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Submission from North Queensland Conservation Council in relation to Carmichael Coal Mine and Rail Project Environmental Impact Statement

This submission from North Queensland Conservation Council (NQCC) focuses largely on the material relating to issues of economic analysis (including sustainable development) and the cumulative impact assessment provided in the Environmental Impact Statement (EIS) for the above-mentioned project, in the knowledge that other issues are being addressed by other conservation agencies and others.

Economic Analysis

Under guideline 5.12 of the Terms of Reference (ToR) the EIS must assess: 'the indirect impacts likely to flow to other industries and economies from the development of the project (and the implications of the project for future development)'. The cross-reference table (Appendix C) state that this is provided in Vol.4, Appendix H, section 3.2.

The assessment provided in the EIS does not address the requirement.

A useful and rigorous assessment of the indirect impacts would require consideration and qualitative and quantitative analysis of all monetary and non-monetary impacts (including but not limited to non-tangible, residual and non-user costs and benefits, including of externalities associated with the development and all direct, indirect and cumulative) costs and benefits, and an assessment of the distribution of costs and benefits over the life of the project (LOP).

The LOP is not considered in the analysis; time periods appear to vary from six to ten years with the occasional reference to 90 or even 150 years, making any comparative analysis impossible. NO discount rate is identified by which benefits over different time periods can be compared. Furthermore, positive and negative impacts are incomplete. For example, LOP costs of production costs are assessed, but LOP benefits are not, nor are LOP non-production costs.

Given the nature of this particular proposal, the analysis should extent to international (ie cross-international-border) costs and benefits, and quantify the costs and benefits over the lifetime of both the proposal and the MNES that are likely to be affected.

This is particularly the case when it is known that Australia's largest contribution to global climate change is its coal exports and that climate change is the number one threat to the Great Barrier Reef.

All assumptions made in any economic analysis would need to be stated in order to render the analysis fully transparent. Sensitivity analysis to test the impact of assumptions would be required.

Given that industry operates entirely on the basis of cost/benefit analysis, such a requirement would not be onerous, especially given that much of the data required will be collated to meet other requirements of the guidelines.

It is only when costs and benefits are compared that decisions about whether or not to allow damage to environmental and social values can be made by the public and decision-makers.

Use of Input-Output Analysis

The EIS states (1.4.1) that 'The economic assessment is largely based on the input-output (I/O) method of impact determination'.

As noted by Economists at Large in their 2012 submission on the Great Keppel Island resort Development EIS, 'In 2011 the Queensland government noted that The Queensland Department of Infrastructure and Planning agree the use of BCA (Benefit Cost Analysis) is the most suitable economic analysis to assess major projects, and recommend it as the preferred method of analysis over input-output (I-O) modeling. They stated:

The primary method of economic evaluation of public sector policies and projects is cost-benefit analysis. Input-output methodology (or the use of multipliers) is not a preferred methodology for economic evaluations. (Qld DIP 2011, p18)

Economists at Large went on to state,

Agreement in the preferential use of BCA over I-O analysis is consistent across the majority of the economics profession, see for example (Dobes, Leo and Bennett 2009; Ergas 2009; Abelson 2011) and many others.

In the case of Carmichael EIS, the source, date and size of the 'multiplier' does not even appear to be provided.

NQCC contends that the economic analysis undertaken for the Carmichael EIS is inadequate.

Sustainable development

Under section 5.2 of the ToR, the proponent is required to provide 'a comparative analysis of how the project conforms to the objectives for 'sustainable development'—see the National Strategy for Ecologically Sustainable Development'.

The Core objectives of the NSESD are:

- *to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations*
- *to provide for equity within and between generations*
- *to protect biological diversity and maintain essential ecological processes and life-support systems*

The Guiding Principles of the NSESD are:

- *decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations*
- *where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation*
- *the global dimension of environmental impacts of actions and policies should be recognised and considered*
- *the need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised*
- *the need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised*
- *cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms*
- *decisions and actions should provide for broad community involvement on issues which affect them*

*These guiding principles and core objectives need to be considered as a package. No objective or principle should predominate over the others. A balanced approach is required that takes into account all these objectives **and principles to pursue the goal of ESD.***

ToR 5.2 continues:

*This analysis should consider the cumulative impacts of the project (both beneficial and adverse) from a **life-of-project perspective** [emphasis added], taking into consideration the scale, intensity, duration and frequency of the impacts to demonstrate a balance between environmental integrity, social development and economic development.*

This information is required to demonstrate that sustainable development aspects have been considered and incorporated during the scoping and planning of the project.

The proponents response to this complex and detailed task is, according to the cross-reference table (Appendix C): V1.8 Table 8.9.

The problems associated with Volume 1.8, Table 8.9 are discussed below.

NQCC contends that the EIS presentation in relation to sustainable development is totally inadequate.

Cumulative impacts

Under ToR 7 of the ESI, the proponent is required to

Provide a summary of the project's cumulative impacts and describe these cumulative impacts both in isolation and in combination with those of existing or proposed project(s) publicly known or advised by DEEDI to be in the region, to the greatest extent practicable. Cumulative impacts should be assessed with respect to both geographic location and environmental values. Also assess cumulative impacts on the groundwater resources in the area, including impacts on existing users and any groundwater-dependent ecosystems. Present the methodology used to determine the cumulative impacts of the project, detailing the range of variables considered, including where applicable, relevant baseline or other criteria upon which the incremental aspects of the project have been assessed.

The 'cumulative assessment' is presented in Vol.8 of the EIS.

First, NQCC draws attention to the fact that the 'Cumulative Impact' presented in the Carmichael EIS is **NOT**, despite its title, a Cumulative Impact Assessment (CIA).

The material presented in the EIS is merely a partial addition of some of the relevant impacts on aggregated environmental values.

Problems with the CIA as presented:

1. Failure to assess all relevant projects

The point of CIAs is to overcome the 'death by 100 cuts' whereby individual projects may not be a problem, but the total of individual projects are. Death by 1000 cuts often occurs when individual projects are too small to be considered (especially too small to be considered in relation to MNES) but when very many such small projects occur and, cumulatively, have an impact.

The CIA undertaken for the Carmichael EIS fails to take into account these multiple small impacts, focusing only on a small number of very large proposed actions. Until such time as the totality of impacts are assessed the damage to MNES is likely to continue.

Failure to include in any way anticipated mega-projects, such as MacMines on the basis of lack of full information is inappropriate. Impacts could have been estimated, or the precautionary principle brought into play.

The CIA also fails to take into account consequential impacts, such as the proposed TO at Abbot Point, the proposed Dudgeon Point expansion; and the proposed Goonyella to Abbot Point Rail project. Consequential impacts are a fundamental component of CIAs.

2. Failure to address synergistic impacts

One of the main reasons for CIAs is to enable the consideration of synergistic impacts – the way in which different impacts interact such that the sum is greater than to the two parts. An example would be the impact of habitat clearance, and dust on Black-throated finches.

3. Obscurity as to the means by which 'relevance factors' (ratings of 1 to 3) have been determined.

According to section 8.1.4 of the EIS, the critical relevance factors were based on 'professional judgment, past experience with similar developments and Project information presented in [other volumes of the EIS]'.

Presumably no external experts had input into the determination of these critical factors, thus 'professional judgment' can only have arisen from 'past experience with similar development'. A desktop review indicates that previous Adani experience with similar developments would be restricted to the joint NQBP, Adani, GVK, BHPBilliton Analysis undertaken for terminal development at Abbot Point. That study (like the Carmichael one) is additive in its approach; it has not yet addressed synergistic impacts and it excludes relevant impacts.

Given the lack of experience (and thus limited basis for professional judgment) the determination of ratings (1 to 3) in Table 8.9 cannot be relied upon. The table is virtually a black box approach with the project proponents seeming to allocate a rating of 1 to 3 on the basis of little hard evidence.

The fact that there is no peer review of this largely hidden process makes the 'CIA' presented of very little credibility or value.

4. Credibility of ratings given

Within Table 8.9, the relevance factors attributed seem illogical. Why is the impact on water (surface and ground) of long duration, by the impact on aquatic ecology not?

5. Credibility of total relative impacts

According to Table 8.9, the cumulative economic impact of the projects included in the CIA is a positive impact of 9. (NOTE, this is less than the cumulative negative impact on just one environmental value, Terrestrial Ecology (rated as 10)).

Regardless of this, the economic analysis in the EIS is inadequate (see above), relying as it does almost solely on monetary benefits, with little consideration of monetary costs (eg, jobs lost as a result of the two-speed economy to which the project contributes) and no quantitative consideration of non-monetary costs or benefits.

6. Balance of cumulative impacts

While the cumulative impacts on the economy are rated as positive 9, the sum of the impacts on the environmental values is negative 87. This would more than suggest that the costs vastly outweigh the benefits of the proposed project.

7. Distribution of benefits and costs

Adani is an Indian-owned company; the majority of net economic benefit would accrue in Indian; however, the long term cumulative costs would be experienced in Australia. This is not addressed in Chapter 8 (Cumulative Impacts), nor in the EIS as a whole.

8. Lack of adequate baseline studies against which to measure additional impact.

A baseline study was undertaken for assessment of social impacts, but many other baseline studies appear to be either missing or still to be undertaken/completed. The status of many values are noted merely as the rating they achieve on Federal and State lists. This gives no baseline against which to measure impact.

9. Use of 'Baseline' data

The limitations of baseline data on the current health of ecosystems in the project area (as suggested by Table 8.9) are demonstrated by the fact that the existing 'health' (the baseline) for several aggregated factors (such as 'Terrestrial Ecology' rather than birds or even Black-throated finches) are merely given a joint, unexplained and unjustified rating of sensitivity of 1 to 3.

Sensitivity is, according to GHD (personal communication with Julie Mead, GHD, 6.2.13) a measure of resilience, with 1 being resilient; 2 being less resilient; and 3 being least resilient. Thus, for example, 'Land Use;' is 'resilient' while Groundwater is 'least resilient'.

There is no discussion of recovery time in relation to resilience; there needs to be. And, of course, resilience does not necessarily reflect the current health.

Even so, the numbers allocated to the Environmental Values are illogical. For example, why is Surface Water rated 3 (least resilient) while the water quality-dependent Aquatic Ecology rated as 2 (more resilient)?

10. Reliance on the assumption that the total is merely the sum of the parts

The concept of 'cumulative impact' is founded on the recognition that the sum is often greater than the parts. However, throughout, the CIA, this is not acknowledged. This problem exists in the discussion of surface water hydrology, groundwater, and air quality.

11. Failure to consider consequential impacts

Chapter 8 of the EIS notes that Abbot Point Terminal 0, Dudgeon Point expansion and the Goonyella to Abbot Point Railway are all relevant projects; however, impacts from these projects are not included in the CIA (see Table 8.5).

12. False assumptions about faunal populations

Throughout the CIA, the assumption is made that if fauna is dislocated by clearing of habitat, there will automatically be 'room' for displaced populations in the remaining areas of habitat. Unlike human populations, fauna are less likely to 'squash in'; there are limits to population density that cannot be overreached. Loss of suitable habitat will lead to a decrease in population. Suitable habitat in other locations will already be catering for the optimal population of dependent species.

In concluding, North Queensland Conservation Council reiterates its concern about the adequacy of the EIS, especially in relation to economic and cumulative issues, and asks that the above comments be taken into consideration when assessing the EIS and the obvious need for further analysis.

A handwritten signature in grey ink, appearing to read 'Wendy Tubman', written in a cursive style.

Wendy Tubman

Coordinator