



4 August 2025

To: The NSW Department of Planning, Housing and Infrastructure
Re: Maules Creek Coal Mine Continuation Project, Application Number SSD-63428218

Attention: NSW Minister for Planning and Public Spaces and NSW Independent Planning Commission

Thank you for the opportunity for the Institute for Energy Economics and Financial Analysis (IEEFA) to provide input on the proposed Maules Creek Continuation Project, a predominantly thermal coal mine operating in NSW. IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

IEEFA has reviewed the Maules Creek Continuation Project Economic Assessment (Appendix K to the Environmental Impact Assessment) and found numerous problems with the proponent's thermal coal price forecasts, carbon cost assumptions and projected greenhouse gas emissions.

1. The thermal coal price forecasts in the economic assessment are significantly higher than other analysts' forecasts, with no justification for the difference provided.
2. The sensitivity analysis applied to coal prices estimates in the cost-benefit analysis (CBA) fails to capture alternate forecast data and downside risks facing both thermal and metallurgical coal.
3. The proponent has not used NSW Treasury shadow carbon prices to estimate carbon costs.
4. Carbon costs are excluded from the CBA sensitivity analysis results.
5. The proponent has not reported expected greenhouse gas (GHG) emissions by individual greenhouse gas type.

Applying the NSW Treasury shadow carbon price to the current estimated carbon dioxide-equivalent (CO₂e) emissions from the project would **generate at least an additional AUD221 million in carbon costs, in Net Present Value (NPV) terms, over five times higher** than currently estimated by the proponent in its CBA. If methane emissions from the project are higher than reported and estimated, these costs could be even higher.

Applying thermal coal price estimates in line with other analysts' projections would **decrease the NPV of the project to NSW to at least AUD482 million less than is claimed** in the current economic assessment base, all other aspects remaining equal. The impact of these lower prices could also make the mine unprofitable, meaning the operator may pause or cease production



early and no additional royalties would be generated by the project, decreasing the estimated NPV further.

The economic assessment is therefore not currently in line with NSW government requirements and guidelines on how to prepare an economic assessment for this type of project. The difference in assumed carbon costs in the proponent's economic assessment with NSW Treasury shadow carbon prices, and the difference between the proponent's expected thermal coal prices and other forecasters expected thermal coal prices, mean that the overall NPV calculated by the proponent in its CBA is unlikely to be plausible and should be disregarded in the project assessment until the economic assessment can be amended and re-submitted.

We recommend that the Minister and Independent Planning Commission require the proponent to re-submit the economic assessment for the project in line with current NSW government requirements and guidelines. To do this the proponent should:

1. Use NSW Treasury carbon prices in its CBA and in its sensitivity analysis
2. Report projected GHG emissions from the project by type of gas (methane as well as carbon dioxide)
3. Consider requiring greater sensitivity analysis to be conducted in the CBA on estimated GHG emissions from the project to account for uncertainties in methane emissions.
4. Request the proponent to reference thermal coal price forecasts from other sources and improve the sensitivity analysis in the CBA to better account for uncertainties in thermal coal price estimates and downside risks to these price forecasts.

Kind regards,

Anne-Louise Knight, Lead Research Analyst, Australian Coal



Project overview

The Maules Creek Coal Mine (MCCM) (the Project) is an open-cut mining operation in the Narrabri Shire local government area (LGA) of New South Wales (NSW). MCCM is majority owned by Whitehaven Coal Limited (Whitehaven) and is operated by Maules Creek Coal Pty Limited (MCC), a wholly owned subsidiary of Whitehaven (the proponent).¹

The Maules Creek mine is a predominantly thermal coal mine currently approved to mine up to 13 million tonne per annum (Mtpa) of run-of-mine (ROM) coal until 2034. The proponent is seeking to continue open-cut mining operations for a further 10 years (from 2035 to 2044) at an increased permitted ROM production rate of 14 Mtpa beginning in FY2028.² This would increase total approved production capacity by 147 million tonnes (Mt) of ROM coal between 2028 and 2044. The majority of coal produced at the mine is thermal coal (~80%) and this ratio of thermal to metallurgical coal production is projected to continue throughout the continuation period proposed by the proponent between FY2028 and FY2044.^{3,4} The proponent states the project seeks to produce an additional 117Mt of coal during this period and plans to generate an additional 102 jobs between FY2028 and FY2044.

In a previous environmental assessment submitted for the project in 2011, the proponent anticipated metallurgical coal would make up 57% of coal production⁵, but this has been closer 20% since mining begun in 2018. According to the project description in the current Environmental Impact Statement (EIS) the Maules Creek mine produces a small share of semi-soft metallurgical (coking) coal (~20%) and a majority share of thermal coal (~80%).^{6,7} This is roughly in line with the anticipated production figures submitted by the proponent in the economic assessment in the EIS, which expects between 80% of ROM coal production to be thermal coal on average between FY2028 and FY2044. Therefore, the thermal coal market outlook and price assumptions are critical inputs to the economic assessment for this project, and if there are problems with these assumptions, the total net economic benefit for the project would be significantly altered.

In the submitted economic assessment, the proponent has asserted the net benefits shown in Figure 1 will be generated for NSW. However, there are significant problems with the assumed prices for thermal coal and the assumed cost of carbon credit units, which the CBA fails to adequately consider and does not account for in its sensitivity analysis.

If all other assumptions made by the proponent are correct, if the CBA results are adjusted to incorporate NSW Treasury shadow carbon prices and the assumed coal prices are adjusted 27%

¹ AnalytEcon for Whitehaven. [Maules Creek Continuation Project Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 3.

² Ibid. Page 3.

³ Whitehaven. [Maules Creek Continuation Project. Section 3 Project Description](#). March 2025. Page 20.

⁴ AnalytEcon for Whitehaven. [Maules Creek Continuation Project Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 3.

⁵ Hansen Bailey. [Maules Creek Coal Project Environmental Assessment – Executive Summary](#). 2010. Page 19.

⁶ Whitehaven. [Maules Creek Continuation Project. Section 3 Project Description](#). March 2025. Page 20.

⁷ AnalytEcon for Whitehaven. [Maules Creek Continuation Project Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 3.



lower, **the project would generate a net cost to NSW of at least AUD3.5 billion** in NPV terms. The next section of this report will demonstrate how the proponent's price assumptions are 20-27% higher on average than other price forecast sources over the near term and do not account for downside risks facing Australia's thermal coal exports.

The table below has included NSW royalty calculations assuming the proponent continues to produce coal according to its proposed production schedule. However, if the operator is not making a profit in a given year, there is a likelihood that they would pause production or that there would be some other form of decrease to coal production, meaning the royalty rates marked with an asterisk*, could be significantly lower than the figures presented below.

Figure 1: Value to NSW generated from the Project, (NPV AUDm)

Benefit	CBA results	CBA sensitivity results Coal prices 20% lower, Opex 20% higher	IEEFA adjustment Thermal Coal Prices 27% lower + NSW Treasury shadow carbon prices
	Value for NSW NPV \$m	Value for NSW NPV \$m	Value for NSW NPV \$m
NSW royalties	\$818	\$651*	\$638*
Company income tax	\$120	(\$86)	(\$1,889)
Net producer surplus	\$140	(\$101)	(\$2,210)
Total Value for NSW	\$1,079	\$465	(\$3,461)

	CBA results	Total Coal Prices 20% lower	Thermal Coal prices 27% lower
NSW Royalties	\$818	\$651*	\$638*
Company Income Tax	\$120	(\$9)	(\$19)
Net Producer Surplus	\$140	(\$11)	(\$23)

	CBA results	High Opex scenario (Opex 20% higher)	NSW Treasury shadow carbon prices (Opex 517% higher)
NSW Royalties	\$818	\$818	\$818*
Company Income Tax	\$120	\$43	(\$1,870)
Net Producer Surplus	\$140	\$50	(\$2,187)

Source: AnalytEcon for Whitehaven Coal, [Maules Creek Continuation project, Environmental Impact Statement, Appendix K Economic Assessment](#), March 2025 page 47; IEEFA.

Notes. The first and second columns show the change in company income tax and net producer surplus NPVs, with an assumed increase in operating expenses (Opex) of 20% and a decrease in thermal coal prices of 20%, and are taken from the proponent's CBA sensitivity analysis. The third column assumes all other costs and benefits remain equal and adjusts coal prices downward by 27% and Opex upwards by 314% to account for the difference between the proponent's assumed carbon price in the CBA and the NSW Treasury carbon price. These figures only adjust the overall NPV values submitted by the proponent and do not recreate the CBA in its entirety due to insufficient information available in the economic assessment.



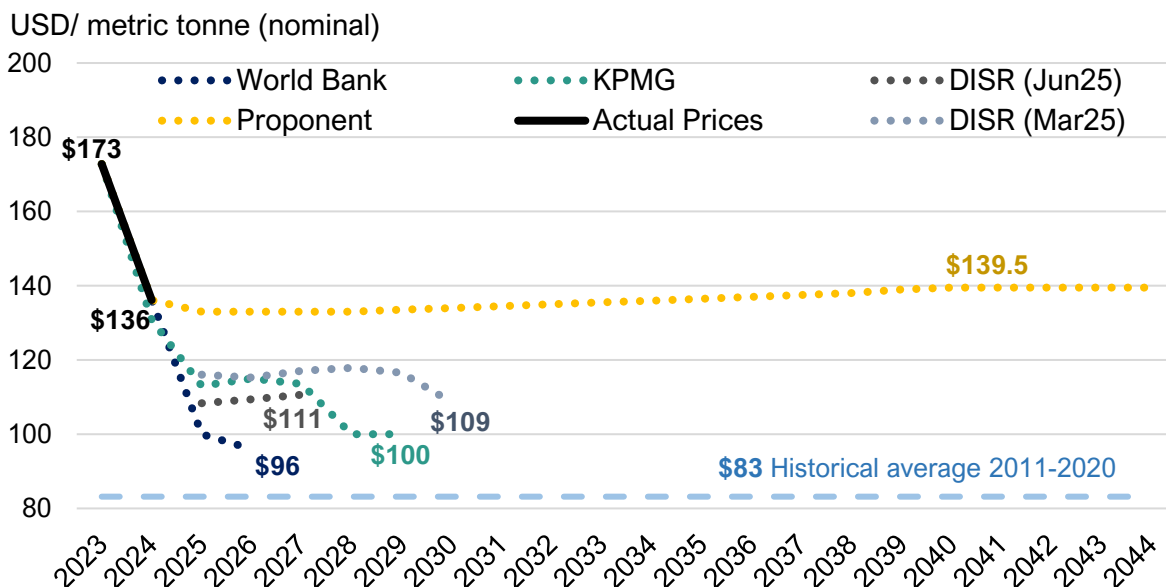
Problems with the proponent's thermal coal price forecasts

The thermal coal price forecasts in the Economic Assessment are significantly higher than other analysts forecasts, with no justification for the difference provided.

In the NSW technical notes that provide guidance on how and what to include in a project Economic Assessment it states, "The NSW Government preference is for market data to be used where it exists."^{8,9} However, the proponent has seemingly ignored multiple well-known sources for coal price forecasts in its own assumed thermal coal price forecast for the project.

The proponent has forecast a thermal coal price above USD132 per metric tonne in 2028, rising to USD139 per tonne through to 2044. According to the proponent's economic assessment, "These forecasts are based on consensus price forecasts that have been adjusted for ash and energy content by Whitehaven to derive realised coal prices for product coal from MCCM and from the Project."¹⁰ However, the proponent has not provided details on how a consensus price was calculated, or references to other existing price forecasts. The Australian government publishes price forecasts for thermal coal in its Resources and Energy Quarterly published by the Department of Industry, Science and Resources (DISR). Its most recent thermal coal price forecasts suggest thermal coal prices could achieve USD111 per tonne in 2027, 20% lower than the prices suggested by Whitehaven.

Figure 2: Australian thermal coal price forecasts, various sources



⁸ NSW Government. [Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals](#). April 2018. Page 48.

⁹ NSW Government. [Review of the Energy Savings Scheme. Part 2: Options Paper](#). April 2015. Page 128.

¹⁰ AnalystEcon for Whitehaven. [Maules Creek Continuation Project Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 7.



Thermal Coal Price USD/t, FY	2025	2026	2027	2028	2029	2030
World Bank Forecast	\$100	\$96				
KPMG forecast	\$113	\$115	\$114	\$100	\$100	
DISR (Mar25) forecast	\$116	\$115	\$117	\$118	\$117	\$109
DISR (Jun25) forecast	\$108	\$109	\$111			
Proponent forecast	\$133	\$133	\$133	\$133	\$134	\$134

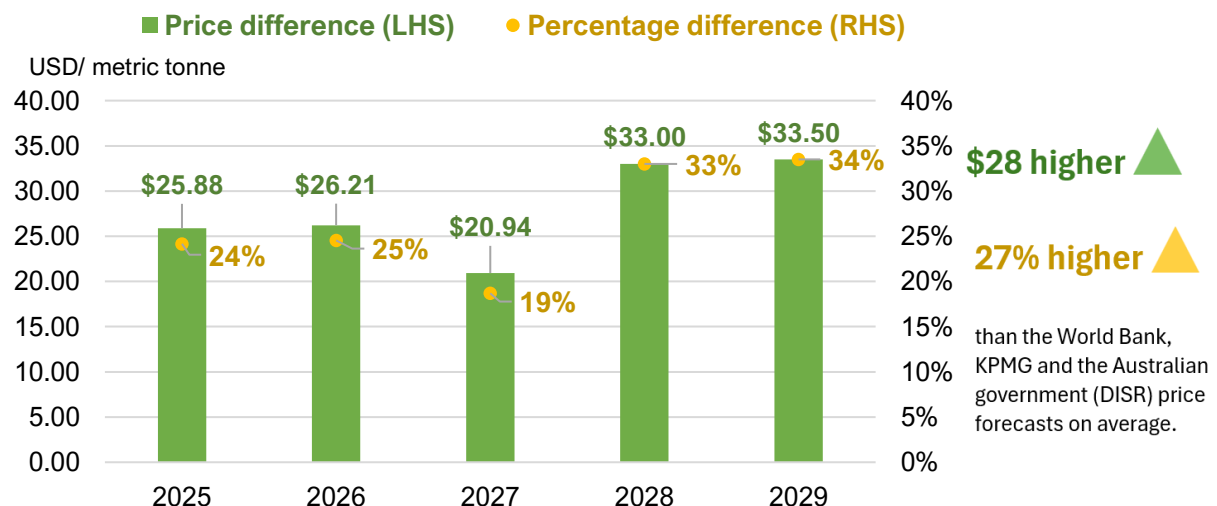
Sources: World Bank, [Commodity Price Forecasts Table 1](#), April 2025; KPMG, [Coal Price and FX market forecasts March/April 2025](#), May 2025; DISR, [Resources and Energy Quarterly June 2025](#), 30 June 2025, and [Resources and Energy Quarterly March 2025, 31 March 2025](#); Proponent, [Maules Creek Continuation Project, Environmental Impact Statement, Appendix K Economic Assessment](#), March 2025, Page 9; Historical and actual average prices: World Bank, [Commodity price data \(The Pink Sheet\)](#), May 2025.

Note. Coal prices are displayed as nominal USD per metric tonne and reflect prices for fob Newcastle 6000 kc. Historical 10-year average of annual thermal coal prices prior to COVID between 2011 and 2020.

The World Bank's latest Commodity Markets Outlook report published in April 2025 highlighted that Australian thermal coal prices averaged USD99 per tonne in April 2025 and project that prices will decline 27% throughout 2025 from 2024 levels to achieve an annual average price of USD100 per tonne. The report states that the decreasing price expected in 2025 reflects "weak import demand in Asia, large stocks, and steady increases in seaborne supply".¹¹

The sensitivity analysis applied to coal prices fails to capture alternate forecast data and downside risks

Figure 3: Difference between proponent's economic assessment thermal coal price forecasts and other agencies



¹¹ World Bank Group. [Commodity Markets Outlook](#). April 2025. Page 23.



	2025	2026	2027	2028	2029
<i>Proponent forecast</i>	USD133	USD133	USD133	USD133	USD134
<i>Average price KPMG, World Bank, DISR</i>	USD107	USD107	USD112	USD100	USD100
Average price difference (LHS)	USD25.88	USD26.21	USD20.94	USD33.00	USD33.50
Average percentage difference (RHS)	24%	25%	19%	33%	34%

Sources: World Bank, [Commodity Price Forecasts Table 1](#), April 2025; KPMG, [Coal Price and FX market forecasts March/April 2025](#), May 2025; DISR, [Resources and Energy Quarterly June 2025](#), 30 June 2025 ; Proponent (Whitehaven Coal), [Maules Creek Continuation project, Environmental Impact Statement, Appendix K Economic Assessment](#), March 2025, Page 9.

Historical prices: World Bank, [Commodity price data \(The Pink Sheet\)](#), May 2025.

Note. Coal prices are displayed as nominal USD per metric tonne

The proponent conducted a sensitivity analysis to its CBA by adjusting prices 20% lower than its own stated forecasts. However, the proponent's thermal coal forecasts are 27% higher on average between 2025 and 2029 than price forecasts produced by the World Bank, KPMG and the DISR. This means that the sensitivity analysis is insufficient to account for the variation between the proponent's price forecasts and those of other agencies, let alone account for the downside risks facing Australian thermal coal prices.

For instance, the World Bank forecasts assume a decrease in global coal supply in 2025 and 2026. However, it states that coal output could exceed these production forecasts, as Indonesia recently did in 2024. Recent policy changes in the US could lead to increased output, and if the Russia-Ukraine conflict is resolved in the forecast period, a significant increase of Russian coal could become available. This could potentially lead to a supply glut of thermal coal exports, leading to lower coal prices than current World Bank forecasts.¹²

The DISR similarly stated in March 2025 that “the Newcastle 6,000 kcal price averaged US\$110 in the first two months of 2025, but dropped below US\$100 a tonne at the start of March”.¹³ It expects Australia Newcastle thermal coal prices to fall moderately over the outlook period in line with marginal global oversupply. The DISR further notes that “While price volatility is expected to be high over the outlook period — as economies grapple with unpredictable supply and demand — prices are still likely to converge downwards towards the cost of production”.¹⁴

Downside risks facing Australian thermal coal demand

In addition to the proponent's unusual price forecast assumptions, there are numerous downside risks facing seaborne thermal coal trade that could potentially reduce demand for the thermal coal produced by the Maules Creek Continuation Project. Australian government projections in March 2025 asserted that, “The coal power project pipeline, concentrated in Asia, does not provide sufficient demand to support seaborne markets long term.”¹⁵ The impact of falling

¹² World Bank Group. [Commodity Markets Outlook](#). April 2025. Page 24.

¹³ DISR. [Resources and Energy Quarterly March 2025](#). 31 March 2025. Page 50.

¹⁴ Ibid. Pages 50-51.

¹⁵ Ibid. Page 48.

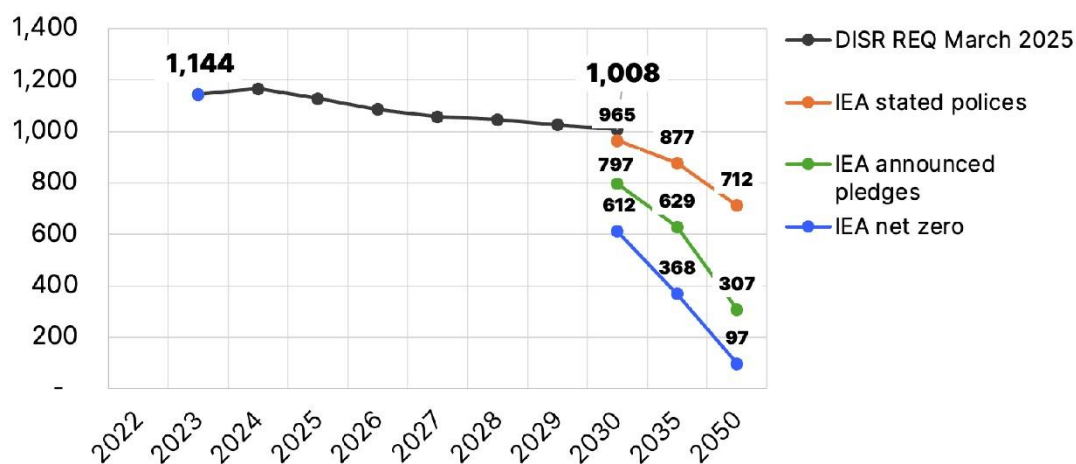


Chinese imports is unlikely to be fully offset by increased demand from India and South-east Asia, contributing to shrinking global thermal coal trade.

Additionally, global coal power capacity added in 2024 was the lowest in two decades.¹⁶ Thermal coal imports are expected to remain dominated by China and India, which together account for more than half of global demand. The outlook for South-east Asia's pipeline of coal-fired power projects is also uncertain. As the Australian government notes, "Over the next decade, coal power unit retirements are forecast to be triple builds."¹⁷

Additionally, the International Energy Agency (IEA)'s World Energy Outlook 2024 shows investment trends in coal-fired generation highlight coal's declining role in new electricity generation.¹⁸ The IEA also asserts that global thermal coal trade could decrease at faster rates than the DISR's projections under each of the agency's scenarios: Stated Policies, Announced Pledges and Net Zero.¹⁹

Figure 4: Seaborne global thermal coal trade 2025-2030, REQ vs IEA scenarios (Mt)



Sources: IEEFA; DISR REQ March 2025; IEA World Energy Outlook 2024.

There are no equivalent replacement markets for Australia's high calorific value (CV) coal as Japan, South Korea and Taiwan phase out coal-fired power. And there is no evidence to suggest import demand growth in South-east Asia won't be met by cheaper thermal coal suppliers such as Indonesia, South Africa, Russia or Colombia.

This means **the net benefits of the project to NSW would be at least AUD482 million less than claimed** in the current economic assessment based solely on readjusting the thermal coal price forecasts to more likely estimates. The impact on the profitability of the mine also means the operator may pause or cease production early, meaning no additional royalties would be generated by the project.

¹⁶ Global Energy Monitor. [Boom and Bust Coal 2025](#). April 2025. Page 11.

¹⁷ DISR. [Resources and Energy Quarterly March 2025](#). 31 March 2025. Page 48.

¹⁸ International Energy Agency. [World Energy Outlook 2024](#). October 2024. Page 152.

¹⁹ Ibid. Page 149.



Figure 5: Value to NSW generated from the Project accounting for lower thermal coal prices, (NPV AUDm)

Value for NSW NPV AUDm	CBA results	Total Coal Prices 20% lower	Thermal Coal prices 27% lower
NSW Royalties	\$818	\$651*	\$638*
Company Income Tax	\$120	(\$9)	(\$19)
Net Producer Surplus	\$140	(\$11)	(\$23)
Total	\$1,078	\$631	\$596
Difference		(\$447)	(\$482)

The proponent's CBA does not follow NSW government requirements when estimating carbon costs

The proponent has not used NSW Treasury shadow carbon prices.

NSW Treasury published carbon shadow prices in December 2024 that have not been used by the proponent in its economic assessment and CBA. NSW Treasury states a carbon price of AUD130 per tonne (rising to AUD350 per tonne in 2024 dollar terms by 2040) must be used when valuing carbon emission impacts in cost-benefit analysis (CBA), noting that “These values must be applied in CBAs submitted after January 2025 and replace those in Technical Note – Carbon Value in Cost-Benefit Analysis.”²⁰

The proponent states that it would “purchase ACCUs [Australian Carbon Credit Units] to offset Scope 1 GHG emissions above the Safeguard Mechanism baseline under the (National Greenhouse and Energy Reporting) NGER Act”.²¹ The proponent estimates an additional cost of AUD53 million, in NPV terms, to be generated by the project as a result of the valuation of these Safeguard Mechanism carbon liabilities. The proponent has stated an emissions liability of 1.4Mt of CO₂e over the life of the project. This would assume the proponent has estimated an average carbon cost of AUD\$37.86 per tonne of CO₂e between FY2028 and FY2054 in the CBA, in NPV terms. It is not clear if it assumes a constant cost per year or a lower cost in 2028 that increases through to 2054.

Regardless, applying the NSW Treasury shadow carbon price instead would **generate over AUD274 million in carbon costs, in NPV terms.**²² **This is over five times (AUD221 million) higher** than currently estimated by the proponent in its CBA. Additionally, methane emissions from the project are higher than currently estimated – these costs could become significantly higher.

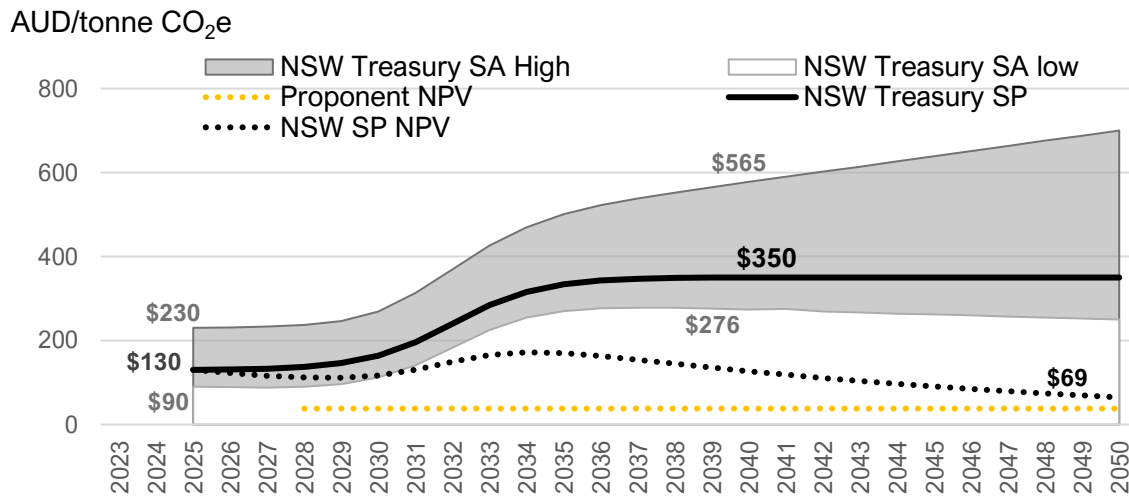
²⁰ NSW Treasury. [TPG24-34 Carbon emissions in the Investment Framework](#). December 2024. page 4

²¹ Whitehaven Coal. [Maules Creek Continuation project. Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 46.

²² Applying a 7% discount rate on NSW Treasury Shadow prices. Prices are presented in 2024 dollar terms.



Figure 6: Projected Australian Carbon Credit Unit prices, AUD

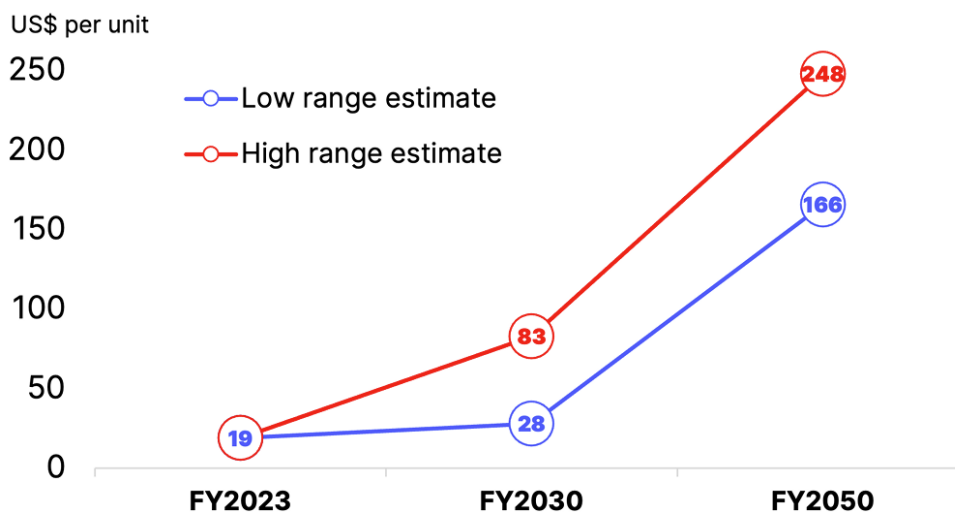


Sources: NSW Treasury, [TPG24-34 Carbon emissions in the Investment Framework](#), December 2024, pages 4-5; AnalytEcon for Whitehaven, [Maules Creek Continuation Project Environmental Impact Statement, Appendix K Economic Assessment](#), March 2025, pp. 77.

Notes. SP = Shadow Price. SA = Sensitivity Analysis. NPV = Net Present Value applying a 7% discount rate. All dollar values are in 2024 dollar terms.

The estimated carbon cost prices used by the proponent are also much lower than price estimates from other coal mining companies in Australia, such as BHP.

Figure 7: BHP's forecast Australian Carbon Credit Unit price, USD



Source: BHP. [Annual Report 2024](#). August 2024. Page 164.

Carbon cost sensitivity analysis is excluded from the CBA sensitivity analysis results.

NSW Treasury also provided low and high case carbon values to be included in CBA sensitivity analyses. These values have not been used in the proponent's economic analysis and the



potential variation of carbon costs has not been factored in the overall sensitivity analysis of the CBA results.

The proponent has not included variations of anticipated GHG emissions output (Scope 1 and 2) at carbon prices below and above the central estimate price in its CBA sensitivity analysis. Instead, the proponent has reported various carbon price and allocation sensitivities in a separate table B-2²³, but has not shown how these variations would impact on the total NPV of the project because it has excluded this from the overall CBA sensitivity analysis. The NSW Government Technical Notes on preparing economic assessments state that this should be undertaken.²⁴

Instead, the proponent has generated low, medium and high ACCU price scenarios of AUD43, AUD73 and AUD82 respectively. All of these prices are significantly lower than the prices provided by NSW Treasury to conduct sensitivity analysis.

The proponent has not reported expected GHG emissions by individual greenhouse gas.

The NSW Government Technical Notes on preparing economic assessments states, “GHG estimates should be reported by gas and in carbon dioxide equivalent units.”²⁵

However, the economic assessment only provides aggregate greenhouse gas emissions estimates in CO₂e terms and does not provide a breakdown of estimated GHG emissions by year or by greenhouse gas type. This is particularly a problem because it does not list estimated methane emissions separately to carbon dioxide emissions. This is problematic because methane emissions from open-cut coal mines in Australia are not measured directly and are estimated using production-based emission factors.

Methane emissions could be significantly higher than currently reported by the proponent

A growing body of evidence has found that reported methane estimates from open-cut coal mines in Australia could be more than twice as high as currently reported. The Australian government has stated that the uncertainty in methane emissions reporting by open-cut mines is at least 30%.²⁶ Additionally, analysis from the Superpower Institute suggests methane emissions from the fossil fuel sector could be twice as high as what is reported²⁷; and data from the IEA

²³ AnalytEcon for Whitehaven. [Maules Creek Continuation Project Environmental Impact Statement. Appendix K Economic Assessment](#). March 2025. Page 77.

²⁴ NSW Government. [Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals](#). April 2018. Page 48.

²⁵ Ibid. Page 47.

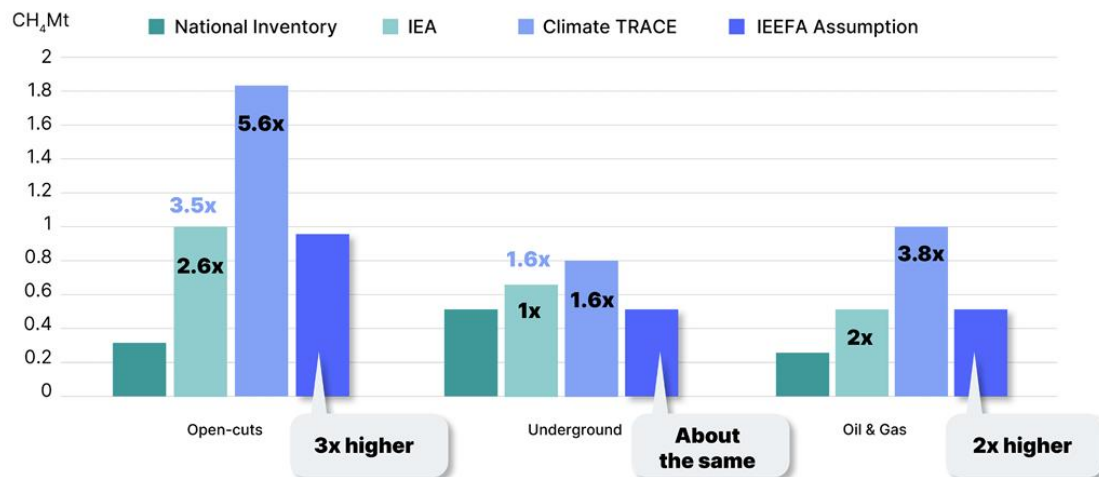
²⁶ Department of Climate Change, Energy the Environment and Water. [Australia's National Greenhouse Accounts. Emissions inventories](#). Accessed 19 July 2025.

²⁷ Superpower Institute. [Open Methane data](#). Accessed 19 July 2025.



suggests open-cut coal mine emissions could be three times higher on average than currently reported²⁸.

Figure 8: Estimates of methane emissions underreporting from Australian coal mining and oil & gas



Sources: Department of Climate Change, Energy, the Environment and Water (DCCEEW); IEA; Climate TRACE; IEEFA.

Note: The IEA does not report on underground and open-cut mine methane estimates separately; IEEFA considered a range of underreporting factors based on underground emissions varying between reported levels and Climate TRACE levels.

The uncertainty of estimated methane emissions from the project should be accounted for in the sensitivity analysis of the CBA and ultimately reflected in the uncertainty on NPV of the total carbon cost of the project. **The NPV of carbon costs from the project can vary based on the uncertainty surrounding the total GHG emissions from the project and the uncertainty of the cost of ACCUs or Safeguard Mechanism Credits (SMCs) necessary to offset these emissions under the Safeguard Mechanism.**

Additionally, the proponent, if resubmitting the economic assessment, should ensure that the production factors used to convert methane to carbon dioxide-equivalent are based on the most recent National Greenhouse Account Factors. The NSW Technical Notes on preparing economic assessments state: “Proponents should reference the current version of the National Greenhouse Account Factors published annually by the Commonwealth Department of the Environment and Energy for updated GWP [Global Warming Potential] values, emission factors and for an extended list of reportable greenhouse gases”.²⁹

Recently, all open-cut coal mines in NSW, including Maules Creek, moved from using Method 1 to Method 2 under the NGER Scheme to estimate methane emissions from coal mining. After switching to using Method 2, total reported Scope 1 emissions from Maule’s Creek decreased by 60%.³⁰ There is potential that total scope 1 emissions would have decreased during this period due to decreased production or mining less gassy seams or decreasing carbon dioxide

²⁸ International Energy Agency. [Global Methane Tracker 2025 data](#). May 2025.

²⁹ NSW Government. [Technical Notes supporting the Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals](#). April 2018. Page 47

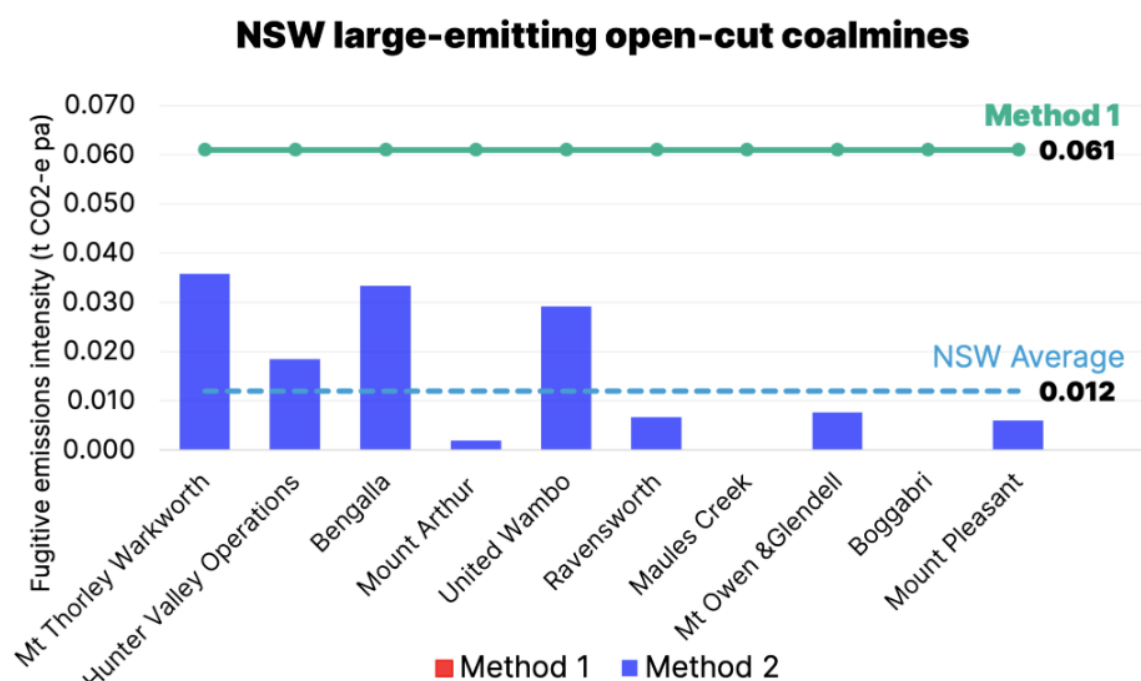
³⁰ IEEFA, [Australia’s coalmine methane mirage: The urgent need for accurate emissions reporting](#), Andrew Gorrington, April 17 2025



emissions. However, when examining data from other large NSW open cut coal mines, the reported methane emissions per unit of coal produced were 80% lower under Method 2 estimations compared with Method 1 default factors, based on the FY2023-24 Safeguard Facility data.³¹ This means that the decrease in reported emissions would not be driven by a decrease in production.

The Australian Climate Change Authority reviewed the Methods in the NGER scheme and recommended, “as a matter of urgency, review Method 2 with respect to sampling requirements and standards”.³² Additionally, research from the University of Wollongong has found the Method 2 approach to determining “low-gas zones” flawed.³³ This is due to the standards containing an artificially high gas detection threshold and an associated low amount of gas assumed for the low-gas zone, effectively underreporting gas considerably. This is most pronounced when high levels of methane are found in the gas (due to gas density differences). The study recommended lowering the threshold gas factor used in Method 2 by an order of magnitude.

Figure 9: Method 2 actual reported methane emissions intensity vs Method 1 standards



Sources: Australian Clean Energy Regulator, Safeguard Mechanism Data 2023-24; IEEFA

³¹ Australian Clean Energy Regulator, [Safeguard Data 2023-24](#), Last updated 15 April 2025

³² Australian Climate Change Authority, [2023 Review of the National greenhouse and Energy Reporting Legislation](#), December 2023, page 9

³³ University of Wollongong, [Estimation of fugitive emissions from open cut coal mining and measurable gas content](#), February 2019



About IEEFA

IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

About the Author

Anne-Louise Knight

Anne-Louise Knight is IEEFA's Lead Research Analyst for Australian Coal. Her work examines the financial viability of coal mining projects in Australia and the demand outlooks in Australia's thermal and coking coal export markets. Anne-Louise has over seven years of experience working in Australian government agencies, most recently as a senior economist with the Australian Trade and Investment Commission. She holds a Master's in Economics, a Master's in Environmental Management and Development from the Australian National University, for which she was awarded the Tiri Tiri Prize, and a Bachelor's of International Studies from the University of New South Wales.