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Coalpac – Invincible and Cullen Valley Mine proposal

Submission
May 2014

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TAI

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Introduction

The Australia Institute welcomes the opportunity to make a submission on the *Proposed Modifications to Invincible Colliery and Cullen Valley Mine*. Our submission relates to the economic assessment of the project, included as Appendix F to the environmental assessment, by Gillespie Economics.

The economic assessment does not provide a strong case for the project. It overstates the benefits of the project, while understating its costs. In particular:

- The coal price used is either inaccurate or assumes the proponents behave irrationally.
- If prices are accurate, many benefits will accrue to international interests and should not be included in the assessment.
- Discussion of benefits passing through to electricity consumers is simplistic and ignores the nature of the National Electricity Market.
- Royalty, profit and tax estimates appear likely to be overstated
- Environmental costs are assigned a zero value, contrary to the positions of the Department of Planning and Infrastructure (DPI) and the Planning and Assessment Commission (PAC) on impacts to this area.
- Non-market value of employment is based on thoroughly discredited studies
- Input output modelling results overstate the impacts of the project

Based on the information presented in the economic assessment, the benefits of the project are unlikely to outweigh its likely environmental costs. The project should be rejected unless a clear benefit for the NSW community can be demonstrated.

Production benefits

The largest benefit identified in the CBA is the production benefit of selling the coal produced at the mine to the Mount Piper Power Station (MPPS). The economic assessment states:

> *Total product coal production is estimated at up to 2.2 Mtpa ROM. This ROM coal will be delivered to Wallerawang and MPPS, unwashed and has a financial value of approximately $50/tonne. However, its economic value is higher. As identified by NSW Trade and Investment and NSW Treasury (2013), in the absence of coal from Coalpac, Wallerawang and MPPS may need to pay around $1.00/GJ more for their coal, which would increase costs from around $50/tonne to $70/tonne. This replacement value for Coalpac production reflects a shadow price of coal suitable for inclusion in the BCA. (p 11)*

There are several problems with this reasoning:

- There are no calculations or data presented to justify the $50 or $70 per tonne price estimates. The reference to *NSW Trade and Investment and NSW Treasury* (2013), also provides no discussion, working or references on how these estimates are derived.
- This paragraph suggests that Coalpac are selling coal for a large discount on its actual value. No private operator would do this. If the market is willing to pay $70 per

tonne for this coal, Coalpac will sell for $70 per tonne. As it is selling for $50 per tonne, either Coalpac is behaving irrationally and giving away profits of $155 million (present value), or the prices being claimed by Gillespie Economics are inaccurate.

- Even if we accept that Coalpac sell coal for $20 per tonne less than it is worth, this $155 million benefit accrues to:

> *The operator of the MPPS in the form of lower cost coal, which ultimately benefits electricity consumers in NSW in the form of lower electricity prices. (p 2)*

The operator of the MPPS is Energy Australia,[1] which, despite its name, is a foreign owned company, a subsidiary of Chinese energy company CLP Group.[2] Any profits accruing to these operators would not be included in an analysis of benefits from an Australian or NSW perspective.

- Gillespie Economics' claim that all of this benefit would be passed on to electricity consumers through lower prices shows a misunderstanding of how electricity markets operate in Australia. Low wholesale energy prices from generators are not always passed on to consumers. Over the past six years wholesale spot prices have fallen in some states and remained steady in others, while retail prices have increased.[3] The claim assumes that the operators make no profit and neither do owners of distribution and transmission infrastructure or electricity retail businesses. This is unlikely.
- Gillespie Economics claim that all of this $155 million 'benefit' is passed on to consumers ignores *NSW Trade and Investment and NSW Treasury* (2013)'s finding that:

> *This increases the short run marginal cost (SRMC) of electricity from these generators by around $10/MWh.*

As electricity generation involves costs other than just the input of coal, not all of this saving is passed on. This is clear in the source document, but ignored by Gillespie Economics.

- Furthermore, the emphasis above is on "these generators". There are many other generators competing in the National Electricity Market (NEM) which NSW is a part of. Providing a subsidy to particular generators may provide a marginal benefit for some consumers, but will have negative implications for other generators and negatively affect the efficiency of the NEM.

Due to these points, it is better to consider the results of the CBA at the level of $50 per tonne, which can be easily ascertained from the economic assessment and are outlined in Table 1 below:

[1] http://www.energyaustralia.com.au/about-us/what-we-do/generation-assets/wallerawang-mtpiper-power-station
[2] https://www.clpgroup.com/ourcompany/aboutus/regionalpresence/australia/Pages/australia.aspx
[3] (Saddler, 2013)

Table 1: Project financial benefits at $50 per tonne

NSW Government – royalties	$29m
Coalpac shareholders – profits	$25m
Commonwealth government – Company tax	$11m
Total	**$65m**

Source: Economic assessment results on p19. Note all figures are present values discounted at 7 percent per annum.

All of these benefits are likely to be overestimated.

- No royalty calculations are provided. There are many deductions applied to royalties paid in NSW, which are likely to reduce this further.[4]
- The costs of the mine seem unrealistically low. The economic assessment suggests that the mine will produce 2.2 million tonnes per year which it will sell for $50 per tonne. The present value estimate of total financial benefits, $65 million, suggests a cost per tonne of $28. This would make the mine one of the cheapest mines in Australia. Recent analysis says average costs per tonne in Australia are around $86 per tonne.[5] There are some differences between these two figures in terms of treatment of royalties and transport costs, but not enough to explain such a large difference. There is no evidence to suggest that these mines are at such a low point on the cost curve. This suggests the estimates of profits and of company tax will be overstated.
- It is unclear whether the company tax estimate has included the many deductions available to mining companies such as accelerated depreciation. These deductions reduce the average tax paid by the mining sector to 13.9 per cent of gross operating surplus.[6] It is unclear how many of these deductions have been included in Gillespie Economics' analysis or to what measure of profit they have applied a 30 per cent company tax rate.

The estimates of benefits provided in the economic assessment represent a maximum possible value to Australian stakeholders. It is likely that costs are higher than estimated in the economic assessment and that the project will struggle to deliver these claimed benefits. NSW decision makers should focus on royalty estimates and factor in the possibility that the project is delayed, changed or cancelled, which would reduce royalties in present value terms. Decision makers should also consider these royalties in the context of total royalties in NSW. At around $6 million per year they represent less than half of one per cent of NSW coal royalties, which themselves represent just two per cent of state government revenue.[7]

Non-market value of unemployment

Gillespie Economics inclusion of a non-market value associated with unemployment is inappropriate. Even in reviews commissioned by coal companies this value is considered "contentious"[8]. The studies this value is based on have been rejected by the NSW Land and

[4] (NSW DII, 2008)
[5] (Morgan Stanley, 2013) Morgan Stanley's estimate is $80USD.
[6] (Richardson & Denniss, 2011)
[7] (NSW Government, 2013)
[8] (Bennett, 2011)

Environment Court[9] and the NSW Supreme Court[10]. A NSW Planning and Assessment Commission described these studies as "relatively crude" and "well short of the standard required to withstand rigorous scrutiny".[11]

This value should not be considered by decision makers due to the fundamental flaws in the studies it is based on and the application of these studies to a different location which may not share the same characteristics.

Environmental costs

The economic assessment includes no values for any environmental costs associated with the project. All impacts are considered "insignificant" and assigned a zero value. This is inappropriate, particularly in light of earlier assessment of the related Coalpac Consolidation Project. Both the Planning and Assessment Commission and Department of Planning and Infrastructure were highly critical of the same approach to the environmental impacts of projects in this area:[12]

> *The Department does not accept that the vegetation of the site is valued at only $900,000, and believes this illustrates the difficulties in monetising natural resources and biodiversity values. In particular, the Department believes that quarantining the vegetation on the site in the economic assessment grossly under-estimates its inherent biodiversity values, and its connection to the broader pagoda landform complex.*
>
> *Although the economic analysis may have been conducted within the applicable guidelines and bounds of economic theory, the facts of this particular project are sufficiently unusual to test the limits of this approach.*
>
> *Overall the Department is satisfied that these benefits do not overcome the significant and irreversible impacts on the biodiversity, scenic, and geological values of internationally significant pagoda landform complex.*

Input output modelling

Decision makers should be wary of the economic impact assessment included as part of the economic assessment. It is based on input-output methodology which is certain to overstate the positive impacts of the project, due to many unrealistic assumptions including:[13]

> *Lack of supply–side constraints: The most significant limitation of economic impact analysis using multipliers is the implicit assumption that the economy has no supply–side constraints. That is, it is assumed that extra output can be produced in one area without taking resources away from other activities, thus overstating economic impacts. The actual impact is likely to be dependent on the extent to which the economy is operating at or near capacity.*
>
> *Fixed prices: Constraints on the availability of inputs, such as skilled labour, require prices to act as a rationing device. In assessments using multipliers, where factors of production are assumed to be limitless, this rationing response is assumed not to*

[9] (Preston, 2013)
[10] (NSW Supreme Court, 2014)
[11] (PAC, 2012b) p5
[12] (DPI, 2013) p51
[13] (ABS, 2011)

> *occur. Prices are assumed to be unaffected by policy and any crowding out effects are not captured.*

For these reasons this type of modelling has been described as "biased" by the Australian Bureau of Statistics and "deficient" by the NSW Land and Environment Court. Many economists consider its usage an "abuse", including the Productivity Commission.[14] Recently the Department of Infrastructure and Planning noted:[15]

> *The Department notes the concerns raised … about the value of the [input-output] methodology in general, and accepts that the methodology has limitations.*

This methodology gives very misleading results as to the impact of the project on the local and wider economy. Decision makers should give this section of the economic assessment little weight.

Review

We note the economic assessment has not been subject to peer review prior to publication. Had the assessment been independently reviewed many of the shortcomings identified above would have been addressed earlier in the planning process and the assessment would have presented decision makers with more useful information. We urge the Department of Planning and Infrastructure to require all proponents to conduct independent review of such assessments, or to hire in-house economists to conduct such reviews.

The independence of peer review is important. Earlier versions of this project, known as the Coalpac Consolidation Project and later the Coalpac Consolidation Contracted Project were also assessed by Gillespie Economics.[16] The assessment of the Contracted Project was conducted not by an economist chosen by the Department of Planning and Infrastructure or the PAC, but by another coal industry consultant and academic, Jeff Bennett, also commissioned by Coalpac through their consultants Hansen and Bailey.

The PAC was dissatisfied with both the assessment by Gillespie Economics and the review by Jeff Bennett:[17]

> *In the Commission's view the unresolved contested nature of the approach to, and results of, the analysis mean that it can be accorded little weight. Consequently, the Commission considers that, contrary to the views expressed by the peer reviewer employed by the Proponent, key results of the analysis, such as the project benefits, may not present a sufficiently reliable platform for decision-making.*

Decision makers should be aware that Bennett and Gillespie Economics have close links. Bennett is the PhD supervisor of Gillespie Economics principal, Rob Gillespie.[18] They have jointly consulted to the coal industry[19] and have jointly written academic papers.[20]

Bennett explains his and Gillespie Economics' positions in his recent book:

> *Coal mine owners….will engage analysts in support of their claims. Once the analysts have established their cases, they will be inclined to maintain these*

[14] (ABS, 2011; Denniss, 2012; Gretton, 2013; Layman, 2002; Preston, 2013)
[15] (NSW DPI, 2014) p48
[16] (Gillespie Economics, 2013)
[17] (PAC, 2012a) p140
[18] https://crawford.anu.edu.au/people/academic/jeff-bennett
[19] (Bennett & Gillespie, 2012)
[20] For example (Gillespie & Bennett, 2012)

> *positions. The continued policy debate is certainly in the analysts best interests as it means return business.*[21]

Gillespie Economics and Professor Bennett have maintained their positions, despite these being refuted by the PAC, the Land and Environment Court[22] and more recently in the NSW Supreme Court[23].

Conclusion

The economic assessment of the Coalpac project heavily overstates the benefits and understates the costs to NSW and Australia. In particular the analysis uses two different coal prices and makes unsupportable assumptions that either the mine or the electricity generator behaves irrationally. In assuming that coal is sold for less than it is worth the mine is effectively giving away money. Alternatively if the coal is worth the lower price there is no reason to consider the saving to the generator.

Even if this contradiction is ignored, many benefits included in the assessment will accrue to international interests and should not be included as NSW community benefits. The discussion of benefits passing through to electricity consumers is simplistic and ignores the nature of the National Electricity Market.

Royalty, profit and tax estimates are likely to be overstated and there is minimal transparency around their calculation. Environmental costs are assigned a zero value, contrary to the positions of the DPI and the PAC on impacts to this area.

Impacts in the economic impact assessment section are overstated due to the methodology adapted and should be given little weight.

Overall the project's benefits are minimal and uncertain, while serious environmental costs are highly likely. Based on review of the economic assessment, the project is likely to deliver a net economic loss to NSW and should be rejected on these grounds.

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[21] (Bennett, 2012)p180.
[22] (Preston, 2013)
[23] (NSW, 2014)

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