

Lake Vermont-Meadowbrook Extension Submission on environmental impact statement

The economic assessment of the Lake Vermont project heavily understates its costs and overstates its benefits. At the USA Environmental Protection Agency's central social cost of carbon estimate, the cost of the direct emissions alone is \$4.1 billion, greater than the estimated royalty revenue - \$1.1 billion.

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INTRODUCTION

Despite the urgent need to reduce fossil fuel extraction and use, Jellinbah Group is applying to extend the operations of the Lake Vermont Mine, approximately 235km southwest of Mackay in Queensland. The economic assessment in the Environmental Impact Statement heavily understates the costs of the project.¹ Based on recent US EPA estimates of the social cost of carbon, the costs associated with the direct emissions of the project are likely to outweigh the benefits to Australia, to say nothing of the climate impact of the combustion of the product coal. The project should be refused on economic grounds.

GREENHOUSE GAS EMISSIONS

The AEC Group assessment heavily understates the costs of the greenhouse gases (GHGs) that the project would emit, suggesting a cost of \$121.3 million. This is expressed as a present value, discounted at 7%. There are numerous problems with this estimate.

¹ AEC Group (2022) *Lake Vermont Meadowbrook Project EIS – Economic Impact Assessment*, https://jellinbah.com.au/wp-content/uploads/Appendix-Q-BBC_Meadowbrook-EIS_Economic-Impact-Assessment.pdf

First, a carbon price of \$30.5/t is used, based on the spot price of Australian Carbon Credit Units (ACCUs). ACCUs are plagued by controversy around their integrity, with legitimate concern as to whether they actually abate emissions. The former chair of the Federal Government's Emissions Reduction Assurance Committee has labelled the methodologies behind ACCU development "largely a sham".² ACCUs cannot be considered to fully offset emissions and, by using an ACCU price as a basis for carbon pricing, AEC Group understates the climate costs of the project.

Even using this cost, there seems to be an error. Applying this cost to the greenhouse emissions estimates in the EIS documents results in a net present value of \$168.7 million, \$47.4 million more than AEC Group's estimates.³

More importantly, the use of an offset price for this calculation is inappropriate. The relevant cost of GHGs for use in cost benefit analysis is the social cost of carbon. In most cases an offset price does not represent the social cost of carbon but rather the conditions in that particular offset market. The integrity issues of many offsets further undermines their price as a proxy for social cost of carbon.

Most estimates of social cost of carbon are substantially higher than the ACCU spot prices:

- Academic estimates of the social cost of carbon range from \$AUD235 - \$AUD1,069/t.⁴ This is not an exhaustive survey and is now four years old.
- UK government guidance on the social cost of carbon ranges from \$AUD216 - \$AUD652.⁵
- USA EPA has proposed a central value of US\$190/t, approximately AUD\$248 in 2020 and increasing to USD\$350 in 2060.^{6,7}

At the US EPA's social cost of carbon, the climate damage of the project's approximately 12.8 million tonnes of scope 1 and 2 emissions is \$4.1 billion, or in present value terms \$1.7

² Morton (2022) *Australia's carbon credit scheme 'largely a sham', says whistleblower who tried to rein it in*, <https://www.theguardian.com/environment/2022/mar/23/australias-carbon-credit-scheme-largely-a-sham-says-whistleblower-who-tried-to-rein-it-in>

³ Katestone (2022) *Lake Vermont Meadowbrook Project: Air Quality and Greenhouse Gas Assessment*, Table 21 Summary of estimated annual Scope 1 and Scope 2 GHG emissions (tCO₂-e) and energy use (GJ) for the Project, https://jellinbah.com.au/wp-content/uploads/Appendix-L-BBC_Meadowbrook-EIS_Air-Quality-and-Greenhouse-Gas-Assessment.pdf

⁴ Ricke et al (2018) *Country-level social cost of carbon*, <https://www.nature.com/articles/s41558-018-0282-y>

⁵ UK Government (2021) *Valuation of greenhouse gas emissions: for policy appraisal and evaluation*, <https://www.gov.uk/government/publications/valuing-greenhouse-gas-emissions-in-policy-appraisal/valuation-of-greenhouse-gas-emissions-for-policy-appraisal-and-evaluation>

⁶ US EPA (2022) *Report on the Social Cost of Greenhouse Gases: Estimates incorporating recent scientific advances*, <https://www.epa.gov/environmental-economics/scghg>

⁷ Converted to Australian dollars using an exchange rate of 0.80, based ten year average from RBA (2023) *Historical Data – Exchange Rates*, <https://www.rba.gov.au/statistics/historical-data.html#exchange-rates>

billion. This is greater than the projected NPV of the entire project, \$968 million,⁸ or the proponent's estimate of royalties, \$1,119 million (apparently undiscounted). Therefore, using a social cost of carbon well within academic and regulator estimates, the cost of the project's scope 1 and 2 emissions outweighs the key financial benefits of the project.

Climate policy such as the reformed Safeguard Mechanism will affect the Lake Vermont project, but what impacts this will have is unclear because both the economic assessment and GHG assessment predate these recent reforms.

Another way that AEC Group understate the climate impacts of the project is by omitting scope 3 emissions. The recent Land Court of Queensland judgement relevantly states:

Whatever might be the practice for a CBA using the NSW or other Guideline, in assessing the public interest in the mine being approved, it is appropriate to consider the impact of GHG emissions caused by the combustion of the coal, there being no other purpose for the coal being extracted. (par 1194)

Applying the US EPA's draft estimate of the social cost of carbon of AUD\$248 per tonne (increasing over time) to the scope 3 emissions of the project, estimated at 294 million tonnes,⁹ gives a total cost of \$94.3 billion, or \$39.9 billion in present value terms. This huge cost, dwarfing the benefits of the project, should be considered by decision-makers, as it has been by the Land Court of Queensland.¹⁰

OTHER FLAWS IN AEC GROUP ECONOMIC ASSESSMENT

Scope of cost benefit analysis

Despite including an appendix titled *Cost benefit analysis methodology* (Appendix D, p79) that begins with "Step 1: Define the scope and boundary", AEC Group fail to define the scope and boundary of their analysis. Their analysis is global, meaning that NPV estimates include profits going offshore to multinational owners of the project that include Japan's Marubeni and Sojitz, and the tax haven-based AMCI Group.¹¹ This approach may be a good first step in cost benefit analysis, but AEC Group make no attempt to quantify net benefits to Queensland or Australia, as is common practice in the assessment of mining projects in Queensland and New South Wales and is of more use to decision-makers in state

⁸ Taking out the \$121 million PV cost of GHGs already included in the cost benefit analysis would give a revised NPV of \$1,089 million, still lower than the cost of GHG emissions at the US EPA social cost of carbon.

⁹ Katestone (2022) *Lake Vermont Meadowbrook Project: Air Quality and Greenhouse Gas Assessment*, Table 24 Summary of estimated annual Scope 3 GHG emissions in t CO₂-e for the Project

¹⁰ Waratah Coal Pty Ltd vs Youth Verdict & Ors (No 6) 2022, <https://www.queenslandjudgments.com.au/caselaw/qlc/2022/4>

¹¹ Jellinbah Group (2023) *Lake Vermont Mine*, <https://jellinbah.com.au/>

jurisdictions. AEC Group provide Queensland's decision-makers with no information as to whether the project will leave the Queensland community, or the wider Australian community, better or worse off. There is no discussion of how costs and benefits would be distributed within the community.

Discussion of government revenues

The main benefit to the Queensland and Australian communities of any coal mine is royalty and tax revenue. Yet this is not quantified in the cost benefit analysis being included only in the amalgamated NPV figure. The results in Table 5.1 are misleading because:

- They are an aggregate of taxes estimated from the broader economic impacts of the mine based on an input-output model (see below). They are not an estimate of the taxes that would be paid by the project.
- None of the figures seem to be discounted, so cannot be compared to the cost benefit analysis results.
- Royalty estimates are based on an unpublished, unworked estimate from the proponent.
- The inclusion of payroll tax and personal income tax implies that the project will increase overall employment in the state and in Australia. This is contrary to standard economic practice and was discussed in the recent Queensland Land Court Case, *Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)[2022] QLC 21*.

Emphasis on input-output modelling

Input-output modelling is mathematically certain to overstate the economic impacts of the project. The well-known limitations of these models are listed only in Appendix B on page 76 and even there the implications for the analysis are not spelled out. In short, input-output models assume there are infinite resources in an economy and available to the project. There are no constraints on the labour market or the market for any other input, and there is no environmental impact, no climate policy or any other limit.

It is for these reasons that the Australian Bureau of Statistics (ABS) describes such modelling as “biased” and does not plan to release data that facilitates this modelling due to “the purposes to which they were most commonly applied, that is, to produce measures of the size and impact of a particular project to support bids for industry assistance of various forms.”¹²

¹² ABS (2010) Australian National Accounts: Input-Output Tables - Electronic Publication, Final release 2006-07 tables, <https://www.abs.gov.au/AUSSTATS/abs@.nsf/Previousproducts/5209.0.55.001Main%20Features4Final%20release%202006-07%20tables>

The economic impact estimates based on this modelling, including tax payments, should be considered unsuitable for decision making in relation to the Lake Vermont-Meadowbrook project.

Biodiversity offsets within the cost benefit analysis

The cost benefit analysis includes only the cost of establishing offsets, based on a cost of \$2,000 per hectare. This assumes that the offsets will work perfectly, permanently, instantly offsetting any impact on threatened species, ecosystems and the wider environment. Given the findings of various official audits and reviews that biodiversity offset programs rarely achieve such results, this results in understating the costs of the project.¹³

CONCLUSION

The economic assessment of the Lake Vermont-Meadowbrook project heavily understates the environmental costs of the project. The costs of the project are likely to outweigh its benefits. This should not be surprising – using emissions-intensive equipment to unearth millions of tonnes of carbon is the last thing the world’s climate needs. The project should be refused on this basis.

¹³ See for example Queensland Government (2020) A review of Queensland’s environmental offset framework, <https://www.qld.gov.au/environment/management/environmental/offsets/review>; Audit Office of NSW (2022) *Effectiveness of the Biodiversity Offsets Scheme*, <https://www.audit.nsw.gov.au/our-work/reports/effectiveness-of-the-biodiversity-offsets-scheme>