The Colo Committee

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Submission on Coalpac EA

General

At first glance this report seems substantial and appears to represent significant work done for this project. However, *quantity is not quality*, and there are major gaps, factual errors and mistakes in this EA, which is not acceptable for a major proposed development with major environmental impact. P. xvi shows that 958 ha is to be open-cut mined, including destruction of 16.5 ha of endangered box gum woodland, 3.5 ha of threatened Geebung habitat and 278 ha of threatened *E. cannonii* habitat. P. xx shows the project will be removing 7 seams plus 5 metres of sandstone. 422 million cubic metres of overburden is to be removed over 20 years. This is the equivalent of *three quarters the volume of Sydney Harbour*, a huge volume of material.15.2 million cubic metres of reject and tailings will be produced over 20 years (p. 45).

The amount of coal produced is inconsistent within the document, being 71.2 million tonnes (Appendix G, GHG study for burned coal) or possibly 108.5 million tonnes as shown on page vii of the Executive Summary. Only 1.9 million tonnes of this will come from highwalling, despite the dangers this causes (p. 106). Ash content of coal is quite high, from 14-30%. It is claimed that the total value of the coal mined will be $1519 million over its 21 year life (p. xxiv). Of this, based on rate of 1.5 cents per tonne of coal (p. xxii) at 71 million tonnes coal mined, $1.06 million will be paid to OEH, a quite inadequate sum in view of the damage that will be caused. The Colo Committee has been involved in seeking to protect the pagoda country and to control damaging coal developments since the early 1980's. We thus know this area very well and are very aware of the history of coal mining in the Western Coalfields. While the Colo Committee has objected (and continues to object) to certain longwall mining under pagodas or shrub swamps, it is clear that the Coalpac proposal would be by far the most damaging coal project yet proposed in the area. This is demonstrated by the fact that even the Lithgow Council and the local community oppose this huge 900 ha hole that will be gouged out of public land – Ben Bullen State Forest – on the edge of the Greater Blue Mountains World Heritage Area. For these reasons and the reasons below, the Colo Committee completely opposes proposed Coalpac Consolidation Project, and urges the NSW Government to show true leadership and stop what is clearly an inappropriate way of sourcing coal.

Major problems with EA

Greenhouse gas assessment. There are ***major errors and confusion*** in the statements made regarding GHG emissions and the comparison of the mine with world emissions. The quoted

figure on p. x of the Exec Summary refers to 'estimated current global emissions of 3,000 gigatonnes of carbon dioxide equivalent per annum'. p. 119 repeats this error. In fact, global anthropogenic emissions are 7.7 Gt of C or 7.7 x 3.67 = 28.2 Gt CO2 (see: Globe, http://classic.globe.gov/fsl/html/templ.cgi?carboncycleDia&lang=en) or possibly an upper limit of 35 Gt CO2 (http://co2now.org/Current-CO2/CO2-Now/global-carbon-emissions.html). The statement is thus a ***hundred-fold out*** for human-caused carbon emissions. The Coalpac emissions are 7 million tonnes CO_2 a year (rounded off from 6.989 Mt on p. 109 of App G). 7 Mt is 0.007 Gt and this is **0.02%** of world emissions not 0.0003 % as repeatedly stated in the Coalpac EA. An error of 100 fold clearly demonstrates *total ignorance of this issue*.

Australia's carbon footprint is 546.3 Mt C02e (Aust. Nat. Greenhouse Accounts, Dec 2011) so 7 Mt is **1.3% of Australia's total carbon footprint.** Checking up on Appendix G (PAE Holmes), p. 110 of this report shows that the consultant actually stated that 'The estimated quantity of carbon dioxide *stored in the atmosphere* now is 3000 Gt' (my emphasis). They are speaking of the carbon pool in the atmosphere, *not* annual emissions! The two are totally different. Coalpac has thus **deliberately mis-stated** what was said in the PAE Holmes report. This either represents incompetence in regard to understanding climate science, or deliberately seeks to play down what is a *major GHG emission* in this project. The PAE Holmes figure of 3,000 Gt atmospheric pool is unreferenced but not far off other figures for the atmospheric pool of CO_2, such as 2,752 Gt (Globe Project). The Coalpac Consolidation Project would thus be a *major contributor* to greenhouse gases, adding 1.3% to Australia's carbon footprint. In no way can it be said that 'there will be no increase or measurable impact on climate change' (said on p. x Exec Summary). This is a scientific fallacy and a logical impossibility. The project clearly **will** contribute to Australia's already high carbon footprint (per capita the highest in the world).

Mis-statements about alternatives, especially renewable energy. The EA argues essentially that if they don't mine this coal, then someone else will mine and burn it elsewhere. P. x claims that alternate sources of energy are not viable in the short to middle term. This seriously misrepresents both the current status and ability of renewable energy to meet energy needs. Note the excerpt below from the forthcoming book 'Human Dependence on Nature' (Washington, 2012):

> *Renewable energy supplied an estimated 16% of global final energy consumption at the end of 2010 (REN21 2011). In regard to electricity, renewables produced 1,320 GW (312 GW excluding hydroelectricity) of electricity in 2010. By early 2011, renewables comprised 25% of electricity capacity from all sources. They accounted for approximately half of the estimated 194 GW of new electric capacity added globally during 2010. ... Civilisation can reach a 95% sustainably-sourced energy supply by 2050. There are up front investments required to make this transition in the coming decades (1–2% of global GDP), but they will turn into a positive cash flow after 2035, leading to a positive annual result of 2% of GDP in 2050 (WWF 2011). A large-scale wind, water, and solar energy system can reliably supply all of the world's energy needs, with significant benefit to climate, air quality, water quality,*

ecological systems, and energy security, at reasonable cost (Delucchi and Jacobson 2011).

Cost of PV electricity is due to equal that of mains power by 2014. Wind power is already close to coal-fired power in cost and will improve in cost when carbon pricing comes in shortly. An Australian study has shown that we could switch to 100% renewable energy within 10 years for 2-3% of GDP a year (Wright and Hearps, 2010). The energy and climate change arguments in the Coalpac EA are thus deliberately misleading. This project will be a significant contributor to global warming, and there clearly *are* alternatives to burning coal to produce electricity.

Mis-statements about best practice, 'do nothing' strategy, and ecological sustainability. P. xxi says the project will 'optimise the benefits of environmental and capital costs that have been incurred'. Claims that Coalpac is a leading practice in environmental management. P. xxiv claims 'project rigorously assessed against objects of ESD' and 'the project brings environmental benefits'. p. 271 says the 'project has avoided all serious and irreversible environmental damage'. Then it says the 'Structure of the project will ensure that there is no effect on the environment that would diminish the health, diversity or productivity of the environment for future generations'. P. xxiv states the value of coal in the ground is 'only released by its recovery'.

All these statements are ***PR spin*** of the worst sort. This is a huge 1,000 hectare hole being dug in a diverse natural area not far from the World Heritage Area. It will destroy all native vegetation in that area, and cause significant air, visual and noise pollution (which the EA actually notes, but then plays down). It does not bring 'environmental benefits', nor does it stack up well against the idea or principles of ecologically sustainable development. The climate change impact alone of the project clearly will affect future generations, and the project will be a major stress on the environment and social community in the Western Blue Mountains. The Coalpac EA is thus an *exercise in denial*. It talks about mitigation strategies, best practice, proactive management, but these are just words. The project would have a huge negative impact on the natural environment, on the local community, and on the public using the Castlereagh Highway. The EA seeks to portray the 'do nothing' strategy as a 'sterilisation' of the coal reserve, when in fact the correct ecologically sustainable interpretation of not mining this coal is that the coal should not be mined and burnt for the very good reason that it would exacerbate climate change, to which Australia is highly susceptible. The coal in any case is not 'sterilised', it is still there, and if at some future time it truly was in the national interest to mine it, it would still be there.

Vegetation survey and biodiversity. Despite being made up to look big and impressive, there remain major questions around the vegetation survey. Clearly a recent detailed flora and fauna study has not been carried out, and the EA just cobbles together bits and pieces from past (inadequate) surveys. The company and its consultants in the past had totally overlooked the existence of one of the largest known populations of the vulnerable species *Persoonia marginata*. This was discovered by local environmentalist Chris Jonkers (though this is not acknowledged in the EA) and in fact the company sought to convince him that it was another

species (*P. oblongata*). The vegetation survey seems unable to actually let us know *how many* species (native and introduced) are actually found on site. Instead it says merely 'over 400 species'. It is highly unusual for a survey not to state the *actual species number*. Do they know or don't they?

Part of the reason for this vagueness is that the species list in Appendix J contains a large number of species identified only to the Genus level and ***not to species level***. This clearly shows that a detailed botanical study was not carried out, or that the proponent was not willing to pay for the Royal Botanic Gardens to confirm the identity of these species not identified to the species level. There are also a large number of mis-spellings of the taxonomic species in the 'Recorded flora species'. Normally a check by any reputable flora consultants would have corrected these. The study found 2 threatened plant species and one rare species (*Gonocarpus longifolius*). This is unusual, as usually one finds some 5 times more rare species in the Blue Mountains area than threatened species. P. 192 notes that the project will kill 19,200 of 37,600 E. cannonii, 321 plants of the threatened *P. marginata* will be killed. These are significant impacts. The final testimony to the inadequacy of the flora survey is the fact that local field botanists have found some 100 native species that the company and its consultants missed.

There is thus very good grounds for doubt if the full flora significance of the site has been adequately assessed. Re fauna, it notes 35 mammals, 15 of which are threatened species. 112 birds present, several are threatened (number not stated). The area thus has quite a high diversity of threatened fauna. The discussion of biodiversity offsets discussion is somewhat misleading in that there is in fact no surety that Coalpac would be able to purchase the properties it states have significant biodiversity value to offset the 900 ha of native bushland that would be completely destroyed and the impact on the surrounding area.

Subsidence and highwalling. P. 106 notes that highwall drives will take place in 4 seams, the Irondale, Moorlaben, Lithgow and Katoomba seams. P. 53 says highwall mining will go in up to 305 metres from the face. 167 highwall drives planned for the project. Does not show the width of web or barrier pillars for highwall mining anywhere in the document. The EA claims that they can 'control subsidence from highwalls to 20 mm'. This is wishful thinking and not certain science. If they already understand that subsidence will be worse at the 'southern point of the western highwall' (as they admit) then highwalling should not occur in that area. P. 106 notes that stresses in rock structure 'have ability to affect stability of pillar sidewalls, roof and floor'. This shows clearly that claims that subsidence will be minimal are wistful thinking.

The whole history of coal mining on the Western coalfields is one of denial of subsidence and underestimation of its impact, and the Colo Committee has been active for almost 30 years pointing out the problems this causes. Given that highwalling produces only 1.9 million tonnes (p. 106) of coal out of 70-100 million tonnes planned to be mined, and given it poses major risks to the escarpment and internationally recognised pagodas, one can validly ask *why* Coalpac is seeking to push ahead with the highwalling part of its proposal? P. ix of Exec Summary notes that the buffer from the escarpment to the open cut will be only 50 metres.

However, p. 109 speaks of a 100 metre buffers zone between the open cut and escarpment in current mining. The EA is thus inconsistent as to what the buffer zone will be between the escarpment and the open cut. 50 metres is too small and the currently used 100 metres should be applied if the open cut is approved. Highwalling is described as only producing 1.9 million tonnes of coal out of around 100 million tonnes of coal planned to be mined. Given the extra stress and risk this poses to pagodas, one can only ask why any company that is committed to best practice environmental outcomes would consider such a risk?

Pagodas. The fact that pagodas have been recognised as internationally distinct and significant (Washington and Wray, 2011) has **not** been recognised by the EA. P. ix of the Exec summary notes 'in the absence of adequate controls, vibration from blasting could impact the escarpment and pagoda formations'. It then speaks of a 100 metre monitoring zone, but this is not an adequate *control* on blasting, just a record of its adverse affects that are monitored.

Air, noise, and visual pollution. P. ix shows that air quality of PM10 will be exceeded for locals near the open cut. It speaks of a 'proactive plan', but this seems to just be spin. The open cut is huge and locals nearby will be subjected to unacceptable air pollution. P. x shows noise is predicted to cause sleep disturbance from the project. P. x shows that blasting near 4 Aboriginal heritage site overhangs and one non-Aboriginal heritage site will get overpressures above appropriate criteria. P. x visual – shows there will be high visual impact until bunds at north are built. These are all major impacts on the local area.

Geochemistry. P. xiv states that most reject has less than 0.2% sulphur. However, this demonstrates a poor understanding of acid main drainage production and the role of the bacteria *Thiobacillus* when sulphur is exposed to the air. This does not mean it is 'safe', especially as it the sulphur can be framboidal pyrite, that strongly produces sulphuric acid. The Wallerawang mine nearby was found by CSIRO in 1980s to have major acid mine drainage problems. Marangaroo sandstone has 0.8% sulphur and thus has serious potential to cause acid mine drainage. Course reject material from Lithgow seam has potential for acid production. Heavy metal problems have also been found, such as zinc pollution from Canyon colliery at the headwaters of the Grose river. High manganese levels have also been found nearby in mine effluent. Heavy metal pollution, along with acid mine drainage thus *cannot be dismissed* as possible serious issues arising from the project.

Fires in coal seams. P. ix notes that subsurface heating and spontaneous combustion of carbonaceous material is present, this means it catches on fire and smoulders. Fires in the open cut and adjacent seams are thus a real possibility (given they are exposed to full sunlight and wind), as it is already present from old underground workings (the EA speaks of how Coalpac had to control it with water management). If fire gets into adjacent coal seams it can be almost impossible to put out – as seen at Burning Mountain in the Hunter. This would be a major air and visual pollution impact on the edge of the WHA and the local community.

Minor issues

p. xvi 1755 ha proposed biodiversity offsets. 13 to 1 ratio for Box gum woodland. If the project goes ahead then such offsets are probably useful. However, the company cannot in fact guarantee that all these properties will be sold to them for offsets, nor can it disguise the fact that significant biodiversity is being destroyed on site, while the biodiversity on these other sites *should* be protected under the TSC Act in any case.

p. 109 states that there is 'rapid weathering of the bedrock'. Talus slopes form a natural batter or buttress against cliff escarpments. Talus slopes can be steeper than the angle of repose (34 degrees) so they may not be able to be returned to their existing form after mining.

References

Aust. Nat. Greenhouse Accounts, Dec 2011 (2011) AUSTRALIAN NATIONAL GREENHOUSE ACCOUNTS: Quarterly Update of Australia's National Greenhouse Gas Inventory, December Quarter 2011, see: http://www.climatechange.gov.au/~/media/climate-change/emissions/2011-12/NationalGreenhouseGasInventory-QuarterlyReport-December2011.pdf

Delucchi, M. and Jacobson, M. (2011) 'Providing all global energy with wind, water, and solar power, Part II: Reliability, system and transmission costs, and policies', *Energy Policy*, vol. 39, pp. 1170–1190.

REN21 (2011) *Renewables 2011 Global Status Report*, Paris: Renewable Energy Policy Network for the 21st Century, see: http://www.ren21.net/Portals/97/documents/GSR/REN21_GSR2011.pdf (accessed 3/2/12).

The Global Carbon Cycle. Source: Globe Carbon Cycle Program (University of New Hampshire, funded by Inter-agency body involving NASA and US National Science Foundation. Source: http://classic.globe.gov/fsl/html/templ.cgi?carboncycleDia&lang=en).

Washington, H. (2012 forthcoming) Human Dependence on Nature: How to Help Solve the Environmental Crisis. Earthscan (due to be published Nov, 2012).

Washington, H. and Wray, R. (2011) The Geoheritage and Geomorphology of the Sandstone Pagodas of the North-western Blue Mountains Region (NSW). *Proc. Linn. Soc. NSW*, **132**: 131-143

Wright, M. and Hearps, P. (2010) *Australian Sustainable Energy Stationary Energy Plan*, Melbourne: University of Melbourne Energy Research Institute/ Beyond Zero Emissions, see: http://beyondzeroemissions.org.

WWF (2011) *The Energy Report: 100% Renewable Energy by 2050*, Switzerland: WWF, see: http://wwf.panda.org/what_we_do/footprint/climate_carbon_energy/energy_solutions/renewable_energy/sustainable_energy_report/ (accessed 3/2/12).