projections in NSW are based on Australia's National Greenhouse Gas Inventory, which include proponent estimates reported under the National Greenhouse and Energy Reporting Scheme (**NGER Scheme**) under the *National Greenhouse and Energy Reporting Act 2007* (Cth) (**NGER Act**).

However, studies have shown that it is likely that actual fugitive methane emissions from coal mines, and in particular from open cut coal mines, are significantly higher and could be double those being reported.[48] That is, the coal sector likely represents a greater share of NSW emissions than is currently set out in emissions projections, the 2024 Annual Report, and all other policies and analysis relying on these figures. Addressing methane emissions from open cut coal mines in NSW is therefore more urgent and impactful even than set out in the 2024 Annual Report.

The Climate Change Authority's 2023 review of the NGER Act found significant discrepancies from figures reported by coal mines using (permitted) lower-order methods compared with satellite and top-down measurement. The Australian Government has established an expert panel to advise on improving fugitive methane emissions measurements under the NGER Scheme. However, this panel is not due to report until June 2027. It is not tenable for NSW to continue to rely on estimates it is aware are likely to be significantly lower than actual emissions while it waits until nearly 2030 for the expert panel to report. Such underestimates mean that the data NSW seeks to rely on in determining its emission reduction policies, key tools such as the Net Zero dashboard, and NSW's emission reduction targets, are compromised. It also means that other sectors, including non-coal subsectors of the resources sector, will be required to take on more

[48] A. Reynolds and C. Yeman, *Not Measured, Not Managed: Australia remains ignorant of its coal mine methane problem*, Ember, 2023; P. Rayner and A. Grant, *Open Methane's First Results Build the Urgent Case for Improved Emissions Measurement*, Open Methane, 2024; A. Denis-Ryan, *Fugitive methane emissions cast dark cloud over Australia's Net Zero ambitions*, Institute for Energy Economics and Financial Analysis, 2023); see also IEA methane tracker 2025 interactive tool, Australian emissions; comparison with other estimates, available at https://www.iea.org/data-and-statistics/data-tools/methane-tracker.

than their share of emissions reduction. This is particularly problematic for difficult to abate sectors such as agriculture.

As set out at Guiding Principle 8(a), action on climate change should take into account the best available science. Currently, with respect to fugitive emissions from the fossil fuel sector, and in particular from open cut coal mines, this is not occurring.

EDO recommended in its recent submission to the NSW Net Zero Commission's 2025 public consultation that the Net Zero Commission provide general and publicly available advice to the NSW Government that sets out the likely methane emissions from open cut coal mines, based on best available evidence. These figures should be relied on by decision makers, to ensure NSW does not rely on the unreliable and discredited figures currently reported under the NGER Scheme. Any specific advice or recommendations provided by the Net Zero Commission that includes or relates to coal mine methane emissions must be based on the best available evidence (rather on NGER Scheme figures).

The NSW Government, including decision makers and policy makers, should be required to use these figures in preference to NGER Scheme figures. Advice on determining more accurate estimations of methane emissions for coal mines is contemplated by and could be formalised as a regulation under s 9(5)(d) of the Net Zero Act, for example.

4.2. The relevance of using a twenty-year versus one-hundred-year global warming potential to assess short term climate impact ToR 1(b)(ii)

Methane is a potent GHG and has more than 28 times the warming potential of carbon dioxide over a 100-year period, when measured over a 20-year period its global warming potential rises to 84-87 times that of CO_2.[49] This contrasts with the persistent problem caused by carbon dioxide, which has an atmospheric lifetime between 300 to 1,000 years.

The emissions reduction targets set out in the Net Zero Act are for 5, 10, and ultimately 25 years from now. It is illogical and inaccurate to use a 100-year global warming potential figure for GHGs such as methane with much higher GWP over the period the Net Zero Act covers rather than a figure that accurately represents the impact of those emissions over the relevant period.

4.3. Current measurement, reporting and verification methods and whether they reflect best practice ToR 1(b)(iii)

It is clear from the above that the current approach to quantifying methane emissions, particularly from open-cut coal mines, is not best practice, substantially underestimates those emissions, and thereby distorts the data NSW (and Australia) relies on. This shifts the abatement burden onto other industries, such as agriculture and manufacturing, which face rising opportunity costs as they are forced to reduce emissions more steeply to compensate for the fossil fuel sector's under-performance.

[49] International Energy Agency, IEA Methane Tracker 2021, Methane and Climate Change, 2021, available at https://www.iea.org/reports/methane-tracker-2021/methane-and-climate-change

Recommendation 4:

The NSW Government should ensure that its decisions (including planning decisions), emissions data and projections are based on best available science, including:

a. Using higher order methods and source site verification for fugitive emissions from fossil fuel development, in particular from open cut coal mines;

b. Using a Global Warming Potential (GWP) for short lived pollutants such as methane that is commensurate to the timeframe covered by the emissions reduction targets, that is, a 20 year timeframe rather than a 100 year timeframe.

5. Transparency, timeliness and integrity of New South Wales' emission modelling and how this modelling is used to inform New South Wales' planning decisions (ToR 1(c))

5.1. NSW planning decisions are placing very little weight on NSW emissions modelling and the impact of developments on the NSW emissions reduction targets

Despite the purpose, Guiding Principles, and legislated emissions reduction targets set out in the Net Zero Act, and NSW Government statements that the Net Zero Act reflects a whole of government commitment to action on climate change, planning decisions in NSW currently give very little weight to NSW emissions modelling, or to the Net Zero Act, or to the climate change implications of developments more broadly.

In May 2024, the NSW Government directed entities involved in assessment and decision-making processes under the planning system to consider NSW's emissions reduction targets and, to the extent relevant, consider the Guiding Principles of the Net Zero Act when examining new developments.[50] In June 2024, the Minister for Planning wrote to the chair of the Independent Planning Commission (**IPC**) asking that these matters be considered for developments currently before the IPC.[51] This would include any new, expanded, or otherwise modified coal mines seeking development consent under the EP&A Act. NSW Government policy is that all sectors ratchet down emissions to meet NSW's legislated targets,[52] however annual fugitive emissions, primarily from increasing coal production, are projected under BAU (Scenario 2) assumptions to increase from 11.2 Mt CO_2-e in 2023 to 15.4 Mt CO_2-e by 2027.[53]

[50] NSW Climate and Energy Action, *Ministerial Statement Updates regarding Net Zero Plan Stage 1: 2020-2030 and previous Implementation Updates*, 20 May 2024, available at <https://www.energy.nsw.gov.au/nsw-plans-and-progress/government-strategies-and-frameworks/reaching-net-zero-emissions/update> (**May 2024 Ministerial Statement**).

[51] Hon Paul Scully MP Minister for Planning and Public Spaces, 2 June 2024, letter to IPC Chair regarding Net Zero Act,

[52] May 2024 Ministerial Statement.

[53] NSW greenhouse gas emissions projections 2024, p 73.

Despite this, since April 2025, the Department has approved four expansions to coal mines, totaling an additional 3.74Mt of CO2-e (noting the comments made above relating to the likely underestimation of emissions, as well as the significantly higher GWP of methane over the relevant period than is currently reflected by using the 100 year GWP).

The Department's (in its recommendation reports and as consent authority) consideration of the contribution of these projects to the projected emissions overshoot has been cursory. Generally, the estimated direct emissions are calculated as a percentage of the State's overall emissions, and dismissed as only a small percentage, without regard to the modelled overshoot, emissions reduction pathways consistent with NSW emission reduction targets or the temperature goals of the Paris Agreement (as set out in the purpose of the Net Zero Act), cumulative impacts, or the Guiding Principles.

That is, consent authorities continue to approve new or expanded developments with minimal regard to the impact of their fugitive and other direct emissions on the State's overall carbon budget, and with no or very little regard to the impact of the indirect, or Scope 3, emissions from those projects to the NSW environment (as required by s 4.15(1)(b) of the EP&A Act) or to the global task of keeping temperature increase to well below 2°C and making best efforts to limit to 1.5°C.

Neither the Net Zero Act nor the EP&A Act explicitly set out how consent authorities should exercise their functions in order to ensure they are promoting the achievement of NSW's emissions reduction targets, or acting consistently with the purpose and Guiding Principles of the Net Zero Act. As is apparent from the recent spate of approvals to coal mine extensions, more prescription is necessary to ensure that the climate impacts, and impacts to NSW's legislated emissions reduction targets, of decisions are appropriately taken into account and weighted.

In particular, amendments should be made to the *Environmental Planning and Assessment Act 1979* (NSW) (**EP&A Act**) (or, as a secondary option, prescribed in regulations or in a State Environmental Planning Policy) requiring persons performing functions under the EP&A Act to consider the guiding principles and emissions reduction targets of the Net Zero Act in the performance of those functions.

In addition, decision makers should be required to, prior to granting development consent (or modification to a development consent), objectively ensure that the development is consistent with the Guiding Principles and emissions reduction targets of the Net Zero Act. Regulations to the Net Zero Act could prescribe how consistency with the emissions reduction targets are to be measured. This could, for example, be through an emissions budget approach (which should also include a specific methane budget), such as under the United Kingdom's *Climate Change Act 2008.*

This is true of any development with large direct emissions or having an impact on NSW carbon sinks, not only the fossil fuel industry. However, the continued expansion of the fossil fuel industry jeopardises not only the NSW emissions reduction targets, but is also contrary to the purpose and Guiding Principles of the Net Zero Act, and the NSW Government's commitment to act on climate change through its extremely high scope 3 emissions. These factors necessitate

Recommendations 2 and 3 above, that no new coal mines or gas projects be approved, and that a plan be developed for a managed phase out of existing projects in order to support affected communities.

Recommendation 5:

Amendments should be made to the EP&A Act or prescribed in regulations or in a State Environmental Planning Policy to ensure planning decisions are consistent with NSW's emissions reduction targets. Consent authorities should be required to assess the impact of a development's direct emissions on NSW emissions reduction targets in relation to modelled emissions-reduction pathways consistent with the targets, purpose and Guiding Principles of the Net Zero Act.

Until these amendments are made however, there remains a concerning policy vacuum which the Net Zero Commission has the legislative power to fill in order to ensure that upcoming decisions as to future coal mine expansions are made with to further the achievement of the emissions reduction targets, rather than 'locking in' or exacerbating the overshoot of the 2030 and 2035 emissions targets currently predicted.

Recommendation 6:

That the Commission exercise its functions under s 15(3) of the Net Zero Act to provide advice to the Secretary of the Department of Planning and the NSW Independent Planning Commission on applications for new or expanded coal mines expansions. Such advice should ensure that the projects' implications for NSW's emissions reduction targets are scrutinised and assessed in light of current predicted overshoot of the 2030 and 2035 targets.

Consent authorities should place substantial weight on the Commission's advice in its assessment of the development, commensurate with the legislative status of the emissions reductions targets.

6. Implementation and feasibility of greenhouse gas abatement, including ventilation air methane (VAM) abatement for coal mining ToR 1(d)

There are proven technologies available to abate fugitive methane emissions from coal mines, including ventilation air methane (**VAM**). The technical feasibility of methane capture and destruction has been demonstrated in both domestic[54] and international projects, with options ranging from flaring and thermal oxidation of VAM to utilisation of captured methane for electricity generation.[55] Despite this, NSW mines continue to release and vent large volumes of methane

[54] See, for example, Catalytic VAMMIT trials: tackling methane emissions in mining - CSIRO; Fugitive methane emissions from coal mines | NSW Resources

[55] Climate Change Authority, *Sector Pathways Review 2024,* https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-09/2024SectorPathwaysReview.pdf , pp 121-123.

unabated, largely because there are no enforceable regulatory requirements or economic incentives compelling operators to act.

The International Energy Agency and United Nations have emphasised that rapid methane reduction is one of the most cost-effective and impactful ways to slow global warming in the near term. Many of the abatement measures for coal mine methane are classified as low-cost or even no-cost, where the cost of abatement is on par with the cost of offsets.[56] Yet NSW regulation currently does not mandate uptake of best available technology (although we do note the NSW EPA is currently consulting on draft proposed mitigation requirements for NSW coal mines), leaving operators to choose whether or not to adopt abatement measures.

In relation to VAM specifically, the key barrier is not technical feasibility but policy and regulatory will. VAM technologies are already being deployed in coal-producing countries such as China and the United States. The Federal Climate Change Authority's Sector Pathways Review noted that although still a nascent technology in Australia "commercial-scale deployment of this technology has been demonstrated with multiple commercial VAM projects currently in operation, mostly in China and the US (CSIRO & Global Methane Initiative, 2018; U.S. Environmental Protection Agency, 2018)."[57]

However, the implementation of technologies for abating Scope 1 emissions do not abate the vast majority of emissions from a coal mine or gas project- the Scope 3 emissions from the use of the resource. There are no financially or technologically feasible options to abate these scope 3 emissions.

EDO's **Improving Regulation of Coal Mine Methane in NSW report** recommended, amongst other things, that "Standard" requirements for methane mitigation and abatement should be developed and implemented immediately. These conditions should include enforceable methane emissions limits and reviewable emissions reduction targets that are consistent with the NSW emissions reduction targets and sectoral emissions reduction pathways. These requirements must be objective and enforceable (not, as is currently the case, subjective and vague).

Of particular relevance to this term of reference, standard methane abatement conditions should require the implementation of best available techniques/ best available technology (**BAT**), including in relation to venting and flaring equipment, VAM abatement, and pre- and post-mining drainage where appropriate.. An independent body such as the Net Zero Commission should be responsible for reviewing international best practice standards periodically.

[56] See, for example Key findings – Global Methane Tracker 2025 – Analysis - IEA; Unlocking cost-effective methane abatement in the NSW and QLD coal industry – Common Capital

[57] Climate Change Authority, *Sector Pathways Review 2024,* https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-09/2024SectorPathwaysReview.pdf , pp 122.

Recommendation 7:

Coal mines must be required to implement best available techniques/ best available technology (**BAT**), including VAM abatement, to address methane emissions.

7. Economic costs associated with greenhouse gas emissions including indirect costs from climate change related impacts and opportunity costs for other sectors (ToR 1(e))

Economic assessments for fossil fuel projects currently significantly understate the economic costs associated with those projects (and overstate the benefits). In part, this is because of the substantial underestimation of emissions from projects, through both inappropriate methodologies and inappropriate GWP time scales (as discussed above). Where emissions are underestimated, so too is the impact (and cost) of the development.

Applicants are generally required by the Secretary's Environmental Assessment Requirements (**SEARS**) issued for the project to undertake an assessment of the likely economic impacts of the development in accordance with the *Guidelines for the economic assessment of mining and coal seam gas proposals 2015*.[58] The Guidelines are supported by the 2018 *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*.[59] These Guidelines are, in the context of legislative and policy developments, scientific and economic understanding of climate change as well as the relative impacts of additional GHG emissions on atmospheric levels, woefully out of date and must be updated to address the changed context.

Most importantly, economic assessments are not required to address the economic costs of the vast majority of emissions from these projects, their scope 3 emissions.[60]

The economic costs of greenhouse gas emissions to NSW, as with other impacts, are not only imposed by the direct emissions from a development, but also from the indirect emissions. Climate change driven by GHG emissions is already imposing severe and escalating financial burdens on communities, governments, and the private sector in NSW. Insurance premiums are rising steeply, with some areas becoming effectively uninsurable due to repeated floods, fires, and extreme weather events. Infrastructure is being damaged or destroyed, agricultural productivity is being disrupted by droughts and floods. The economic costs imposed on society by GHG emissions through their contribution to climate change have been referred to as the social cost of carbon or damage costs. Currently, because of the exclusion of scope 3 emissions for economic

[58] See, for example the SEARs for the Maules Creek Coal Continuation Project, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-63428218%2120231120T232012.142%20GMT, p 12.
[59] Available at https://www.planning.nsw.gov.au/sites/default/files/2023-03/technical-notes-supporting-guidelines-economic-assessment-mining-coal-seam-gas-proposals.pdf
[60] *Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*, p 45.

assessments, the full costs of a project are not currently required by the Department to be integrated into economic assessments.

The decision by the NSW Court of Appeal in *Denman Aberdeen Muswellbrook Scone Healthy Environment Group Inc v MACH Energy Australia Pty Ltd* [2025] NSWCA 163 (discussed above in **Section 1**) confirmed that decision makers must consider the impacts of all emissions from the development (including scope 3) on the locality.

The real costs of these impacts must be incorporated into the economic assessment and considered by decision-makers.

Recommendation 8:

Economic assessments for fossil fuel projects be required to include the costs of the impacts of the project's scope 3 emissions, using a social cost of carbon or damage cost approach.

8. Related matters (ToR 1(f))

The NSW Government has taken the position that the EPA is the State's primary regulator of GHG emissions. Conditions of recent approvals for coal mine expansions have also deferred the mitigation of greenhouse gas emissions to post-approval measures under the remit of the EPA, for example the development of greenhouse gas mitigation plans in consultation with the EPA.[61] In these circumstances, the EPA plays a critical role in ensuring emissions from such projects can be mitigated post-approval, and its policies must ensure the emissions reduction targets are met. To date, they have not done so. Although steps are being taken by the EPA to rectify this, we are concerned that the EPA is not acting with the necessary urgency to secure meaningful emissions reductions from the NSW coal mining sector.

Failure to adequately ensure emissions from this sector are avoided or mitigated will result in other sectors, such as agriculture and transport, having to take stronger measures.

8.1. Draft EPA climate change licensee requirements

The EPA is currently consulting[62] on a number of policy documents setting out requirements for EPA licensees that emit 25,000t CO2e- in Scope 1 and 2 emissions annually, including specific requirements for NSW coal mines- the draft *Greenhouse Gas Mitigation Guide for NSW Coal Mines*.[63]

These policies are a welcome step, however given the urgency of the task and the significant contribution of the NSW coal industry to GHG emissions in NSW and to climate change impacts in NSW from its scope 3 emissions, there are key weaknesses in the Mitigation Guide that must be addressed if it is to bring about meaningful emissions reductions in the coal sector. These include:

[61] See development consents for 4 recent approvals for Mt Arthur Mod 2 (condition 24C), Tahmoor Mod 3 (condition B18A), HVO North Mod 8 (condition 6A), and Ulan Mod 6 (condition 22A).
[62] See Climate Change Licensee Requirements | NSW Environment Protection Authority
[63] Available at Proposed Greenhouse Gas Mitigation Guide for NSW Coal Mines

Sectoral emissions reduction pathway

The EPA must, on the advice of the Net Zero Commission, develop and implement a binding emissions reduction pathway (consisting of annual binding targets) for the coal sector. This pathway must be consistent with NSW achieving its 2030, 2035 and 2050 emissions reduction targets and with the purpose and Guiding Principles of the Net Zero Act, and refer to this in the Mitigation Guide.

Action 16 of the EPA's *Climate Change Action Plan* required the EPA to develop emissions reduction targets for key industry sectors **by 2024** and to track the performance of those sectors against those targets. Such a target has yet to be set in relation to the coal sector, despite the sector having been identified as a high priority for the EPA and the Net Zero Commission.

Recommendation 9:

A sectoral emissions reduction pathway for the coal sector that is consistent with NSW achieving its 2030, 2035 and 2050 emissions reduction targets and with the purpose and Guiding Principles of the Net Zero Act is set and is binding on current projects and any decisions on applications for new or expanded coal mine developments.

Methane is an air pollutant and must be regulated as such

The EPA should impose limits on methane emissions in environment protection licences (EPLs) and treat unauthorized release of methane as an air pollution offence under the *Protection of the Environment Operations Act 1997* (**POEO Act**). Methane emissions fall within the definition of air pollution in the POEO Act, and there is no reason in principle why methane should be treated differently from other air pollutants and a strong public policy argument that it should, given its potency as a GHG.

Limits should be determined having regard to a sub-sectoral emissions reduction pathway consistent with NSW achieving its 2030, 2035 and 2050 emissions reduction targets, determined by or in close consultation with the Net Zero Commission and independent experts.

Recommendation 10:

Limits must be imposed on methane emissions from fossil fuel projects as air pollution under the POEO Act. These limits should be determined based on a sectoral emissions reduction pathway consistent with the NSW emissions reduction targets.

The Mitigation Guide does not reflect the urgency of the task

Timeframes provided for mitigation measures in the Mitigation Guide are too far in the future and do not reflect the scientific reality that the majority of emissions reductions must take place this decade in order to avoid the worst effects of climate change. Current timeframes fall substantially short of the timeframes set out in the EPA's *Climate Change Action Plan* and do not reflect the requirements of the Guiding Principles of the Net Zero Act that: there is a critical need to act to

address climate change, which is a serious threat to the social, economic and environmental wellbeing of New South Wales; that action to address climate change should be taken as early as possible to minimise the cost and adverse impacts of climate change; and that the Government of New South Wales is responsible for urgently developing and implementing strategies, policies and programs to address climate change, and ensuring the Government of New South Wales pursues best practice in addressing climate change.

Recommendation 11:

The EPA must require, through its climate policies such as the *Greenhouse Gas Mitigation Guide for NSW Coal Mines* that GHG mitigation measures be taken immediately, consistent with the critical need to address climate change as early as possible (as recognised by the Guiding Principles of the Net Zero Act).

8.2. New Net Zero Plan

The NSW Government in its June 2025 Government Response to the Committee's first report reiterated its commitment to action on climate change, stating that it "recognises the urgent need to address climate change and is committed to accelerating action to meet the emissions reduction targets set in the [Net Zero] Act."[64]

The Government committed to developing a "new, ambitious" Net Zero Plan "to get the state back on track to achieve its legislated 2030 and 2035 emissions reduction targets", and for the Minister for Climate Change to ask the Commission to advise on developing the new Net Zero Plan, including advice on the resources sector.[65]

The Government stated that the new Net Zero Plan will identify transport and built environment as priority sectors for emissions reductions to meet the 2030 and 2035 targets.[66] It is critical that the fossil fuel sector is also a priority sector in any updated Net Zero Plan, given the significant pipeline of coal mine applications in the planning process, approval of which would be contrary to the emissions reduction targets, purpose and Guiding Principles of the Net Zero Act. Approval of these projects would make meeting the legislated emissions reduction targets even less likely and would require all other sectors of the NSW economy to compensate, while in addition bearing the climate change costs resulting from the scope 3 emissions of those projects.

Recommendation 12:

The new Net Zero Plan must identify the fossil fuel sector as a priority sector for emissions reductions to meet the 2030 and 2035 targets.

[64] NSW Government Response, p 7.
[65] NSW Government Response, p 34.
[66] NSW Government Response, p 10.

8.3. The Safeguard Mechanism will not achieve direct emissions reductions from NSW coal mines

We anticipate that proponents will seek to argue that the existence of the Australia Government's Safeguard Mechanism is sufficient regulation of GHG emissions for the sector, and that they may argue that further regulation in NSW is not only unnecessary, but not permissible. The Committee should not accept this argument.

To the contrary, the Safeguard Mechanism is one of a number of Commonwealth measures aimed at reducing emissions in those sectors, and is applicable only to direct emissions from facilities emitting over a certain (high) threshold annually. It is described in its enabling legislation, the *National Greenhouse and Energy Reporting Act 2007* (**NGER Act**), as "a mechanism to ensure that net covered emissions of greenhouse gases from the operation of a designated large facility do not exceed the baseline applicable to the facility."[67]

The Safeguard Mechanism is not designed to be the sole mechanism by which emissions reductions in the resource and industry sectors in Australia are to occur. This is explicitly set out in the NGER Act, which provides that "[t]he safeguard provisions and the safeguard rules are not intended to exclude or limit the operation of a law of a State or Territory that is capable of operating concurrently with the safeguard provisions and those rules."[68] Its baselines are floors, not ceilings.[69]

In fact, the Commonwealth Safeguard Mechanism as currently designed does little to reduce actual, onsite, emissions from coal mines, including coal mine methane emissions. This is particularly the case for open-cut coal mines.

The Safeguard Mechanism requires that net GHG emissions of each "designated" facility do not exceed its set baseline of emissions. The facilities captured by this scheme emit over 100, 000t CO2-e per annum and their baselines must reduce 4.9% per annum unless they are a Trade Exposed Baseline Adjusted facility, which are facilities facing "elevated risk of carbon leakage." These facilities can apply for a discounted baseline decline rate at no less than 2%. A facility can meet their baseline targets by actual onsite emissions reduction, or purchase and surrender of Australian Carbon Credit Units (**ACCUs**) or Safeguard Mechanism Credits (in-scheme credits) (**SMCs**).

Existing facilities are transitioning to a government-approved industry average emissions intensity value (industry average values) to set their baselines. The consequence of calculating baselines against the average of the very high emitters and lower emitters in the coal mining sector is that the latter will automatically receive SMCs from the scheme in recognition of "emissions reductions" that have not actually occurred, and the former will be able to achieve their "emissions reductions" by the purchase of those SMCs.

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[67] *National Greenhouse and Energy Reporting Act 2007* (Cth) (**NGER Act**), s 22XD.
[68] NGER Act, s 22XO(1).
[69] House of Representatives, *Climate Change Bill 2022*, Explanatory Memorandum, p 2.

Currently, the coal mining sector's industry average values are from both open cut and underground coal mines, where most open cut coal mines report significantly fewer methane emissions per tonne of coal than underground mines (noting however the now well established issue of underreporting of emissions from open cut coal mines). In the short term, reported emissions from open cut coal mines will immediately fall below the industry average and therefore generate SMCs, which can be purchased by underground coal mines with above-industry average emissions to offset their emissions. That is, coal mines can acquit their Safeguard obligations without any real emissions reduction having occurred. The problem is exacerbated because there are limited abatement options for open cut coal mines once mining has commenced. The range of emissions intensities in the coal mining sector is so broad that this averaging may continue to cancel out even the effect of the annual decline rate out to 2030, effectively relieving the coal sector from the requirement to undertake any direct abatement under the Safeguard Mechanism.

Suffice to say the Safeguard Mechanism cannot be relied upon to do the work of reducing emissions from the fossil fuel sector in NSW and the NSW Government still has a significant role in regulating fossil fuel projects to ensure that emissions reductions targets are achieved in accordance with the best available science, the public interest, and the purpose, Guiding Principles and emissions reduction targets of the Net Zero Act.

Other resources

We commend the following EDO resources to the Committee should they be of assistance to its work:

- Submission to the NSW Net Zero Commission 2025 Consultation (July 2025)
- Improving coal methane regulation in NSW - Environmental Defenders Office (May 2025)
- Submission to the Inquiry into the 2024 Annual Report of the Net Zero Commission (February 2025)