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Boggabri coal mine, Mod 8

The economic assessment of the Boggabri 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 $1,020 million. This is greater than the projected production benefits of $513m. The project should be refused on economic and climate grounds.

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INTRODUCTION

Despite the urgent need to reduce fossil fuel extraction and use, multinational coal company Idemitsu is applying to extend the operations of its Boggabri mine in northern New South Wales (NSW). The economic assessment in the Environmental Impact Statement (EIS) heavily understates the costs of the project.[1] Based on recent US EPA estimates of the social cost of carbon, the cost associated with the direct emissions of the project are likely to outweigh benefits to NSW, 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 economics assessment heavily understates the costs of the greenhouse gasses (GHGs) that the project would emit, suggesting relevant costs of $300,000 for Australia and

[1] Gillespie Economics (2021) *Boggabri Coal Mine Modification 8 Economic Assessment,* https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0182-MOD-8%2120210722T054605.041%20GMT

$100,000 for NSW. These values are expressed as present values, discounted at 7%. There are numerous problems with these estimates.

First, there is no transparency around the value placed on GHG pollution. It is claimed that "an average of three shadow prices was used", none of which are disclosed or properly referenced.

We estimate the carbon value used was an average of AUD$34.50/t. The economic assessment estimates of cost to NSW and Australia result when this price is applied to the 6.18 million tonne increase in emissions shown in the GHG assessment and discounted at 7%.[2]

This value is too low. The relevant cost to society of GHGs is the social cost of carbon. This is acknowledged in the relevant NSW Planning and Environment guidance document, which notes a preference for "market data" in the absence of appropriate estimates of whole of economy costs of climate change.[3] Numerous estimates are now in circulation:

- Academic estimates of social cost of carbon range from $AUD235 - $AUD1,069/t.[4] This is not an exhaustive survey and is now four years old, therefore current prices are likely to be significantly higher.
- UK government guidance on social cost of carbon ranges from $AUD216 - $AUD652.[5]
- USA EPA has proposed a central value of US$190/t for the year 2020, approximately AUD$271.[6] This value increases over time, by USD$4 per year.[7]

At the US EPA's social cost of carbon, the climate damage of the project's additional 6.18 million tonnes of scope 1 and 2 emissions is $2,193 million, or in present value terms $1,020 million.[8] This is greater than the projected NPV production benefits of $513m. Therefore, using a social cost of carbon well within academic and regulator estimates, the cost of the project's scope 1 and 2 emissions outweigh the financial benefit of the project.

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[2] Incremental increase is stated in Gillespie (2021) op cit, page 14. While this figure doesn't appear in Jacobs (2021) *Boggabri Coal Mine Modification 8: Air quality and greenhouse gas assessment*, the charts on page 59 appear to deliver the same figure. Available here: https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0182-MOD-8%2120210722T053500.297%20GMT

[3] NSW DPE (2018) *Technical notes supporting the Guidelines for the economic assessment of mining and coal seam gas proposals*, https://www.planning.nsw.gov.au/-/media/Files/DPE/Other/technical-notes-supporting-the-guidelines-for-the-economic-assessment-of-mining-and-coal-seam-gas-proposals-2018-04-27.pdf?la=en

[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] Exchange rate at time of writing was 0.7 USD = 1 AUD

[7] Farah and Clark (2022) *EPA floats sharply increased social cost of carbon*, https://www.eenews.net/articles/epa-floats-sharply-increased-social-cost-of-carbon/

[8] Discounted to 2023 present values, with the first incremental emissions occurring in 2028, year 5.

Interestingly, an earlier version of the US EPA's social cost of carbon estimate is one of the three "shadow prices" averaged by Gillespie Economics in the economic assessment. Another price used is based on the EU Emissions Trading Scheme (ETS) price, as suggested as a benchmark in the NSW technical notes. However, this is not a substitute for the social cost of carbon. ETS prices reflect the ability of participants in that scheme to reduce emissions under a certain cap. While the comparison might be useful for what carbon prices could eventuate in Australia, this does not attempt to reflect the actual cost of GHG pollution to the community.

The second means by which the economic assessment understates the climate impacts of the project is by multiplying its (already low) estimate of climate damage costs by the NSW share of world population. This is inappropriate because:

- It is inconsistent with the carbon budgeting approach that guides global efforts to avoid climate change and which underpins relevant government policies such as NSW's net zero emissions goal, the Paris Agreement and the Federal Safeguard Mechanism. Under this approach and these policies, each jurisdiction is responsible for direct emissions such as those from the construction and operation of the mine and the initial transport of coal. Aside from the relevant emissions accounting framework, under a net zero emissions policy, any project that would increase emissions will come at the expense of emitting activities elsewhere in the economy. It therefore imposes an opportunity cost on NSW that must be included in a state-focused cost benefit analysis.
- Climate impacts are complex and not likely to be distributed in line with population. For example, part of the cost of a tonne of carbon emitted in NSW might be "borne" by Siberia through melting permafrost, which in turn could increase emissions and costs borne by NSW. This approach is not appropriate for assessing costs relating to the inter-linked nature of climate systems.
- It serves to obscure that other jurisdictions bear a large cost of the project and that if these costs are included in the assessment, the costs of the project are likely to outweigh its benefits. This approach sees NSW essentially free-ride on a cost borne by the rest of the world. This point should be made clear to decision makers and other readers.

This approach is not widely used or accepted, nor is it required under NSW guidelines, which ask only for costs to the NSW community. They make no mention of using ratios of state to world population to estimate this cost, suggesting that the authors of the guidelines did not intend for it to be interpreted in this way. The guidelines were developed through an extensive consultation process that The Australia Institute participated in and this approach

was never discussed. This approach was rejected by the recent Land Court of Queensland judgement relating to the Waratah Coal project.[9]

The third way that the economic assessment 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 any estimate of social cost of carbon to the scope 3 emissions of the project, would dwarf the benefits of the project. This should be considered by decision makers, as it has been by the Land Court of Queensland, regardless of what portion of it relates to NSW or is incorporated into a formal cost benefit analysis.

CONCLUSION

The economic assessment of the Boggabri Mine 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.

[9] Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 5) [2022] QLC 4, https://www.queenslandjudgments.com.au/caselaw/qlc/2022/4