Climate Council of Australia

Submission to:	Inquiry into emissions from the fossil fuel sector
Addressed to:	Parliament of NSW Joint Standing Committee on Net Zero Future
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About the Climate Council

The Climate Council is Australia's own independent, evidence-based organisation on climate science, impacts and solutions.

We connect decision-makers, the public and the media to catalyse action at scale, elevate climate stories in the news and shape the conversation on climate consequences and action, at home and abroad.

We advocate for climate policies and solutions that can rapidly drive down emissions, based on the most up-to-date climate science and information.

We do this in partnership with our incredible community: thousands of generous, passionate supporters and donors, who have backed us every step of the way since they crowd-funded our beginning as a non-profit organisation in 2013.

To find out more about the Climate Council's work, visit www.climatecouncil.org.au.

Introduction

The Climate Council welcomes the Joint Standing Committee on Net Zero Future (Committee) Inquiry into emissions from the fossil fuel sector. Urgently addressing emissions from the fossil fuel sector by phasing out fossil fuel extraction, use and exports is critical to the safety, security and prosperity of communities and natural environments in NSW and across Australia.

In the first half of 2025 alone, communities across NSW have experienced heatwaves, a tropical cyclone, record-breaking flooding and a 'cyclone bomb', compounding the effects of back-to-back extreme weather events in recent years. These kinds of disasters are no longer simply 'natural'. Climate-fuelled disasters are becoming more frequent and intense, and communities are feeling the consequences. They also come with a significant financial cost: the most recent State Budget shows expenditure on natural disasters has increased more than 1000% in the six years since the 2019-20 bushfires compared to the six years prior (NSW Government 2025).

On our current trajectory, these impacts will become more severe. Both of the temperature limits in the Paris Agreement will be breached, either temporarily or indefinitely, if we do not rapidly change course. Every fraction of a degree of avoided warming matters, and will be measured in lives and livelihoods saved, fewer families forced from their homes, and a safer future for our children (Climate Council 2025).

As Australia's second highest polluting state, accounting for one quarter of the country's emissions, NSW has a responsibility – enshrined in its *Climate Change (Net Zero Future) Act 2023* – to play its part in meeting globally agreed goals. We welcome the work underway across NSW to address emissions from fossil fuels including the NSW Guide for Large Emitters, the NSW High Emitting Industries Fund, development of a Greenhouse Gas Mitigation Guide for NSW Coal Mines, and commitment to review the Strategic Statement on Coal Exploration and Mining in NSW. We also acknowledge that many issues require national coordination, and the Australian Government is progressing work such as the Expert panel on Atmospheric Measurement of Fugitive Methane Emissions in Australia and amendments to fugitive methane reporting methods. However, these initiatives do not address the fundamental issue: dealing with climate change means dealing with our fossil fuel industry and its polluting exports.

To meet its legislated targets and protect its communities and economy, NSW must cut climate pollution as steeply and rapidly as possible. This requires ending the approval of new and expanded fossil fuel projects, and ensuring existing projects take urgent action to cut their emissions. NSW must also acknowledge the enormous contribution of exported NSW coal to global climate pollution.

Key findings and recommendations

	Climate Council finding	Recommendation
1	The continued approval of fossil fuel expansions is incompatible with NSW's climate targets and obligations under the *Climate Change (Net Zero Future) Act 2023.*	**End the approval of new and expanded coal mines.**
2	NSW's emissions data and projections are likely to significantly underestimate the fugitive emissions from NSW's coal mines.	**Progress state-based regulatory reforms to improve the accuracy of fugitive emissions measurement.**
3	Climate pollution produced by burning Australian fossil fuels overseas affects the climate in the same way as if they were burnt in Australia – driving damaging climate impacts and harming Australian communities.	**Increase transparency of, and accountability for, the impacts of NSW's exported fossil fuels.**
4	Methane abatement in the fossil fuel industry is one of the most pragmatic and lowest cost options to reduce climate pollution.	**Require NSW's most polluting coal mines to cut their methane emissions as a condition of continued approval to operate.**
5	Climate impacts are a significant - and growing - cost to NSW's communities, businesses, industries and government.	**Increase investment in adaptation and resilience alongside action to cut climate pollution.**
6	Decommissioned coal mines represent a potential major source of emissions if not managed appropriately.	**Require all mining companies to comprehensively plan for methane mitigation beyond the end of operations.**
7	Continued gas extraction also presents a major risk to NSW's emissions targets.	**Set a clear plan to reduce gas demand in NSW through the Gas Decarbonisation Strategy.**

Responses to the Inquiry's Terms of Reference

a) 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*

The continued approval of fossil fuel expansions is incompatible with NSW's climate targets and obligations under the *Climate Change (Net Zero Future) Act 2023*.

The *Climate Change (Net Zero Future) Act 2023* (*Net Zero Future Act*) sets legislated targets to cut climate pollution by 50% compared to 2005 levels by 2030, 70% by 2035, and to net zero by 2050. The Act's purpose is to give effect to the international commitment established through the 2015 Paris Agreement to limit the global temperature increase to well below 2°C above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

The International Energy Agency warned in 2021 that new and expanded coal mines are incompatible with limiting global warming to 1.5°C (IEA 2021). Despite this, the Minns Government has approved six coal mine expansions since 2023, and at least 21 further applications are either currently under assessment by, or have submitted scoping reports to, the NSW Department of Planning, Housing and Infrastructure (DPHI) (NSW Government 2025). If approved, these projects would add millions of tonnes to NSW's domestic emissions, and billions of Scope 3 emissions.

This Committee found earlier this year that the "sizeable pipeline" of new coal expansions currently being assessed by NSW DPHI creates considerable uncertainty as to whether the state's emissions targets can be achieved (Joint Standing Committee on Net Zero Future 2025). The NSW Productivity and Equality Commission has similarly identified that changes in coal mining policy are needed to meet the state's emissions targets, and that the NSW Government should make a decision as soon as possible about the future of coal mining in the state (NSW Productivity and Equality Commission 2024). NSW's latest emissions projections confirm these concerns. In total, NSW is expected to fall 7.2 Mt CO_2-e short of its emissions target in 2030 under current policies. The state's growing fugitive emissions from fossil fuel extraction will play a significant role in this. Fugitive emissions are expected to increase by nearly 50 per cent over just five years: from 10.6 Mt in 2022 to 15.06 Mt in 2027. By 2030, fugitive emissions from coal mining are still expected to be as high as 13.2 Mt (NSW Government 2025).

Phasing out fossil fuel extraction, starting with ending approvals for new and expanded projects, is a practical, achievable step that can bring NSW closer to its targets. Conversely, continued approval of coal projects will increase the burden on other harder to abate sectors such as manufacturing and agriculture. With just 15% of NSW's coal being used for domestic power generation, and all the state's coal-fired power generators set to close over the next 15 years at most, coal extraction in the state can and must be phased out as soon as possible. A decision to end approvals of new fossil fuel projects will provide certainty to business, industry and communities, and enable the NSW Future Jobs and Investment Authority to more effectively assist impacted communities.

Recommendation 1: End the approval of new and expanded coal mines

The NSW Government's ongoing approval of new fossil fuel projects is undermining its efforts to cut climate pollution, putting the achievement of its legislated climate targets and obligations at significant risk. The most effective way of ensuring that NSW meets its targets and obligations is to ensure no new or expanded fossil fuel projects are approved.

b) quantification and measurement of coal-mine and gas industry methane and related greenhouse gas emissions in New South Wales including fugitive emissions, in particular:

NSW's emissions data and projections are likely to significantly underestimate the fugitive emissions from coal mines.

There is a large body of evidence indicating that methane emissions from open-cut coal mines (which make up nearly 80% of NSW's coal extraction) are being significantly underestimated and reported by coal companies. Both the Australian and NSW Governments have acknowledged that there are opportunities to improve the accuracy of fugitive methane reporting, and are taking steps to address this. It is important that any changes to reporting occur at a national level, with potential major implications for climate policies including the Safeguard Mechanism. However, there are opportunities for state-based action to ensure NSW facilities are prepared for any national changes.

Accurately measuring methane in NSW and across Australia will help to build a shared understanding among government, industry and communities of what we're up against. However, even using conservative estimates of emissions from coal mines, it is clear that urgent action is needed. The need for better data cannot be used as a reason to delay action. We must end approvals of new and expanded fossil fuel projects and require existing projects to cut their climate pollution, while we also work to improve data.

i) the accuracy of emissions reporting from coal mines and gas fields

The International Energy Agency estimates that Australian coal and gas corporations could be under-reporting methane pollution by as much as 60% (IEA 2023). Satellite measurements quantifying methane pollution from coal mines in Australia have consistently found that emissions are underreported. For example, a recent study led by the United Nations Environment Programme found that climate pollution from the Hail Creek Coal Mine in Queensland was up to eight times higher than reported (UNSW 2025).

In NSW, analysis released by Ember this year found that while the state's officially reported coal mine methane was 329 kt in 2021, satellite estimates from mines capturing just 64% of all coal production that year identified 679 kt of methane. While this had an uncertainty range of 533 - 825 kt of methane, even the lower end of this range is significantly higher than NSW's total reported fugitive emissions, despite only capturing around two thirds of the state's coal production that year (Ember 2025).

Studies such as these point to a critical need for improved and transparent measurement of methane pollution from fossil fuel mining. This means mandating that fugitive

methane emissions be measured directly at the actual mine site, rather than relying on indirect estimations. As part of the reporting process, source-level measurements should be verified against onsite measurements to ensure accuracy.

ii) the relevance of using a twenty-year versus one-hundred-year global warming potential to assess short term climate impact

Over a 20-year period, methane is about 85 times more effective at trapping heat compared to carbon dioxide. Over 100 years, methane is still about 28 times as effective as carbon dioxide in trapping heat. However, when methane is converted to carbon dioxide equivalent (CO2-e) for reporting purposes, a standard conversion approach for reflecting the Global Warming Potential of methane is used: GWP100. This means that the warming impact of methane in the near term is dramatically understated in official government reporting.

The goal of the Paris Climate Agreement to limit warming to 1.5°C requires us to focus on action that makes a difference now, not in a century. Using GWP 20 in reporting would better recognise, account for and inform actions to address the impacts of methane on near- to medium-term warming. Where the carbon dioxide equivalent metric is used in reporting, both the GWP20 and GWP100 should be included to provide a more transparent picture of the near-term impacts of methane pollution.

iii) current measurement, reporting and verification methods and whether they reflect best practice

The reason for the widespread under-reporting discussed above is that methane levels have historically been largely estimated indirectly, using standardised emission factors. In many cases, these emission factors have been derived from outdated research and lack credibility (Climate Change Authority 2023). Recognising these issues, Method 1 under the *National Greenhouse and Energy Reporting Measurement Determination 2008*, which relied on standardised information to roughly estimate pollution levels, is being phased out from July this year (DCCEEW 2025).

Methods 2 or 3, which both involve facility-level sampling of coal-seam methane, are now compulsory for open-cut mines producing more than 10 million tonnes of climate pollution per year. From 2026 all open-cut coal mines covered by the Safeguard Mechanism will be required to use Method 2 or 3. However, Method 2 – which 75% of NSW open-cut coal mines use (Ember 2025) – still allows companies discretion as to how they measure and model emissions. Analysis by the Institute for Energy Economics and Financial Analysis (IEEFA) indicates that estimating methane emissions using Method 2 has resulted in an approximate 76% fall in self-reported emissions per unit of coal produced in NSW (IEEFA 2025). We note that the Australian Government has committed to review Method 2 to ensure it remains fit for purpose and based on the best available science, technologies and practices, and commenced consultation in 2025 (Australian Government 2025).

Recommendation 2: Progress state-based regulatory reforms to improve the accuracy of fugitive emissions measurement

In July this year, NSW EPA, in collaboration with CSIRO, released a report providing expert advice on how to improve the measurement of fugitive methane emissions in NSW. To improve the accuracy of its emissions data and prepare for changes at a national level, the recommended reforms in the report should be progressed as a priority. These include:

- establishing regional greenhouse gas monitoring networks to provide data on background methane concentrations (the NSW Government has already committed to establish a regional monitoring network in the Hunter region)
- a tiered approach to prioritise large emitters to help focus monitoring efforts
- facility-level greenhouse gas monitoring at two or more locations to determine the fugitive methane concentrations from the facility
- top-down modelling of emissions to help verify greenhouse gas estimates reported under NGER
- transparency, independent verification and mobile monitoring of emissions.

c) the transparency, timeliness and integrity of New South Wales' emission modelling and how this modelling is used to inform New South Wales' planning decisions

Climate pollution produced by burning Australian fossil fuels overseas affects the climate in the same way as if they were burnt in Australia – driving damaging climate impacts and harming Australian communities.

NSW exports 85% of its coal (NSW Government 2022), meaning the impact of the state's coal mining operations is far greater than what is recognised in NSW's emissions inventory. The six coal mine expansions approved by the Minns Government since 2023 will produce approximately 340 million tonnes of Scope 3 emissions over their lifetime – more than three times NSW's total annual domestic emissions (Lock the Gate 2025). The expansions still in the pipeline for approval would have Scope 3 emissions of nearly two billion tonnes – almost 50 times greater than the Scope 1 emissions that will be reflected in NSW's emissions inventory (Lock the Gate 2025).

Where NSW coal is burned makes no difference to our atmosphere. It is all contributing to global heating, with catastrophic consequences for NSW communities and environments. Recognising this, the NSW Court of Appeal confirmed in July this year that as part of its approvals process, NSW's Independent Planning Commission is required to consider the impacts of all emissions associated with projects on the local environment, including Scope 3 emissions from coal burned overseas. Similarly, the recent landmark advisory opinion of the world's highest court has confirmed that countries are legally obligated to slash climate pollution and prevent climate harm both inside and outside their borders.

The court made it clear that Australia must take responsibility for its fossil fuel production – whether used domestically or exported.

We welcome the NSW Government's recent *NSW Greenhouse Gas Emissions Projections 2024 Methods Paper*, which outlines the assumptions underpinning the state's projections regarding the approval of coal mines in the state. While this is a welcome step in improving the accuracy and transparency of NSW's emissions modelling, we encourage the NSW Government to go further and acknowledge the full contribution of NSW coal to global climate pollution.

Recommendation 3: Increase transparency of, and accountability for, NSW's contribution to global climate pollution

No matter where they are burned, coal, oil and gas fuel the climate crisis, worsening bushfires, floods and heatwaves that devastate our communities. The NSW Government should include the Scope 3 emissions from NSW fossil fuels burned overseas in its climate reporting.

d) the implementation and feasibility of greenhouse gas abatement, including ventilation air methane (VAM) abatement for coal mining

Methane abatement in the fossil fuel industry is one of the most pragmatic and lowest cost options to reduce climate pollution (IEA 2024).

It has been estimated that 60% of Australia's methane pollution from coal extraction could be cut using existing technologies such as gas drainage, improved sealing of boreholes and pipelines, and ventilation air methane (VAM) thermal oxidizers. Analysis shows that 20% of coal methane emissions could even be cut in negative cost ways that create a new revenue stream for the business (Rystad Energy 2023). However, as NSW EPA notes in its consultation draft Proposed Greenhouse Gas Mitigation Guide for NSW Coal Mines, the NSW coal mining industry often claims that the cost of VAM abatement is a barrier. We welcome NSW EPA's conclusion that "VAM abatement is financially viable for a number of underground coal mines that meet the EPA's criteria. Installing VAM abatement will also assist mining companies to meet their obligations for emission reductions under the Commonwealth Safeguard Mechanism" (NSW EPA 2025).

Despite abatement options being technically and economically feasible, the NSW Government's latest emissions projections do not expect any real abatement of fugitive emissions across the coal mining sector under current policies until at least 2032-33 (NSW Government 2025). Under the Safeguard Mechanism, the NSW coal industry is required to cut emissions by 6.9 Mt CO2-e in 2030 to meet its obligations – almost the state's entire projected target shortfall. However, only 0.6 Mt CO2-e is expected to be genuine onsite abatement, with the rest coming from offsets, which are not accounted for in NSW's emissions inventory. This represents an enormous lost opportunity to implement cost effective emissions reductions, contribute to NSW's targets, and reduce the burden on other sectors.

NSW is home to several coal mines which are far more emissions intensive than the industry average. For example, the Appin and Tahmoor underground coal mines are

responsible for around one quarter of the state's total coal emissions, despite producing less than 3% of NSW's coal (Ember 2023). The life of the Tahmoor coal mine, which emits more than one million tonnes of climate pollution every year – a significant contribution to NSW's projected 7.2 Mt shortfall in 2030 – was extended again in May this year. While Tahmoor's own consultants estimate that VAM abatement could cut fugitive methane from the site by at least 79% (EMM Consulting 2024), the company has not committed to implement VAM abatement as part of the extension.

We acknowledge the work underway in NSW to address fugitive emissions including the Proposed Greenhouse Gas Mitigation Guide for NSW Coal Mines, which proposes that:

- By July 2027, gas drainage with flaring or utilisation is in place in underground coal mines.
- By July 2027, methane leaks at underground mines have been detected and are managed.
- By July 2030, VAM abatement is installed on mine shafts. In 2028, the EPA will review whether the safety issues for VAM regenerative thermal oxidation (RTO) have been resolved before implementing mandatory requirements.

Recommendation 4: Require NSW's most polluting coal mines to cut their methane pollution as a condition of continued approval to operate

We welcome NSW EPA's proposed requirements. They should be implemented as a priority, with a focus on ensuring NSW's largest emitters take genuine, urgent action to cut climate pollution. Large emitters should be required to bring their emissions intensity to at least the industry average by 2030 as a condition of their continued approval to operate.

e) economic costs associated with greenhouse gas emissions including indirect costs from climate change related impacts and opportunity costs for other sectors.

Climate impacts are a significant - and growing - cost to NSW's communities, businesses, industries and government.

Climate pollution has already driven an increase in the frequency and intensity of extreme weather disasters in NSW that are impacting lives, property, the environment, and the economy. Recent Climate Council analysis found that 263,587 properties in NSW are already at high risk – defined as a significant risk of insurance becoming unaffordable or withdrawn entirely due to the high risk of damage from extreme weather. Five of Australia's top 10 high risk electorates are in NSW (Climate Council 2025).

Since the 2019-20 Black Summer bushfires, government expenditure on disasters in NSW has increased by more than 1000%, compared to the six years prior. Since 2019-20, the NSW and Australian Governments have spent an average of $1.6 billion per year on disaster relief, compared to $154 million per year in the prior six years (NSW Government 2025). The NSW Government's 2021 Intergenerational Report found that more frequent and severe natural disasters could cost the state between $15.8 billion and $17.2 billion per year

on average by 2060-61. On top of this, up to 2.7 million working days could be lost by 2061 due to heatwaves, and the agriculture sector could lose up to $1.5 billion in production every year by 2060-61. In total, if warming is more severe than expected and temperatures increase by 2.8°C by 2060-61, the NSW economy would lose $4.5 billion in annual income by 2060-61 compared to the moderate warming scenario. If warming is limited to a 1.5°C increase, total economic income in NSW would be $3.8 billion higher every year by 2060-61 (NSW Government 2021). We note that these projections are now at least four years old and may underestimate the costs. The NSW Government is due to release a new Intergenerational Report in 2026.

Even before taking into account the climate impacts of coal projects, they present an opportunity cost to the NSW economy, as they compete with housing and renewable energy for skilled labour in an already tight labour market. As the NSW Productivity and Equality Commission has noted, "not everything can be built at once". The decisions of the NSW Government have a major impact – positive or negative – on how we use our resources (NSW Productivity and Equality Commission 2024).

As the NSW Net Zero Commission has noted, every dollar invested in climate change adaptation and disaster risk reduction saves between $2 and $10 in recovery (NSW Net Zero Commission 2024). It is essential that governments across Australia, including the NSW Government, take action to urgently cut climate pollution. However, governments must also invest more in preparing for the impacts of climate change that we know are coming.

Recommendation 5: Increase investment in adaptation and resilience alongside action to cut climate pollution

While the investments the NSW government has already made in climate change adaptation and disaster resilience are promising, the scale of the climate fuelled disasters communities across NSW now face means that greater levels of investment will be needed.

f) any other related matters.

Decommissioned coal mines represent a potential major source of emissions for NSW.

Coal mines do not stop producing climate pollution when the mining ends. Already, nearly 10% of Australia's coal mine methane is from post mining activities and abandoned mines (Ember 2022). As more coal mines close in the shift to renewables, pollution from closed or abandoned mines is expected to increase faster than from active mines (Kholod et al. 2020). Options for preventing methane leaks from inactive coal mines include flooding the mine or sealing and putting drainage systems in place to capture emerging gas (IEA 2023).

Recommendation 6: Require all mining companies to comprehensively plan for methane mitigation beyond the end of operations

All coal mining companies should be required to comprehensively plan for emissions control beyond the end of operations. This includes ensuring all environmental approvals are obtained, all community consultation has occurred, all necessary water and other licences have been acquired and sufficient funds are set aside from today. These requirements could be considered in the Greenhouse Gas Mitigation Guide for NSW Coal Mines currently being developed by NSW EPA.

Continued gas extraction also presents a major risk to NSW's emissions targets.

The Narrabri Gas Project – which will drill 850 coal seam gas wells near Narrabri – is expected to commence operating in 2028 (NSW Government 2025). The Project is expected to produce up to 26 million tonnes of Scope 1 emissions every year, and a further 96 million tonnes of Scope 3 emissions (Sackett 2020). Santos has committed for all gas from the project to remain in Australia, meaning all these emissions will be included in the national emissions inventory. Coal seam gas projects are dangerous and destructive, contaminating water and farmland, impacting First Nations culture, and creating public health risks (Climate Council 2023).

Despite the wide-ranging benefits of electrification – including cost savings, cutting climate pollution, assisting with energy security and boosting public health – the number of consumers connected to fossil gas in NSW continues to grow. More than 27,000 new consumers were connected to the gas network in 2022-23, with more than 1.6 million connections in total (NSW DCCEEW 2024). NSW can reduce the need for continued and expanded gas extraction by following the lead of Victoria and the ACT and phasing out gas in NSW homes and businesses.

Recommendation 7: Set a clear plan to reduce gas demand in NSW through the Gas Decarbonisation Roadmap

With many local governments already taking action across the state, coordination is needed at a state level to make electric, efficient buildings – both new and existing – the standard state-wide, and to support NSW's industries to get off gas wherever feasible. NSW must embrace a fossil fuel-free future in its NSW Gas Decarbonisation Roadmap, due to be released for public consultation in 2025.

Conclusion

To meet its legislated targets and obligations, and secure a safer future for its communities and economy, NSW must deal with its fossil fuel industry and its polluting exports. This means ending the approval of new and expanded fossil fuel projects, and ensuring existing projects take urgent action to cut their emissions. With NSW accounting for more than two-thirds of Australia's thermal coal exports, NSW must also acknowledge the enormous contribution of exported NSW coal to global climate pollution.