



Environmental
Defenders Office

Submission on the draft NSW EPA Guide for Large Emitters - Guidance on the greenhouse gas assessment and mitigation plan to be prepared for large emitting projects within environment impact assessments

8 July 2024

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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.

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Acknowledgement of Country

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.

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Executive Summary

Environmental Defenders Office (**EDO**) welcomes the opportunity to comment on the draft *NSW EPA Guide for Large Emitters (Guide)*.¹

EDO has long called for decisive and immediate action on climate change given the critical nature of the climate crisis. The science is clear: global emissions need to fall 9% every year to keep the temperature rise limited to 1.5°C above pre-industrial levels.² There is an 80% chance that the limit will be passed in one of the next five years.³ It is critical that action on climate change be taken now.

The *Climate Change (Net Zero Future) Act 2023 (Net Zero Future Act)* has set targets for reducing net greenhouse gas (**GHG**) emissions in NSW by 50% on 2005 emissions by 2030, 70% by 2035, and to zero by 2050.

However, the latest projections from the NSW Department of Climate Change, Energy, the Environment and Water (**DCCEEW**) indicate a significant risk that NSW will not meet either its 2030 or 2035 targets without significant action from both Government and the private sector.⁴

It is therefore essential that deep and immediate reduction of greenhouse gas emissions from large emitters is mandatory, enforceable, science based, and based on actual emissions rather than estimates.

EDO supports the development of GHG assessment and mitigation requirements to be addressed in the environmental impact and assessment and approvals process of new and expanded developments with significant GHG emissions. We make a number of recommendations in order to strengthen the proposed Guide, including to strengthen the quality of data feeding into decisions made under the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, the *Protection of the Environment Operations Act 1991 (POEO Act)*, and other environmental and planning laws, as well as into the NSW Net Zero Dashboard.

However, **without further integration into planning and environmental approvals regimes, the Guide is unlikely to make a material difference to GHG emissions in NSW.** It is unclear how the requirements of the Guide will be enforced and how the GHG assessment report to be produced will be considered by the consent authority. The Guide must not be an additional box in a tick-a-box process that inevitably leads to approval, but a gateway exercise – e.g., if emissions proposed to be generated by the project are not within NSW’s emissions budget, the project is not in the public interest under s 4.15 of the EP&A Act and cannot proceed.

This submission addresses key areas including:

- The need for planning law reform to address climate change;
- Concerns with the reliance on NGER for identification of large emitters;
- The imperative to properly consider and address methane emissions;
- The imperative to incorporate downstream emissions in greenhouse gas assessments;

¹ [NSW EPA Guide for Large Emitters \(hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com\)](https://hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com)

² A. Guterres, (2024) [There is an exit off ‘the highway to climate hell’, Guterres insists | UN News](#)

³ [Global temperature is likely to exceed 1.5°C above pre-industrial level temporarily in next 5 years \(wmo.int\)](#)

⁴ Ministerial Statement Updates regarding Net Zero Plan Stage 1: 2020-2030 and previous Implementation Updates. Retrieved from [Ministerial statement | NSW Climate and Energy Action](#)

- The proper approach to assessing the costs of a proposed project;
- Mitigation and the use of offsets;
- Emissions benchmarking and goal setting; and
- Climate Change Mitigation and Adaptation Plans.

Summary of Recommendations

- **Recommendation:** The NSW government should develop a range of planning reforms to embed climate considerations into the EP&A Act, as recommended in this submission and the EDO [Climate Ready Planning Law Report](#).
- **Recommendation:** The Guide require proponents of coal and gas to set out a program of extraction with a managed decline in production, and that this Net Zero compliant processing rate is integrated into the conditions for consent for any approved coal or petroleum development.
- **Recommendation:** Environmental impact statements for large emitters are not publicly exhibited until the EPA is satisfied that the proposed development and its EIS comply with the Guide. This practice should be formalised through published policy.
- **Recommendation:** The EP&A Act be amended to remove the EPA from the concurrence exemption at s 4.13(2A).
- **Recommendation:** Section 4.42 of the EP&A Act be amended to remove the requirements that EPLs cannot be refused for an SSD if a development consent for that SSD is approved, and that the EPL must be substantially consistent with the development consent.
- **Recommendation:** The Guide should implement the CCA's recommendations on the NGER Scheme to phase out lower order reporting methods (methods 1, 2, and 3) and move to a higher order gold standard method using site-source reconciliation to establish actual emissions.
- **Recommendation:** In relation to proposed extensions of large emitters, the Guide should require the assessment of actual methane emissions using proven, available site-source reconciliation technologies at existing operations to establish the baseline emissions of an operation which is the subject of a proposed extension.
- **Recommendation:** The Guide should require specific mitigation measures for fugitive methane emissions be adopted by a proponent in order to fulfil the Guide's emissions mitigation requirement.
- **Recommendation:** The Guide should not include language that will enable proponents to delay the implementation of mitigation measures to ensure emission reduction targets are met.
- **Recommendation:** Offsets should not be permitted for methane emissions under the Guide, but if they are, EPA should ensure that 84-87 carbon dioxide offsets are applied for each tonne of methane to reflect the actual global warming potential of methane.
- **Recommendation:** The Guide should require emitters to reduce their absolute or total emissions.
- **Recommendation:** The Guide and conditions of any consent should require emitters to accurately measure and report their emissions through the implementation of higher order method 4 with independent verification of the emissions using site-source reconciliation.
- **Recommendation:** Introduce a waste emissions levy on methane.
- **Recommendation:** The EPA should regulate GHG emissions using its existing powers to control pollution and waste as per recommendations in the EDO [Empowering the NSW EPA to prevent climate pollution](#) report . This would set price signals consistent with the polluter pays principle, assisting in an orderly transition to a zero-carbon economy.

- **Recommendation:** Proponents must be required to address the impacts and mitigation of scope 3 emissions, so that DPHI and the EPA are able to assess the impact of the scope 3 emissions, and consider ways of reducing those emissions, as they are required to do by law.
- **Recommendation:** EPA must have a clear assurance role on whether guide requirements are being met.
- **Recommendation:** EPA and consent authorities be required to refuse projects that do not avoid, reduce, and substitute GHG emissions to the full extent practicable (having regard to best available technology).
- **Recommendation:** Offsets should not be considered emissions reductions and should only be used in very limited, clearly defined circumstances for hard-to-abate sectors.
- **Recommendation:** Independent experts selected to conduct reviews should be nominated by the regulator, not by the proponent, although the proponent should be required to pay.
- **Recommendation:** Standard conditions and proposed GHG mitigation plans need to be strengthened to identify clear performance-based requirements that can be enforced.

Planning law reform is needed to address climate change and achieve Net Zero

With the passage of the *Climate Change (Net Zero Future) Act 2023 (Net Zero Future Act)*, NSW took the important step of legislating emission reduction targets. As EDO has previously submitted, for these targets to be meaningful and effective, they need to be embedded in relevant decision-making processes and be enforceable, or risk being ornamental.

EDO recognises that the Guide is one of a range of policies in development to support the objective of the Net Zero Future Act. We support this step, but note at the outset, that broader planning law and policy reform is needed to ensure that targets are met.

To ensure targets are met, full lifecycle emissions and climate impacts need to be more comprehensively considered at the development application stage for large emitting projects, such as fossil fuel projects. We strongly support comprehensive planning law and policy reforms to ensure this.

There is a rigorous scientific basis evidencing the need for a managed decline of the fossil fuel industry if we are to meet Net Zero by 2050.⁵ In 2021, the International Energy Agency (IEA) declared that from 2021, no new oil and gas fields can be approved, and no new coal mines or extensions can be built if the energy sector is to reach net-zero by 2050.⁶ This was recently reiterated by the IEA as it noted that the pathway to limiting global warming to 1.5 degrees has narrowed.⁷

In 2023, the Intergovernmental Panel on Climate Change (IPCC) found that “[p]rojected CO₂ emissions from **existing** fossil fuel infrastructure without additional abatement would exceed the

⁵ [No New Fossil Fuel Projects: The Norm We Need | Department of Political Science - UCL – University College London](#)

⁶ IEA Net Zero by 2050, A Roadmap for the Global Energy Sector. Available at Retrieved from [Net Zero by 2050 - A Roadmap for the Global Energy Sector \(iea.blob.core.windows.net\)](#)

⁷ IEA World Energy Outlook 2023 Retrieved from [World Energy Outlook 2023 \(iea.blob.core.windows.net\)](#) See also [Carbon emissions: Window closing on 1.5 deg as IEA spells out \\$US4.5t/yr challenge \(afr.com\)](#)

remaining carbon budget for 1.5°C (50%) (high confidence)”⁸ [emphasis added]. The United Nations Conference of the Parties in late 2023, (COP28) culminated in the call to transition away from fossil fuels in energy systems.⁹

Despite this, global production and use of fossil fuels continue, greenhouse gas emissions hit new highs and global temperature records tumble,¹⁰ making meeting the Paris Agreement, and the Net Zero Future Act, goal to keep global temperature increase limited to 1.5°C extremely challenging.

Coal mining accounts for 9% of Australia’s total emissions, with NSW in 2020 producing just over one quarter of these.¹¹ Approximately 40% of Australia’s coal production occurs in NSW and the Scope 3 emissions from the 164 Mt of coal that was exported from NSW in 2021 were the equivalent of Australia’s total emissions in 2020.¹² **These figures show the impact that just one sector of the NSW economy has on greenhouse gas emissions driving climate change which will have a profound impact on NSW, and emphasise the importance of ensuring that the planning system, including the Guide, is fit for purpose to facilitate the attainment of the legislated net zero targets.**

In light of this, GHG emissions from fossil fuel developments (including mining and extraction of these fuels, and power stations using fossil fuels such as coal and gas as feedstock), must be especially scrutinised. We refer the EPA to our [Climate Ready Planning Law Report](#) for detailed recommendations. The NSW government should develop a range of planning reforms to embed climate considerations into the EP&A Act

Recommendation: The NSW government should develop a range of planning reforms to embed climate considerations into the EP&A Act, as recommended in this submission and the EDO [Climate Ready Planning Law Report](#).

Production Gap to Net Zero

As it stands, the planning system is static. Development consents granted under the EP&A Act for new projects or project expansions approve the extraction or production of a consistent amount for the life of the project. They do not contemplate the ratcheting down of the maximum extraction or production levels over the life of the project, despite that being an inevitable requirement if NSW is to meet Net Zero.

In conjunction with the necessary emissions reduction over the life of the project, it is important that development consents have a similar consideration in respect of the amount of extracted or produced materials to manage the Production gap.¹³ The reduction of the amount of material extracted or produced over the life of the project will have the effect of reducing associated emissions. These emission reductions can be consolidated by the implementation of the avoidance and mitigation processes contemplated by the Guide. As both the NSW Government and the NSW Environment Protection Authority (**EPA**) have noted, it is critical that climate change

⁸ IPCC, AR6 2023 Synthesis Report, section B.5

https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf

⁹ COP28 Agreement Signals “Beginning of the End” of the Fossil Fuel Era | UNFCCC

¹⁰ Emissions Gap Report 2023 | UNEP - UN Environment Programme

¹¹ Katestone (2023) Best Practice Checklist for Greenhouse Gas Abatement by NSW Coal Mines. Retrieved from [Best Practice Checklist for Greenhouse Gas Abatement by NSW Coal Mines \(nationbuilder.com\)](#)

¹² Ibid.

¹³ See <https://www.unep.org/resources/production-gap-report-2023>.

is addressed urgently. The combination of the reduction of materials and emissions concurrently will aid NSW in meeting its legislated targets.

Recommendations:

The Guide require proponents of coal and gas to set out a program of extraction with a managed decline in production.

That this Net Zero compliant processing rate is integrated into the conditions for consent for any approved coal or petroleum development.

The Guide should be better integrated into the planning framework for development consents and EPLs

The Guide notes that it “is intended to inform GHG aspects of the development, and consideration and assessment of a proposal”.

In practice, we understand that the Guide is intended to form part of the environmental assessment requirements (**EARs**) for the development under Part 8 Div 2 of the *Environmental Planning and Assessment Regulation 2021 (EP&A Reg)*, and therefore inform the environmental impact statement (**EIS**) for the development. We understand that the majority of developments that will be considered large emitters for the purpose of the Guide will be State Significant Development (**SSD**), and the analysis below therefore deals largely with the approvals framework and terminology for SSDs, however is relevant to all development types that may encompass large emitters (that is, State Significant Infrastructure, Critical State Significant Infrastructure, and integrated development).

A key concern is that there is currently **no statutory or other requirement for the Department of Planning, Housing and Infrastructure (DPHI) or the EPA to implement the Guide**, and no indication of what steps could or will be taken by either regulator if an application and EIS do not comply with the Guide.

The Guide notes that “[t]he EPA will consider this guide when preparing climate change assessment requirements, and will provide advice to the planning authority on the adequacy of the proponent’s environmental impact assessment and the proponent’s project proposals under the *Environmental Planning and Assessment Act 1979*. However, each project proposal will be considered on its own merits.”

The EP&A Reg provides that an EIS must comply with the EARs notified to the project proponent.¹⁴ In practice, whether a development EIS has done so is determined by DPHI, and with a significant amount of latitude. It is crucial that DPHI is adequately resourced, including with appropriate expertise in climate and environmental matters, and empowered to assess an EIS against the Guide and to ensure the Guide (and other EARs) are comprehensively addressed.

While EDO supports the development of the Guide and the requirements for assessment, avoidance, mitigation, and reduction of greenhouse gas emissions, it is currently unclear how the Guide will be implemented or enforced. EDO is concerned that the discretionary nature of the Guide, and the lack of a clear assurance mechanism for proponents to comply with the Guide will result in the operational weakening of its requirements and undermine its intention.

¹⁴ EP&A Reg, cl 191.

Compliance with the Guide and EPA's role in the development consent context

Currently, the EPA's role as NSW's environment protection regulator is subordinated to the role of DPHI under the planning framework.

With respect to SSD applications, the EPA's legislated role is limited to being consulted with by the consent authority following the making of the development application.¹⁵ The EPA does not have a concurrence role in relation to SSDs by virtue of s 4.13(2A) of the EP&A Act, and is merely required to be consulted on the proposal by DPHI.

In EDO's view, given EPA's role and expertise, at the very least it must have an assurance role over compliance with the Guide, and must be confident the Guide has been complied before an EIS for a large emitting proposed development is placed on public exhibition.

Recommendations:

Environmental impact statements for large emitters are not publicly exhibited until the EPA is satisfied that the proposed development and its EIS comply with the Guide. This practice should be formalised through published policy.

The EP&A Act be amended to remove the EPA from the concurrence exemption at s 4.13(2A).

Further, the EP&A Act provides that an environment protection licence (**EPL**) cannot be refused if it is necessary for carrying out SSD that is authorised by a development consent for the SSD issued under the EP&A Act, and that the EPL must be substantially consistent with the development consent.¹⁶

In order to address this issue, urgent changes are needed to the EP&A Act to ensure the EPA can take action in relation to EPLs on the basis of climate change impacts, that may be inconsistent with the approval, and can override weak Greenhouse gas management plans currently approved by DPHI.

Recommendation: Section 4.42 of the EP&A Act be amended to remove the requirements that EPLs cannot be refused for an SSD if a development consent for that SSD is approved, and that the EPL must be substantially consistent with the development consent.

Emissions estimates must be based on robust, credible, methodologies

The Guide relies heavily on reporting under the National Greenhouse and Energy Reporting Scheme (**NGER Scheme**), established under the *National Greenhouse and Energy Reporting Act 2007* (Cth) (**NGER Act**) in order to identify large emitters and therefore, the application of the Guide. It permits proponents to similarly rely on reporting and methodologies under the NGER Scheme for the fulfilling the requirements of the Guide.

However, NGER Scheme estimates, particularly in relation to fugitive methane emissions, are highly controversial, unlikely to be reliable, and likely to lead to emissions estimates substantially lower than actual emissions. This undermines the intent of the Guide, the integrity of the Net Zero

¹⁵ EP&A Act, s 4.13

¹⁶ EP&A Act, s 4.42.

Dashboard, and ultimately jeopardises legislated NSW (and national) GHG emissions reduction commitments.

In December 2023, the Climate Change Authority (**CCA**) undertook a review of the NGER Scheme (**CCA Review**) and made significant recommendations in relation to how methane emissions, in particular fugitive emissions, are reported. It found:

Several improvements can be made to fugitive methane emissions measurement and reporting under the NGER scheme.

Research teams around the world are using remote sensing satellites to observe methane plumes near the earth's surface. Over the past five years, developments in satellite technologies and inverse modelling techniques have resulted in a new source of data to estimate fugitive methane emissions from individual facilities. Some of these satellite observations have raised questions about the accuracy of estimated fugitive methane emissions from coal mining and oil and gas operations in Australia reported under the NGER scheme.

In this review, the authority considered these satellite observations, particularly those used to make comparisons with estimates from the NGER scheme. In considering improvements for the NGER scheme, the authority also took into consideration two emerging international frameworks for methane measurement, reporting and verification being developed by the United Nations Environment Program and industry - the Oil and Gas Methane Partnership (OGMP) 2.0 and the Metcoal Methane Partnership (MMP).

In examining the available evidence, the authority observed general agreement between satellite-based observations and reported fugitive methane emissions from coal mining where the reported emissions are estimated using directly measured, higher order methods. However, discrepancies appear to be more prevalent between satellite observations and reported emissions for coal mining where simpler, lower order methods are available.

The [CCA] is of the view that the accuracy of estimated fugitive methane emissions reported under the NGER scheme may be impacted due to the use of lower order methods. Simple emissions factors do not adequately capture temporal or spatial specificity or variability at the facility level. The authority has identified a number of improvements to the NGER Measurement Determination that would enhance the accuracy of fugitive methane emissions reporting and bring the NGER scheme into better alignment with international best practice in methane measurement, reporting and verification. These include:

- A series of recommendations to move measurement and reporting of fugitive methane emissions in Australia to higher order methods. In some instances the authority recommends making this shift mandatory (e.g. by phasing out Method 1) and in other instances, it recommends enabling the shift (e.g. through increasing the availability of higher order methods for different activities in coal mining and oil and gas operations).
- A recommendation for the government to develop a policy framework for implementing independent verification of facility-level fugitive methane emissions estimates using top-down measurements conducted by reporters, and reported through the NGER scheme.
- A recommendation that the government supports the development of Australia's sovereign capability in methane emissions measurement and quantification.

The Federal Government is yet to respond to the CCA Review, with a formal response due mid-2024.¹⁷

¹⁷ [The Climate Change Authority's review of the National Greenhouse and Energy Reporting legislation: background - DCCEEW](#)

Independent reports have shown that Australia’s actual methane emissions are being significantly under reported.¹⁸ Open Methane’s report looking into the variance between reported emissions based on NGER figures and actual emissions using data collected from satellite observations shows actual methane levels some 2.5 times higher than reported.¹⁹ These findings are supported by a recent International Energy Agency report which found that Australia’s fugitive emissions are nearly twice as high as national estimates.²⁰ These findings support a conclusion that Australia’s actual methane emissions are double that which is reported.²¹

As the CCA Review identified, operators can choose to report their fugitive methane emissions in a number of ways, including through the following lower order estimation methods:

- state-based emissions factors (method 1); or
- company-led emissions estimates (method 2).

Both methods rely on estimated emissions rather than independently verified, actual emissions. Allowing emissions estimates therefore allows for significant underreporting of actual emissions.

Furthermore, recent industry practice has been to shift from the use of method 1 reporting to method 2 reporting, which has resulted in the reporting of dramatic reductions in methane emissions (unexplained by on-ground changes).²²

Satellite evidence of actual emissions should be used to verify the reported emissions and the methods used to estimate emissions.

Unless and until the federal Government has implemented the CCA’s recommendations on methane reporting under the NGER Scheme,²³ the Guide cannot permit GHG (and in particular, methane) emissions estimates based on the NGER Scheme. To do so would fundamentally undermine the utility of the Guide in informing environmental impact assessments (or any other purpose for which data generated by proponent assessment reports may be used, such as the Net Zero Dashboard), by relying on outdated, unverified reporting methodologies which have been repeatedly found to be inaccurate and not best practice.

Implementing the CCA’s recommendation with respect to credible reporting of fugitive methane emissions will ensure accurate:

- emissions reporting;
- identification of Large Emitters who will be required to apply the guidelines to their existing and proposed operations;

¹⁸ Open Methane’s First Results Build the Urgent Case for Improved Emissions Measurements. Retrieved from [Open Methane's First Results Build the Urgent Case for Improved Emissions Measurement | Analysis | Open Methane](#); IEEFA (2023) Fugitive methane emissions cast dark cloud over Australia’s Net Zero ambitions. Retrieved from [Fugitive methane emissions cast dark cloud over Australia’s Net Zero ambitions | IEEFA](#)

¹⁹ See [Open Methane's First Results Build the Urgent Case for Improved Emissions Measurement | Analysis | Open Methane](#)

²⁰ [Fugitive methane emissions cast dark cloud over Australia’s Net Zero ambitions | IEEFA](#)

²¹ Ibid.

²² Ember (2024) How an accounting shift could conceal millions of tonnes of coal mine emissions. Retrieved from [Accounting shift may hide millions of tonnes of emissions | Ember \(ember-climate.org\)](#)

²³ Climate Change Authority 2023 Review of the National Greenhouse and Energy Reporting Legislation, recommendations 15-22 p9. Retrieved from [2023 NGER Review - for publication.pdf \(climatechangeauthority.gov.au\)](#)

- emission boundary assessment;
- understanding of mitigation requirements;
- accounting for cost of emissions; and
- comparison of project emissions against NSW emission projections.

It follows that not doing so risks undermining the accuracy and efficacy of these matters.

Recommendation: The Guide should implement the CCA’s recommendations on the NGER Scheme to phase out lower order reporting methods (methods 1, 2, and 3) and move to a higher order gold standard method using site-source reconciliation to establish actual emissions.

Methane emissions in particular must be accurately estimated and tracked

In 2022, Australia signed up to the Global Methane Pledge, committing to cut global methane emissions by 30% by 2030. In the same year, methane emissions from the global energy sector rose to nearly 135 Mt with the production and use of fossil fuels accounting for 120 Mt.²⁴

Methane is a significant contributor to Australia’s Greenhouse Gas Emissions, contributing approximately 29% of total emissions in Australia,²⁵ with fugitive emissions accounting for 10% of Australia’s national inventory.²⁶ In trend terms, fugitive emissions from coal increased by 1.9% in the December 2023 quarter, driven by increased coal production from underground and open cut mines in New South Wales and Queensland.²⁷ Of significance, is that this data is based on estimates, with no verification of actual emissions and it is recognised that this may underestimate the actual fugitive emissions released.²⁸

Methane is a potent greenhouse gas and has more than 28 times the warming potential than carbon dioxide over a 100-year period with an atmospheric life of around 12 years.²⁹ It is responsible for around 30% of the rise in global temperatures since the industrial revolution.

Rapid and sustained reductions in methane emissions are key to limiting global warming to 1.5°C in the immediate future.³⁰

As set out above, there are significant concerns with the current low order methodology, based on estimates, which Australia is relying on for reporting methane emissions under the NGER Scheme as outlined above, both within Australia and internationally. The federal government is yet to respond to these concerns.

²⁴ IEA Methane Abatement. Retrieved from [Methane Abatement - Energy System - IEA](#)

²⁵ [Quarterly Update of Australia’s National Greenhouse Gas Inventory: December 2023 \(dceew.gov.au\)](#)

²⁶ Ibid at 19

²⁷ Ibid.

²⁸ Katestone (2023) Best Practice Checklist for Greenhouse Gas Abatement by NSW Coal Mines. Retrieved from [Best Practice Checklist for Greenhouse Gas Abatement by NSW Coal Mines \(nationbuilder.com\)](#)

²⁹ NSW EPA Methane Fact Sheet. Retrieved from [Methane fact sheet \(nsw.gov.au\)](#)

³⁰ IEA 2022 Methane and Climate Change, Global Methane Tracker 2022. Retrieved from [Methane and climate change – Global Methane Tracker 2022 – Analysis - IEA](#)

Identification of large emitters

As discussed above, current emissions data are based on estimates and there is a growing practice of proponents switching reporting methods to which has the effect of dramatic reductions in reported emissions. This lack of certainty or accuracy of reported emissions means that the number of operations covered by the Large Emitters definition within the Guideline is impacted, undermining the validity and veracity of the Guideline. If emissions were calculated using Method 4 or higher order, gold standard methods which measure and verify actual emissions as recommended by the CCA, the definition of large emitter would be more accurate and apply appropriately to proposals and existing operations. As it stands, the Guideline's reliance on the NGER reporting methodologies to define the large emitters is undermining the EPA's ambition to address emission reductions in line with the NSW targets and the intention of the Guide.

As recommended above, the Guide should require proponents to use top-down verification of methane emissions to raise the quality and robustness of reporting data and ensure accurate and sustained total emissions reductions.

Identification of Assessment Boundary

The Guide provides that, in defining an assessment boundary, a proponent must identify which emission sources and activities are included in the assessment. A proponent must identify whether a modification will increase or decrease emissions from existing operations and the affected sources related to these existing operations must be included in the GHG assessment boundary for the project. The Guide states that this will allow the overall impact of the project on GHG emissions to be assessed.³¹

EDO supports an approach that ensures the total impact of a proposed modified development (rather than an artificial separation of the modification from the extant development) is assessed. However, given the method for calculating emissions both from an existing operation and proposed expansion of an operation is flawed the application of the Guide will be undermined.

Therefore, the Guide should, in relation to proposed extensions of large emitters, require the assessment of actual methane emissions using proven, available site-source reconciliation technologies at existing operations to establish the baseline emissions of an operation which is the subject of a proposed extension. This will ensure the actual methane emissions are considered in an assessment rather than relying on estimated emissions which will result in the implementation of appropriate mitigation and abatement of methane emissions so that legislated emission reduction targets can be met.

Recommendation: In relation to proposed extensions of large emitters, the Guide should require the assessment of actual methane emissions using proven, available site-source reconciliation technologies at existing operations to establish the baseline emissions of an operation which is the subject of a proposed extension.

³¹ NSW EPA Guide for Large Emitters at par 2.1 [NSW EPA Guide for Large Emitters \(hdp-au-prod-app-nswepa-yoursay-files.s3-ap-southeast-2.amazonaws.com\)](https://www.environment.nsw.gov.au/your-say-files/s3-ap-southeast-2.amazonaws.com)

Mitigation

For the EPA to fulfil the legislative obligations outlined at Section 1.2 of the Guide, mitigation of methane emissions must be mandatory and effective.

When outlining best-practice design, technology and management, the Guide uses language such as “over the lifetime of the project” and “to be adopted at some time during the project life”.

This language is similar in application to the phrase “reasonable and feasible”, which is discussed later in this submission, and which has been relied on by proponents to delay the implementation of mitigation measures under the guise that the available technology is neither economically reasonable nor feasible to implement on economic grounds and that further investigations are being conducted to find reasonable and feasible mitigation measures. In this manner, no emissions reductions are achieved despite an ostensible requirement to do so.

Commercially competitive technologies already exist to significantly reduce fugitive methane emissions, and should be explicitly required by the Guide

The International Energy Agency’s net zero scenario, which sees the global energy sector achieving net zero emissions by mid-century, includes a 75% reduction in methane using **commercially competitive, existing** technologies, such as capturing the methane and using it to generate electricity to be used on site or to be sold to the market.³²

Further, a recent analysis commissioned by the Environmental Defence Fund, conducted by S&P Global, found that capturing the fugitive methane lost through venting, flaring and other emissions would provide around 2 billion cubic metres of additional gas to the east coast domestic market, representing 2.5 times the ACCC’s predicted shortfall.³³

EDO recommends that vague language with respect to requirements, such as “over the lifetime of the project”, “to be adopted at some time during the project life”, “plausible cost recovery”, “financially feasible”, be replaced with mandatory requirements for proven and available mitigation measures as a condition precedent for any approval.

These requirements should specify that the mitigation measures must be updated with newer technologies as and when they are developed. This will ensure that the EPA meets its legislative obligations and that emissions reduction targets are met. Given the potency of methane as a greenhouse gas, any proven mitigation measures implemented at existing operations and in proposed projects will have significant and immediate emission reduction impacts. This will not only assist with meeting the legislated emission reduction targets and aid the EPA in fulfilling its legislated obligations, but also go to holding temperature rise to under 2°C.

Recommendation: The Guide should require specific mitigation measures for fugitive methane emissions be adopted by a proponent in order to fulfil the Guide’s emissions mitigation requirement.

The Guide should not include language that will enable proponents to delay the implementation of mitigation measures to ensure emission reduction targets are met.

³² IEA Methane Abatement. Retrieved from [Methane Abatement - Energy System - IEA](#)

³³ [Environmental Defense Fund submission to the Environment and Communications Legislation Committee inquiry into the Safeguard Mechanisms \(Crediting\) Amendment Bill 2022.](#)

Offset strategy in relation to methane emissions

EDO supports the position in the Guide that the mitigation hierarchy is implemented to avoid, then reduce methane emissions.

However, EDO does not support the use of offsets for methane emissions given the complexity of offsetting methane, and that methane emissions can be avoided, reduced, or substituted (as required by the mitigation hierarchy).

The Intergovernmental Panel on Climate Change (**IPCC**) provides that methane has a global warming potential of between 84-87 over a 20-year period and between 28-36 over a 100-year period. This means that one tonne of methane is equivalent to 28-36 tonnes of carbon dioxide.³⁴

Given methane's short atmospheric lifespan it is the EDO's submission that if offsets for methane were considered appropriate by the EPA, the 20-year period equivalent or 84-87 tonnes of carbon dioxide to each tonne of methane should be applied for offsets to be relied on by a proponent.

Recommendation: Offsets should not be permitted for methane emissions under the Guide, but if they are, EPA should ensure that 84-87 carbon dioxide offsets are applied for each tonne of methane to reflect the actual global warming potential of methane.

Emissions Intensity

The Guide refers to emissions intensity in the avoiding emissions through best-practice design. It is EDO's submission that absolute emissions should be used rather than emission intensity. As defined in the Guide, emissions intensity measures the amount of GHG emissions produced per unit of activity, output or economic measure. A reduction of emission intensity means that less emissions are being created per unit of activity etc. However, if productivity increases then so do total emissions.³⁵

Further, the majority of methane emissions are fugitive emissions and are not accurately reported (as discussed above). A more accurate approach to measuring emissions reduction is absolute emissions or the reduction of total emissions. In order to fulfil its legislative obligations and meet the emission reduction targets, the EPA should be requiring emitters to reduce their absolute or total emissions. This will require the emitters to accurately measure and report their emissions through the implementation of higher order method 4 with independent verification of the emissions using site-source reconciliation.

Recommendations:

The Guide should require emitters to reduce their absolute or total emissions.

³⁴ IEA Methane Tracker 2021. Retrieved from [Methane and climate change – Methane Tracker 2021 – Analysis - IEA](#)

³⁵ Climate Council. What's the difference between absolute emissions and emissions intensity? Retrieved from [What's the difference between absolute emissions and emissions intensity? | Climate Council](#)

The Guide and conditions of any consent should require emitters to accurately measure and report their emissions through the implementation of higher order method 4 with independent verification of the emissions using site-source reconciliation.

The EPA can incentivise methane emissions reductions through its existing powers

The Guide notes that there is an increasing number of companies using an internal carbon price to reduce greenhouse gas emissions in their operations.

The NSW EPA has a timely opportunity with the Net Zero Future Act, the Net Zero Strategy, and this Guide to introduce a waste emission levy for methane, similar to the existing waste levy implemented under the *Protection of the Environment Operations Act 1997*. This would ensure all companies are applying the same price per tonne of methane to reduce methane emissions within their operations. This approach has been taken by other environmental regulators such as the US EPA for methane that applies to petroleum and natural gas facilities that emit more than 25,000 metric tonnes of carbon dioxide per year.³⁶ The US EPA's waste emissions charge starts at US\$900 per metric tonne for 2024 reported methane emissions and increases to US\$1,200 per metric tonne for 2025, and US\$1,500 per metric tonne for 2026 and beyond.³⁷ The EDO submits that to ensure a level playing field for NSW Large Emitters, and as some companies are already utilising this approach, the NSW EPA introduces a waste emissions levy for methane that can be applied to ensure the accurate accounting for the cost of emissions.

We refer the EPA to EDO's [Empowering the NSW EPA to prevent climate pollution](#) report,³⁸ which examines how the EPA can put in place mechanisms to reduce greenhouse gas emissions using its existing powers to control pollution and waste, recognising that uncontrolled emissions will have significant consequences for the environment and human health.

The EPA is the lead environmental regulator in NSW and is responsible for protecting the quality of our environment and human health. In line with its key objectives and functions, the EPA can and should regulate GHG emissions using its existing powers to control pollution and waste, recognising the catastrophic consequences of uncontrolled emissions on all aspects of the environment and on human health. In doing so, the EPA would modernise the regulatory framework and set price signals consistent with the polluter pays principle, assisting in an orderly transition to a zero-carbon economy.

Recommendations:

Introduce a waste emissions levy on methane.

The EPA should regulate GHG emissions using its existing powers to control pollution and waste as per recommendations in the EDO [Empowering the NSW EPA to prevent climate pollution](#) report. This would set price signals consistent with the polluter pays principle, assisting in an orderly transition to a zero-carbon economy.

³⁶ EPA Waste Emissions Charge. Retrieved from [Waste Emissions Charge | US EPA](#)

³⁷ Ibid.

³⁸ Available at <https://www.edo.org.au/2020/11/26/empowering-the-nsw-epa-to-prevent-climate-pollution/>

Scope 3 emissions must be fully included in greenhouse gas emissions assessment reports and their impact on the environment of NSW considered

The Guide requires the quantification of scope 3 emissions.³⁹ However, proponents are only required to specify mitigation goals for scopes 1 and 2 emissions. In relation to scope 3, proponents are only “encouraged” to specify scope 3 emissions reduction goals.⁴⁰

The consent authority and the EPA are required by law to assess the impacts and mitigation of scope 3 emissions, the assessment guidelines should require the proponents to provide the necessary information to inform that assessment.

An assessment of the impact of scope 3 emissions, together with potential mitigation of those emissions is required by:

- the EP&A Act as part of the assessment of impacts and the facilitation of ecologically sustainable development (ss 1.3 and 4.15 of the EP&A Act), as confirmed in *KEPCO Bylong Australia Pty Ltd v Bylong Valley Protection Alliance* (2021) 250 LGER 39; [2021] NSWCA 216 (**KEPCO**);
- the *State Environmental Planning Policy (Resources and Energy) 2021 (Resources SEPP)*. Pursuant to cl 2.20(1) of the Resources SEPP, the consent authority is required to consider the imposition of conditions that GHG emissions are minimised to the greatest extent possible. Clause 2.20(2) clarifies that the assessment must include “downstream emissions”; and
- the Net Zero Future Act (see discussion below).

All emissions contribute to climate change in NSW regardless of where they are emitted. From a scientific perspective, and for the NSW environment, it is immaterial where the emissions occur.

In the Net Zero Future Act, “action to address climate change” is defined broadly in s 5 and refers to action to reduce “greenhouse gas emissions”. There is no qualification that limits “action” to scope 1 and 2 emissions. Similarly, “greenhouse gas” is defined by reference to the relevant gases without the exclusion of scope 3.

The Purpose of the Net Zero Future Act, at s 3, is to give effect to the Paris Agreement temperature commitments and includes a statement that the Parliament of NSW “*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*” (s 3(3)).

We acknowledge that the net zero targets specified in the Net Zero Future Act relate to emissions released within NSW. However, the guiding principles, which form part of the Objects of the Act in s 4, as specified in s 8, must, by their very nature, require a consideration of scope 3 emissions.

Disappointingly, in the recent Boggabri Mod 8 Assessment Report which followed the Net Zero Future Act, DPHI disposed of scope 3 emissions with the following assessment:

³⁹ Guide, Section 4.4.2.

⁴⁰ Guide, section 4.54 and pages 15 & 29

“Scope 3 GHG emissions accounting would be undertaken by the entities and nations where the product coal is combusted. The Department considers that the Project’s Scope 3 GHG emissions do not contravene the principle of intergenerational equity insofar as it is established and applied by NSW legislation and the applicable policy.”

Where no information is provided by proponents as to the location and mitigation of their scope 3 emissions, and where no conditions are imposed to ensure the scope 3 emissions are appropriately accounted for, it is very difficult to see how such a response is consistent with the assessment required by law. This was the basis of the challenge to the IPC’s decision to approve the Mt Pleasant coal mine that will soon be handed down by the Court (DAMSHEG v Mach Energy).

The ongoing reporting of scope 3 emissions should also be included in GHG Management Plans.

Recommendation: Proponents must be required to address the impacts and mitigation of scope 3 emissions, so that DPHI and the EPA are able to assess the impact of the scope 3 emissions, and consider ways of reducing those emissions, as they are required to do by law.

Assessing the true costs of a proposed project – the social price of carbon and the polluter pays principle

The Guide notes that the overall mitigation assessment must address the cost of emissions. While the feasibility assessment includes the cost of available technologies, compatibility with the project’s production and operational process, other benefits, financial feasibility and the costs of emissions is considered, what is not addressed is the cost of not mitigating or avoiding the emissions. It is important in considering costs, the polluter pays principle in s 6(2)(d) of *Protection of the Environment Administration Act 1991* is also considered as if the costs to the project mean less emission reduction occurs, there is no consideration of the wider costs of emissions on the economy, public health and the community.

EDO submits that in assessing the cost of emissions, impacts on the economy, public interest, public health and the environment resulting from the project should be considered.

NSW Treasury’s 2021 Intergenerational Report identified that there are already and will continue to be significant economic and social impacts of climate change on the NSW economy.⁴¹ NSW Treasury has advised that if no action is taken to reduce climate change, it is estimated that the Australian economy will be reduced by 6.3% by 2070, and lead to a net reduction of 880,000 jobs. Further, modelling by a global group of 66 central banks, including the Reserve Bank of Australia, warns that global domestic product (GDP) could fall by 25% by 2100 if no action is taken to limit climate change.⁴²

Impacts of climate change on health in NSW are already being recognised. AdaptNSW states that symptoms of many health conditions, such as heart disease, asthma and other lung conditions as well as mental health are worsened by climate change.⁴³ More frequent and intense weather events caused by climate change leads to more emergency room visits, hospitalisation and

⁴¹ AdaptNSW Climate Change effects on NSW state government. Retrieved from [Climate change effects on NSW state government | AdaptNSW](#)

⁴² Ibid.

⁴³ AdaptNSW Climate Change impacts on our health and wellbeing. Retrieved from [Climate impacts on our health and wellbeing | AdaptNSW](#)

deaths. The events can also affect electricity supply, transport and communication systems, which in turn impacts the ability to meet an increased health service demands.⁴⁴

NSW Health acknowledges that⁴⁵:

Australia is one of the countries on the frontlines of climate-health impacts, including increasing in extreme weather events, changes in infectious diseases patterns, and food and water security. These impacts will place unprecedented pressure on our health system and are exacerbating existing health inequities, with vulnerable groups and rural communities most affected.

Further⁴⁶:

... climate change poses the largest threat to global health; it is also the biggest opportunity. Our health system faces a series of challenges including rising rates of chronic disease, reducing the risks and costs of harmful and low-value care (which may constitute up to 40% of healthcare), widening health inequities and the digital transformation

According to the NSW government, Australia's average temperature has increased on average by 1.44°C +/- 0.24°C, and oceans around Australia have warmed by at least 1°C since national records began in 1910.⁴⁷ Additionally, Australia is experiencing the following changes:⁴⁸

- Changes to rainfall patterns with rainfall decreasing in southern Australia during the cooler months and increasing in most of northern Australia.
- Increased fire danger with the number and length of periods of dangerous fire weather increasing since the 1950s, particularly in southern Australia. The risk of fire due to lightning has also increased with associated increases in storm frequency.
- Increased extreme weather events with intensity of heavy rainfall events increasing by more than 10% since 1979. Both the duration and frequency of heatwaves has increased since 1970 with hot weather records occurring 3 times more often than cold weather records.
- Australia's north and southeast has seen higher than global average rates of sea level rise.

The assessment of the cost of emissions of a project cannot be limited to the economic impact on the proponent. It must consider the economic, environmental, social and health impacts of climate change as they are interrelated and contribute to government spending.

Mitigation and the use of carbon offsets

Mitigation hierarchy must be applied and enforced

⁴⁴ Ibid.

⁴⁵ NSW Health Climate Risk & Net Zero Unit: Position Statement July 2022. Retrieved from [position-statement.PDF \(nsw.gov.au\)](#)

⁴⁶ NSW Health Climate Risk & Net Zero Unit: Position Statement July 2022. Retrieved from [position-statement.PDF \(nsw.gov.au\)](#)

⁴⁷ AdaptNSW Australian Climate Change Observations. Retrieved from [Australian climate change observations | AdaptNSW](#)

⁴⁸ Ibid.

It is welcome that the Guide sets out the EPA's expectation that proponents apply the mitigation hierarchy in relation to the GHG emissions from developments and specifies that (high-integrity) carbon offsets to reduce residual emissions are to be used as a last resort.

The EPA expects proponents to apply the mitigation hierarchy shown in Figure 2 to first avoid then reduce emissions as much as possible, including through measures to substitute lower-emission energy sources and materials for higher-emission ones, before finally offsetting residual emissions to meet emission goals. Proponents must demonstrate how they have considered and applied this mitigation hierarchy.⁴⁹

It is imperative that regulators require the mitigation hierarchy to be applied by proponents *in fact*. This must be overseen and enforced by the EPA and DPHI, in relation to EPLs and development consents (including modifications).

The EPA and DPHI must be subject to an obligation to themselves apply the mitigation hierarchy in performing licensing and/or approvals functions. Significantly, this means that these regulators must be prepared to refuse to grant the licence or consent if it considers that, in applying the mitigation hierarchy, the relevant proposal ought not to proceed in order for NSW to meet its Net Zero target.

The regulator (or an independent auditor) must interrogate the integrity of the emission avoidance and mitigation measures included in the project design. This is currently required by the guide for projects with scope 1 and 2 emissions over 100,000 tCO₂-e. We note that this threshold aligns with the safeguard mechanism and NGERs, but submit that it is important to acknowledge the uncertainty around the calculations, and the need for accuracy and scrutiny where emissions are likely near the 100,000 tCO₂-e threshold and/or likely to be particularly high in methane. It may be necessary to consider whether methane should be calculated separately to CO₂ given its impact over the shorter term to meet interim targets.

Measures to avoid and reduce emissions

The Guide states that “[p]roponents are required to demonstrate within the GHG Assessment that best-practice measures are to be implemented or provide evidence-based justification for why alternative measures are proposed.”⁵⁰

“Best-practice” as defined by the Guide “refers to the most effective combination of processes and technologies, including how an installation or activity is designed, built, maintained, operated and decommissioned, to avoid and minimise environmental impacts from GHG emissions (European Commission, 2023) (NSW EPA, 2022)”.⁵¹

However, EDO notes the *Best Practice Checklist for Greenhouse Gas Abatement by NSW Coal Mines* prepared by Katestone Environmental for the then NSW Department of Planning and Environment in May 2023.⁵² This document purports to “develop a benchmarking checklist of current best practices for the abatement of greenhouse gas (GHG) emissions from underground and open cut coal mining projects throughout NSW”, which “will allow for the review of Air Quality and

⁴⁹ NSW EPA Guide for Large Emitters, p 15.

⁵⁰ Guide, p 21.

⁵¹ Guide, Box 4, p 22.

⁵² Available at

https://assets.nationbuilder.com/lockthegate/pages/10377/attachments/original/1719435464/2023.05.01_Katestone_Best_Pr_28129.pdf?1719435464

Greenhouse Gas Management Plans (AQGHGMP) submitted to NSW DPE by coal mining projects, as required by their Conditions of Approval.”⁵³ It defines best-practice as “practice that will make a material contribution to GHG emissions reduction.” This is a lower standard than that set out in the Guide, and a lower standard than other “best practice” measures.⁵⁴

In determining best-practice emissions avoidance, reduction, and mitigation for the purposes of the Guide, EPA and DPHI should align its benchmarking with international best practice to determine what is most effective for actual emissions reduction, not just benchmarking about what industry is currently doing.

Feasibility and effectiveness of mitigation measures

The Guide statement “[w]hile it is not expected that emissions reductions be pursued at any cost,” is a cause for concern.

EDO’s experience is that proponents are quick to describe any active measures to minimise emissions and any measures that impose additional costs as “not feasible” or, using the terminology commonly contained in relevant conditions of consent and management plans, “not reasonable and feasible”. This loophole cannot be accepted by regulators. Certain emissions mitigation and substitution measures, such as solar and battery technologies installed at facilities and replacing fuelled vehicles, machinery and equipment with battery-electric alternatives that reduce emissions, are available and should be routinely required by regulators.

For example, in December 2023, EDO wrote to the Minister for Planning requesting an industry wide review of consent and management plan conditions requiring the proponent “to implement all reasonable and feasible measures to minimize GHG emissions”. A copy of that letter is at **Attachment A** to this submission. The letter set out how, in particular, most sites were failing to reduce emissions under their approved GHG Management Plans.

For example, measures actually taken at the Wilpinjong Coal thermal coal mine included:

- **investigating** areas to minimise electricity consumption off site;
- **reviewing** alternative energy sources; and
- minimising the use of diesel by optimising the design of haul roads to minimise the distance travelled and maintaining the fleet in good operating order.⁵⁵

None of these measures are in line with industry best practice or meaningfully reduce emissions. The annual reports showed no actual actions had been taken to minimise energy consumption, use solar or renewable power generation on site, or even to purchase green power. To our knowledge, no enforcement action has been taken or is being contemplated by DPHI to enforce the condition requiring the proponent to implement all reasonable and feasible measures to minimise GHG emissions. As such, the condition is essentially ornamental.

There are a number of currently commercially available steps that could be taken to actually reduce Scope 1 and 2 GHG emissions include (but are by no means limited to):

- adopting up-to-date diesel vehicle emissions standards;

⁵³ Katestone, p iii.

⁵⁴ See, e.g. Best Available Technology in the EU and OECD, Best Available Techniques in the USA.

⁵⁵ Peabody, Wilpinjong Air Quality Management Plan, p 22

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=RFI-24606871%2120210812T031746.875%20GMT>.

- transitioning to battery electric vehicles;
- transitioning other mining equipment to electric;
- shifting to renewable power sources;⁵⁶ and
- adopting ventilation air methane mitigation and utilisation technology.⁵⁷

For example, BHP has said that their studies have indicated that electrification through battery electric vehicles is the most technically feasible and commercially attractive solution for material movement and they are working to accelerate the availability of battery electric vehicle technology for mining vehicles and equipment, although to date this is only being implemented in their iron ore operations in Western Australia.⁵⁸

Large emitters, and in particular, coal and gas development, must be required to adopt specific measures up front in order to meet the Guide’s requirement to avoid, reduce, and mitigate GHG emissions, and cannot be permitted to refuse to take emissions reduction measures on the basis of a spurious claim that they are “not feasible” (particularly on economic grounds). If a project is not sufficiently financially viable that it cannot take these measures, it is not a viable proposal. Projects must be required to meet these requirements in order for the application and EIS to be publicly exhibited.

The NSW Chief Scientist has said that technologies are now proven and provide an opportunity for the coal mining industry to reduce its emissions.⁵⁹

EPA must have an assurance role on whether the Guide is met

The response from DPHI to EDO’s request to undertake an industry-wide review of all coal mining development consents and associated management plans raises real concerns about the expertise of DPHI in this area and its willingness or ability to ensure that the Guide is complied with by large emitters, or that relevant conditions are met. The response is at **Attachment B** to this submission.

It stated, in essence, that the EPA is the lead regulator and abrogated responsibility for regulating GHG emissions (including Scope 1 and 2 emissions from developments that require development consent) (even where there are GHG conditions in development consents).

This is of significant concern in the context of s 4.42 of the EP&A Act, which provides that an EPL cannot be refused by the EPA if a development consent for the project (if it is SSD, which most large emitters will be) is in place. The EPA must grant the development consent and its terms must be substantially the same as the terms of the development consent. DPHI recommends or decides on the conditions of consent for all such developments.

In this manner, and in particular for applications for development consent or for modification of SSDs, the EPA’s role is supplanted by DPHI. It is therefore not a credible position for DPHI to have taken in relation to EDO’s request for review of GHG management plans.

⁵⁶ See [How renewable energy is changing the face of mining - The Chamber of Minerals and Energy of Western Australia \(cmewa.com.au\)](http://cmewa.com.au).

⁵⁷ See US EPA, *Ventilation Air Methane (VAM) Utilization Technologies*, June 2019, available at <https://www.epa.gov/sites/default/files/2019-11/documents/vam_technologies.pdf>

⁵⁸ <https://www.bhp.com/sustainability/climate-change/operational-ghg-emission-reductions>

⁵⁹ ⁴ [NSW-Decarbonisation-Study-WEB.pdf, p 76 . Mine ventilation air methane abatement - CSIRO](#)

As above, in the context of the urgent need to mitigate GHG emissions, the requirements of the Net Zero Future Act, and the Government's priorities, the EPA's role as the lead environmental regulator must be reflected in legislation and practice. This is especially the case given DPHI has shown itself unwilling to regulate GHG emissions in any way.

Recommendation: EPA must have a clear assurance role on whether guide requirements are being met.

Offsets strategy

The Guide provides that an assessment must clearly set out any carbon offset strategies to be implemented for the project.⁶⁰

The Guide states that carbon offsets must be used only for residual emissions that cannot be avoided or reduced to meet emission goals.⁶¹ It also states that offsets must be based on clear, enforceable, and accountable methods, with offsets that conserve, preserve, protect, enhance, and manage the NSW environment to be prioritised.⁶² EDO supports this position in principle, however, whether this will result in real emissions reductions or whether it is used as a fig leaf for emitters to continue with business-as-usual will depend entirely on its implementation and enforcement.

Implementation and enforcement

At present, it is not clear how the EPA and consent authorities intend to ensure that projects (including modifications) only seek to rely on offsets as a genuine last resort for emissions that cannot be avoided or reduced.

Crucially, it is not clear what actions each regulator is prepared to take if development applications do not demonstrate this. Regulators must be required to refuse licences and development consents where a project does not genuinely apply the mitigation hierarchy in relation to GHG emissions.

Recommendation: EPA and consent authorities be required to refuse projects that do not avoid, reduce, and substitute GHG emissions to the full extent practicable (having regard to best available technology).

Integrity issues with carbon offsets

EDO is concerned the ongoing and increasing use of carbon offsets undermines the urgent task of reducing fossil fuel emissions at the source, to limit global warming consistent with Australia's international commitments and the legislated targets of NSW. Offsetting cannot be permitted to be the default option used to cloak continued and increasing gross emissions by facilities and projects.

The integrity of NSW's Net Zero framework is put at risk by the availability of offsets to purportedly meet that goal.

⁶⁰ NSW EPA Guide for Large Emitters, p 17.

⁶¹ NSW EPA Guide for Large Emitters, p 17.

⁶² NSW EPA Guide for Large Emitters, p 17.

In EDO's experience, where offsets are a permissible component of the mitigation hierarchy, proponents are significantly less likely to apply the earlier and more important mitigation measures (including, crucially, avoid) in the hierarchy and instead purchase offsets.

For example, in late 2023 EDO undertook an audit of net zero and other climate related claims across Australia's energy industry. This audit found that across the sector, there is excessive reliance on nature based and technological carbon offsetting through removal and avoidance offsets, rather than absolute reduction in emissions to meet targets. This is particularly concerning given the questionable credibility of these forms of offsets.⁶³

Offsets must only be permitted in very limited, clearly defined, circumstances

However, EDO does recognise that in vital industries in hard to abate sectors, carbon credits may play a role in offsetting residual emissions, and for this purpose credit generating schemes must be robust, trustworthy, and actually provide the emissions abatement they purport to.⁶⁴

EDO supports the Guide's recognition that offsetting must only be utilised as a last resort, once emissions have been reduced and mitigated.

EDO supports the position taken by the Guide that international carbon offsets will not be accepted.

However, there are also concerns around the integrity of Australia's carbon offsetting scheme. The veracity of Australian Carbon Credit Units has been criticised by whistleblowers and experts, with claims that up to 80% of the carbon credits issued are flawed or devoid of integrity, achieving little in the way of abatement and additionality.⁶⁵ Integrity issues with the ACCUs methodologies have been raised by Professor Andrew Macintosh, who voiced concerns that companies were earning ACCUs for not clearing forests that were never going to be cleared and for planting trees that were already there.⁶⁶ The Australian Academy of Science also reviewed the four ACCU generating methods criticised by Professor Macintosh and found similar issues with the ACCU methodologies.⁶⁷

Additional concerns relating to the efficacy of carbon offsets include questions about the ability of carbon credits to represent real and equivalent offsets for fossil fuel emissions, including the risk to permanence of natural carbon storage as the climate changes, as well as inherent difficulties in quantifying tonne-for-tonne abatement as compared to fossil fuel emissions.

⁶³ EDO, 2024, *Energising Net Zero in the Energy Industry*, available at https://www.edo.org.au/wp-content/uploads/2024/04/Energising_Net_Zero_in_the_Energy_Industry_1_-1.pdf, p 5.

⁶⁴ From EDO submission on implementing the recommendations from the Independent Review of Australian Carbon Credit Units, 10 October 2023

⁶⁵ Greber, J. (2022) Former watchdog goes public with carbon credit 'fraud' claims. Retrieved from <https://www.afr.com/policy/energy-and-climate/former-watchdog-goes-public-with-carbon-credit-fraud-claims-20220323-p5a77o>. See also Macintosh, A., (2022) Australia's carbon market a 'fraud on the environment' Retrieved from <https://law.anu.edu.au/news-and-events/news/australia%E2%80%99s-carbon-market-fraud-environment>

⁶⁶ Australian National University, 'Australia's carbon market a fraud on the environment' (Media Release, 24 March 2022)

⁶⁷ Australian Academy of Science, Review of Four Methods for Generating Australian Carbon Credits Units (Report, October 2022)

See also, *UN High Level Expert Working Group on the Net Zero Emissions Commitments of Non-State Entities (UNHLEG)* and in particular UNHLEG minimum requirements for a credible net zero commitment to limit warming to 1.5°C.

Offsets should not be considered emissions reductions

We note that the Science Based Targets initiative’s (**SBTi**) Corporate Net Zero Standard says that “the use of carbon credits must not be counted as emission reductions toward the progress of companies’ near-term or long-term science-based targets, and carbon credits may only be considered as an option for neutralising residual emissions or to finance additional climate mitigation beyond their science-based emission reduction targets.”⁶⁸

The use of offsets or carbon credits, rather than an absolute reduction in emissions is not considered best practice in accordance with best available science, the Paris Agreement or the UNHLEG Report.

Recommendation: Offsets should not be considered emissions reductions and should only be used in very limited, clearly defined circumstances for hard-to-abate sectors.

Emission benchmarking and goal setting

The Guide states proponents will be required - under EPA’s Licensing Conditions Policy (currently being drafted by the EPA) – to set overarching long-term emissions reduction goals. Different goals will apply to different industries, recognising that in some sectors emissions are particularly difficult to abate.

Currently, the EPA’s Climate Policy and Action Plan do not specify the desired levels of greenhouse gas emissions by sources and industries within the EPA’s regulatory control. It is our view that the Order by Preston CJ in *Bushfire Survivors for Climate Action v Environment Protection Authority* [2021] NSWLEC 92 remains unsatisfied until the EPA stipulates binding industry targets without further delay.

The need for these targets is highlighted by the Guide’s reliance on the Safeguard Mechanism and the NSW Net Zero Emissions Dashboard (**Dashboard**) for emissions reduction projections. The Dashboard is no substitute for binding industry specific targets. The requirement for proponents to compare projected emissions against the Dashboard is flawed because:

- Reflecting current reduction projections fails to account for the extra emissions the project will add. As stated on page 15 “*additional emissions increase the abatement task for all new and existing participants...*”. It is not enough to show mitigation in line with the projections as the proposal, or indeed any other large emitting proposal, will result in a requirement for steeper reductions.
- There is little transparency to the data and it is unclear how the emissions projections are quantified. Importantly, how will proponents and the public know whether the proposal is already accounted for in the Dashboard?
- The Dashboard projections rely on the Climate Action Plan being effective in reducing emissions. There is no transparency as to what extent the Action Plan is expected to result in emissions reductions and whether, in the absence of binding industry targets, that will be achieved.

⁶⁸ EDO Energy Audit, p 14.

- The fugitive emissions for coal mines is shown in the dashboard to increase for some years over the 2050 projection. This is entirely inconsistent with the expectation that each industry is required to reduce emissions every year.
- As discussed above in relation to methane, the Dashboard relies on emissions levels that are, more likely than not, significantly underreported.

Emission reduction goals for industry must be set on gross emissions, in addition to net emissions. That is, real emissions cuts must be required - facilities cannot be permitted to use purchased carbon offsets to meet the goals.

The emissions dashboard should be gross, not net (that is, offsets and other carbon sequestration should not be counted towards emission projections). Alternatively, offsets and other sequestration methods should be disaggregated from actual on-site emissions reductions. Granular data is crucial for assessing the efficacy of policy settings and targeting interventions in order for NSW to meet its climate change mitigation obligations.

The emissions dashboard should be gross, not net (that is, offsets and other carbon sequestration should not be counted towards emission projections). Alternatively, offsets and other sequestration methods should be disaggregated from actual on-site emissions reductions.

Independent expert reviews

EDO supports the Guide's requirement that projects with substantial scope 1 and 2 emissions per year at any time over the operational life of the project have their mitigation assessments verified by an independent expert review.

However, Box 10 suggests that the intention is for proponents to themselves engage the experts to conduct the review. In EDO's experience, where experts are chosen, retained and paid by the proponent there is an inherent conflict with independence.

In order to preserve the independence of such reviews, the independent expert selected to conduct the review should be nominated by the regulator, not by the proponent, although the proponent should be required to pay. In EDO's experience, when experts are selected in this manner, reports are significantly more robust and of more use to the regulator and the community in order to understand the impact of proposed developments.

As to which projects are required to have mitigation assessments reviewed, in EDO's view this should be calculated on a gross emissions basis, as well as on a yearly basis. The impact of each project on the ability of NSW to reach net zero will depend on the total GHG emissions of the project, as well as the year-on-year GHG emissions.

Finally, given that (as discussed above) fugitive methane emissions are currently likely being underreported (and therefore underestimated) by up to 2.5 times, a lower threshold for a mitigation assessment should be considered.

<p>Recommendation: Independent experts selected to conduct reviews should be nominated by the regulator, not by the proponent, although the proponent should be required to pay.</p>

Greenhouse Gas Mitigation and Adaptation Plans and enforceability

The Guide states that the EPA will progressively require industry to prepare and implement Climate Change Mitigation and Adaptation Plans. The preparation of these plans is not covered in the Guide but will be addressed in a separate guide being developed by the EPA. However, the Guide does include, at Appendix D, an outline for a GHG Mitigation Plan.

However, the need to decrease emissions is urgent and further time to adopt these plans is of concern as it will prevent immediate steps being taken to reduce emissions.

Although the outline at Appendix D contains useful steps that all GHG Mitigation Plans should include, we note that the requirements are similar to the standard conditions already applicable to most consents.

As set out above, these conditions have been proved not to be fit for purpose for the reduction of GHG emissions, as GHG emissions have increased on almost all mine sites. Without clear performance-based conditions it is also near impossible to enforce these requirements.

Every consent should have clear performance-based conditions that require concrete emissions reductions, rather than deferring such matters to vague conditions and future plans. For example, at a minimum, projects should be required to:

- Use up to date diesel emissions standards for vehicles;
- Use solar power in all on-site installations (such as generators); and
- Source all off-site electricity from certified green power sources.

Further, the Guide uses the language of continuous improvement rather than “best practice”, although without clear guidance as to what that means. It also includes no information about what reductions in GHG emissions need to be achieved unlike the above condition. This means the language around proposed measures to avoid reduce or substitute emissions or offset emissions becomes quite meaningless as there are no clear performance criteria to measure the emissions against. Courts have noted the need for stronger conditions.⁶⁹

Recommendation: Standard conditions and proposed GHG mitigation plans need to be strengthened to identify clear performance-based requirements that can be enforced.

Attachments

Attachment A: Letter from EDO to DPHI in relation to GHG mitigation in conditions of consent, dated 15 December 2024

Attachment B: Letter from DPHI to EDO in response, dated 21 March 2024

⁶⁹ See Preston CJ in *Ironstone Community Action Group v Minister for Planning* [2011] NSWLEC 195 the need for stronger conditions stating at paragraph 6.