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Mt Owen continued operations project

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TAI

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Introduction

The Deloitte Access Economics (DAE) assessment of the economic impacts of the Mt Owen continued operations project has significant flaws which overstate the value of the project and mislead decision makers.

The assessment does not make clear the costs and the benefits of the project to NSW, contrary to Director Generals Requirements. Instead, it compares international financial impacts which largely accrue to overseas shareholders with the environmental costs of the project which are borne by NSW.

The environmental costs of the project to NSW are understated as the assessment assumes that biodiversity offsets work immediately, perfectly and permanently. This is contrary to the opinions of ecologists. Given the project will have a serious impact on endangered fauna species such as the spotted tail quoll and swift parrot, as well as endangered ecological communities, this is a serious shortcoming of the assessment.

The question facing decision makers that DAE fail to ask is: are the impacts of the project on the NSW environment worth $28 million per year for 15 years, or present value of $258 million, or increase of 0.04 per cent of revenue?

While ignoring the net benefit of the project to NSW, the assessment offers an estimate of benefits to Singleton. This is based on unrealistic wage and employment assumptions, contrary to NSW government guidelines and in contrast to other reports by DAE.

Other issues around coal prices and sensitivity testing should also be clarified.

In many ways the DAE assessment is of a far higher standard than most economic assessments of coal mines in the NSW planning process. While a welcome step in the right direction, there is still a long way to go before decision makers are given objective analysis under the current planning process.

Costs and benefits to NSW

The economic assessment does not adequately address the Director General's Requirement to assess whether the project would provide a net benefit to the NSW community. At no stage does the assessment systematically compare the costs and the benefits of the project to the NSW community.[1] Instead, the headline figures are:

- *The Project delivers net benefits of around $758 million over its life and generates a benefit cost ratio of around 1.30.*
- *Royalties generated by this Project, relative to the baseline, are estimated to be worth around $258 million in NPV terms to the NSW Government.*

[1] This requirement is also emphasised in the NSW Government's *Guideline for the use of Cost Benefit Analysis in mining and coal seam gas proposals*, which states:

> *These benefits and costs should be estimated where possible as those that accrue for New South Wales. In the first instance, it will generally be most practical to assess all major costs and benefits to whoever they accrue and then adjust to estimate the proportion of these attributable to residents of the State*. (page 5) (NSW Treasury 2012)

While DAE claim to have complied with these guidelines, they conveniently ignore this quoted section. See table A3, page 84.

- *It is considered unlikely that the negative externalities treated qualitatively in this analysis would be of a scale that would exceed the net benefits of the Project.*

However, there is no discussion as to whether the negative externalities that accrue to NSW (most of them) would outweigh the benefits to NSW, which are largely royalties. Instead, the assessment focuses on the global level:

> *[The] non-quantified negative externalities would need to be valued at around $89 million per year (in real terms), between 2016 and 2030 to offset the estimated net benefits of the Project. … This is considered to be extremely unlikely, given the nature of the evidence regarding these impacts.* (page xiii)

This is a comparison of the net benefits of the project, mainly profit to a foreign mining company, with the impacts of the project on NSW. The main benefit to NSW is the $258 million in present value royalties. A fairer comparison in line with the Director General's Requirements would be:

> *Are the environmental impacts of the project worth $28 million per year between 2016 and 2030 in royalties to the people of NSW?*[2]

As many people are unfamiliar with state government budgets, it is more useful still to put this figure in context:

> *Are the environmental impacts of the project justified by a 0.04 per cent increase in state government revenue?*[3]

This is the key question facing decision makers – are the impacts of the project on NSW worth $28 million per year for 15 years, or present value of $258 million, or increase of 0.04 per cent of revenue?

The DAE assessment does not present decision makers with this question. It further misleads decision makers by understating the key likely environmental impact, the impact on biodiversity.

Biodiversity

The main shortcoming of the economic assessment is its approach to biodiversity and the ecological impacts of the project. The assessment assumes that biodiversity offsets work immediately, perfectly and permanently. The assessment states:

> *Biodiversity Offset Strategy that is consistent with Commonwealth and State Government policies has been prepared. This means that although the Project is anticipated to disturb land currently inhabited by a number of species of flora and fauna, the strategy is designed to mitigate and offset potentially significant biodiversity impacts.* (page xi)

Being consistent with government policy does not ensure that no impacts occur. The ecology literature raises several key points which economists should take note of around the valuation of offsets:

[2] As annual royalty payments are not specified in the assessment, this figure is derived from the present value figure and for simplicity assumes consistent production rates across the period.

[3] Based on 2014-15 Budget papers estimate of $65.4 billion in revenue for that year, see http://www.budget.nsw.gov.au/__data/assets/pdf_file/0015/124314/Ch_6.pdf

- Offsets based on protection of an existing asset does not offset destruction
- There is uncertainty as to whether an environmental asset can actually be recreated
- Time scale issues – decades or centuries may be needed for offsets to mature into the assets they are replacing.[4]

These concerns of ecologists in general are particularly relevant for the Mt Owen project, as it will be impacting on areas of high ecological significance, including two endangered ecological communities (EEC) and an important wildlife corridor. This will have a significant impact on 20 threatened species, including the nationally endangered spotted-tailed quoll and swift parrot.

According to the Hunter Environment Lobby:

- The Mt Owen project could cause the ongoing decline of a local population of Hunter Spotted-Tailed Quoll and will interfere with the recovery of this endangered species.
- There is a lack of 'like for like' vegetation left in the Hunter, particularly Central Hunter Ironbark-Spotted Gum-Grey Box Forest, Central Hunter Grey Box-Ironbark Woodland and derived native grassland, mainly due to mining impacts.
- The offset strategy does not provide the required 2:1 Tier 3 ratio for offsets.

Two of the points raised in the ecology literature cited above are relevant here – uncertainty around the recreation of environmental assets such as quoll and parrot habitat and time scale issues. Neither of these issues are considered by DAE and represent a significant environmental cost.

DAE's approach of considering that compliance with legislated offset standards ensures no economic impact is all the more surprising given that they have been critical of others for:

> *Failing to consider the full cost of all externalities, where costs are included in capital works as part of the benefit cost analysis. This approach can account for costs which exceed legislated standards, but does not account for costs incurred up to that standard*[5]

In this quote DAE are referring to the noise impacts of the Warkworth mine expansion in the Upper Hunter. Further in the report they expand on this topic of how compliance with government guidelines does not mean there are no economic impacts:

> *[In] the case of noise and dust, there are requirements for the mine to make offers of compulsory acquisition for residences negatively affected beyond a certain extent. These compulsory acquisitions will enter as a cost in the CBA and so some of the externality costs created by dust and noise are reflected in the CBA but this approach does not capture the full extent of these externalities. This is because the boundary is set legislatively to provide relief to those most affected by the mining activity but the externality effects can go beyond areas subject to compulsory acquisition*. (page 12)

In the current assessment of the Mt Owen mine, DAE have followed this logic closely in relation to some externalities but not others. The section on particulate pollution is particularly thorough, but the section on biodiversity lacks this understanding entirely.

[4] see for example: (Bekessy et al. 2010; Gibbons & Lindenmayer 2007; Walker et al. 2009)
[5] (Deloitte Access Economics 2012) page i

This is unfortunate as biodiversity impacts are likely to be the major external cost of this project. The risk of losing biodiversity entirely is considerable and almost certain for a period of many years.

DAE do acknowledge these risks:

> *The risks to biodiversity generated by the Project are considered qualitatively in this analysis.* (page 51)

While there is no detailed discussion of these risks, the authors seem to be referring to their conclusion that non quantified negative impacts are likely to be outweighed by quantified benefits. To reiterate, this comparison overlooks the fact that the vast bulk of this benefit accrues to a foreign mining company, while the cost of the biodiversity impacts (e.g. potential local extinction of the spotted tail quoll) would largely be felt by local communities and residents of NSW and Australia. DAE's approach to presenting the distribution financial benefits and ecological costs here is misleading, and leads into a wider discussion of distributional effects and the scope of their assessment.

Costs and benefits for Singleton

While the economic assessment ignores the Director General's Requirements and government guidelines for analysis at a state level, it does provide estimates of net benefit for the Singleton LGA:

> *The Singleton community will receive a net benefit of up to $306 million, in NPV terms, under the assumption that, in the absence of the Project, local employees and suppliers would earn the average level of income in Singleton.* (page 65)

The assumption here is that workers labour is not priced at its opportunity cost – in other words that that workers cannot earn the same wage outside of the project. There is minimal discussion of how this figure was arrived at, which is surprising given that it contradicts *NSW Government Guidelines for Economic Appraisal:*

> *It can be argued that in times of unemployment the opportunity cost of labour employed on a project is less than the wage costs, and project costs and benefits should be adjusted accordingly. However, in practice such adjustments are not generally made and are not recommended.*[6]

DAE assume here that the entire project workforce would leave the mining industry and would all enter average wage jobs. Alternatively, they assume that project workers would leave the mining industry and go into all sectors of the economy in proportion to the current spread of the Singleton labour force, that is significant numbers go into health care, retail and other low-wage sectors.

This is a major assumption and one which DAE do not attempt to justify. While NSW mining employment has reduced sharply in the last year to 29,000, back to 2008 levels, this still represents a higher level than any time since 1990.[7] It is unlikely that experienced mine workers, living in the middle of NSW largest mining region will re-enter the workforce almost entirely outside of the mining industry.

[6] (NSW Treasury 2007)p48

[7] ABS 2014, 6291.0.55.003 Labour Force, Australia, Detailed, Quarterly, Table 05. Employed persons by State and Industry

DAE's lack of discussion around this finding is even more surprising given that their own research suggests a prolonged downturn in the coal industry would have a very small impact on employment in the Hunter. In a 2013 report *Prospects and challenges for the Hunter region: A strategic economic study*, DAE modelled a situation where prolonged lower coal prices of 10 to 20 per cent were experienced due to "moderating Asian demand". This situation would:

> *significantly reduce profitability across the mining sector and the string of related industries which provide the materials and services required for mining and resource projects. This is demonstrated by the sizeable drop in regional output and other macroeconomic variables such as exports, wages and consumption levels.*[8]

Yet despite this, DAE's model found that employment in the Upper Hunter would only reduce by 0.5 to 1.2 per cent. Given DAE's assertion that Upper Hunter employment is robust to such significant long term changes, it is hard to understand why they have adopted this approach for the Mt Owen assessment.

Furthermore, in their assessment of the Rocky Hill Coal mine DAE disclosed that their wages assumption accounted for 86 per cent of local benefits calculations. In that assessment they provide three estimates for local net benefits under different labour assumptions:

- $62 million under the assumption that average wages are earned, as in the Mt Owen assessment.
- $9 million under standard NSW Government Guidelines assumptions
- A midpoint of $36 million.[9]

We agree that the wage and employment impacts of projects and policies should be considered in economic assessment. For example, the Australia Institute's Executive Director, Richard Denniss, argued that unemployment that would be experienced by textile, clothing and footware (TCF) workers represented a serious cost to the policy of tariff reductions in this area, which had not been adequately considered by policy makers and government agencies.[10]

Government guidelines and the Productivity Commission strongly oppose such an approach, however. The Commission objected to Dr Denniss's approach that 30 per cent of TCF workers would not find further employment and likely leave the labour force – an assumption broadly similar to that adopted by DAE.[11]

While we applaud the consideration of employment effects outside of orthodox economic assumptions, it is hard to understand why this approach is being taken in relation to the mining industry. The approach taken by DAE seems certain to overstate this value.

Coal prices

The economic assessment acknowledges an important fact – at low coal prices, mines are not financially viable. The economic assessment estimates that at coal prices 30 per cent lower than their central estimate, the project has negative NPV of minus $165 million (Table

[8] (Deloitte Access Economics 2013) p48
[9] (DAE 2014)
[10] (Denniss 2008)
[11] (Productivity Commission 2008)

5.14, page 64). Clearly at prices somewhat above this level, the project is likely to be financially vulnerable.

The central estimate of coal prices is shown in Chart 5.2 (page 26). The July 2014 price is AUD $90/t, substantially above the benchmark price of $78/t as noted on page 92. The values in Chart 5.2 seem to imply a long term forecast of USD$91-$98/t for thermal coal, considerably higher than current benchmark prices and many analysts forecasts.

This suggests either a very optimistic price forecast, or the proponent expects the Mt Owen coal to trade at a 15 per cent premium to standard thermal coal. This seems possible if somewhat optimistic judging by the ash content estimated at 12.5 per cent on page iv of the executive summary and not discussed anywhere in the body of the report. The absence of discussion of coal specifications and the justification of this premium is surprising given the financial difficulties the project will face at lower coal prices.

Sensitivity testing

Section 6.5 page77 examines the results of the CGE model at different coal price levels. The GRP impacts in Table 6.3 and the employment estimates in Chart 6.10, detail DAE's modelled estimates of output and employment under low, mid and high coal price scenarios. Several points to note:

- Employment impacts under the central scenario are rarely higher and sometimes lower than the project's direct employment levels in Chart 4.1. There is no large "jobs multiplier" as is often claimed by the mining industry.[12]
- Estimates of impacts at the lower price level ignore the finding in Table 5.14 that at lower price levels the project is financially unviable. If the project proceeds at all at this price level, impacts are likely much lower.
- It is unclear why employment due to the project would be higher at higher price levels – as the project is foreign owned this would merely increase profitability rather than increase employment. An increase in wider coal industry employment may occur, but this is the result of the price increase, not a result of the Mount Owen project.

Conclusion

The economic assessment of the Mt Owen project by Deloitte Access Economics is in many ways an improvement on recent economic assessments of mining projects. Transparency around coal pricing, cost and production assumptions is a major improvement and the consideration of some externalities such as particulate pollution is impressive.

However, central parts of the assessment are misleading. The assessment fails to fulfil the Director General's Requirements of comparing the benefits of the project to NSW and the costs that NSW would bear. Instead the assessment looks at net benefits to the whole world, or net benefits to people who live in Singleton, ignoring the specified scope of NSW.

This approach is beneficial to the proponents as at a global level profits to the foreign owners of the project are considered, while at the Singleton level any wage impacts are magnified. What is important, however, is the question of the costs and benefits for NSW: are the impacts of the project on NSW worth $28 million per year for 15 years, or present

[12] See for example the work of (Lawrence Consulting 2014) commissioned by the NSW Minerals Council.

value of $258 million, or increase of 0.04 per cent of revenue? The assessment never asks or answers this question.

Furthermore, the main cost to the NSW community, impact on biodiversity, is not considered by DAE's assessment. Their assumption that biodiversity offsets are perfect and immediately compensate for ecosystems and habitat that are destroyed is unfounded and contrary to the opinion of ecologists.

In our opinion an increase in state revenue of 0.04 per cent is not worth the risks to endangered species and ecosystems and the project should be rejected.

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