

PRECIS:

I ask the NSW government to **defer this project, and require its re-design**, as it does not meet reasonable minimal design criteria for expectations of a 21st century greenfields coalfield. Modern standards demand a long term benefit to the state of NSW, and the region of Berrima, whilst providing effective opportunity to continue *mining coal for steel production* during an energy transitional phase from fossil fuels to carbon negative practices. The current proposal is not up to a modern comprehensive standard, yet it does have the potential to set a new world standard.¹

This submission is requested to remain anonymous, but publishable.

ASSERTIONS:

NSW needs to demand better planning, more imagination, better balance, and more extensive use of new technologies in hydrology, transport, thermal coal liquefaction, and byproduct use (paleo-char and tailings), for a greenfields underground coalmine. As currently proposed it is a patched-over 19th century proposal, with some good modern adaptive proposals, insufficient to prevent the continued traditional treatment of NSW as a cheap disposable quarry.

Key concerns are the *unassessable export of profit*, and *hidden unpaid-for environmental, enterprise and social costs* bequeathed to NSW's children and grandchildren, as historically observed in multiple NSW areas over the last 100 years.²

The impact of the planned mine has already devalued Berrima regional land values, similar to other areas subject to mining-based risk.³ This is a historical reflection of expectations that the process will taint the Berrima District with a damaged environmental landscape at odds with its developing tourist economy.

As a *greenfields coal site*, it needs to maximise economic, social and environmental benefits well beyond the proposed 20 year product cycle for NSW, the Berrima district AND the coalmine owner jointly so that all three prosper from the project.

POSSIBLE CHANGE:

Extension of the mining option to a two stage design, with re-design of the project, should enable achievement of all expected new standards for underground greenfields coalmines, whilst maintaining a economic process for steel production.

¹ <http://cornerstonemag.net/new-british-deep-mine-to-deliver-50-year-coking-coal-project/>

" West Cumbria Mining (WCM) is at the forefront of plans to produce some of the finest hard coking coal in the Western Hemisphere with production planned to start in 2020. Importantly, this coal production will not face the UK government's high carbon taxes that have penalized thermal coal burning power plants as it will be used in the steel-making sector. This distinction is important; this is not an energy-related project, but rather a 50-year mining operation to supply the steel- and iron-making industries with high-quality metallurgical coal."

² The Molonglo River East of Canberra continues to be a toxic zone from copper mining at Captains flat 40 years after the mines closure

³ The Araluen Valley NSW suffered this process with cyanide-based mining proposal at Major's Creek leading to change of landuse from fruit growing to grazing

ISSUES:

The proposal as published does not fully address a number of major issues in a long-term balanced manner:

- 1. Water** : the proposal ignores the potential for permanent underground water storage in cisterns created by the mine, and treated water to ADWS⁴ for safe aquifer recharge, and surface stream flow augmentation.
- 2. New energy technologies** : economic use for coal washings (pelletising, briquetting, pyrolysis, torrefaction, coal liquified fuel conversion) to the end of the 21st century
- 3. Alternate economic use of tailings**: (eg aggregate for concrete products at nearby cement works, landscape remodelling, soil remediation, soil charcoal treatments)
- 4. Full covered conveyor construction** (as per the British West Cumbria Mining proposal)
- 5. Transition to joint paleo-biomass feedstock** for liquefaction plant locally or on rail-link for synfuel production and/or solid fuel products (Sydney's garbage en route to Woodlawn mine East of Lake George, and local biomass sources)

INADEQUACY 1:

The underlying proposal for *water management*, risks long term *uncontrolled aquifer damage*, and *unpredictable landscape effects from lowered water tables*. This result is not necessary, with a number of strategies available (and now proven) that can protect the aquifers, and enhance drought water supplies permanently. The EIS states that aquifer recharge is dismissed because this is a Sydney Water Catchment zone: this is wrong, as current Australian examples of successful treated-water aquifer recharge exist (Salisbury, South Australia, Perth, Western Australia)

The underground excavations converted to cisterns, can hold a major volume of clean water derived from the aquifers above. Protection of the aquifer levels above can be managed by aquifer recharge of treated water, and use of artificial aquitard or aquiclude treatments. The simplistic assertion that this is not possible since it is part of Sydney water catchment ignores achieved practices in Perth WA, and Adelaide, in recharging highly treated water to aquifers for later use.

The volume of underground stored water is likely to be of the order of 60 to 90 GigaLitres⁵. This water body will behave differently to surface water of dams in a drought, and would enable a major increase in fixed-plantings in the district. It would be segmented, due to the planned mode of isolation from the working coalface. This segmentation allows a flexibility of control and water transfer between underground cisterns and the surface. The likely long term economic benefit to the region is of the order of \$20-30million per annum net increased gross agricultural product, given low cost grid or cistern distribution for an agricultural quality water⁶.

The proposal to fill the cisterns with mine tailings is a conversion of valuable potential drought-water storage, to a liability via uncertain leachate contaminated deep aquifer zone. Other solutions for the tailings and coal dust are required that are planned to be pumped back in as a slurry.

INADEQUACY 2:

The assumption that multiple underpasses and overpasses *cannot be built* as part of essential infrastructure during mine development, is challenged. Emergency services impairment of access is unacceptable and needs to be re-analysed and re-engineered with neutral outcomes.

The cost for this infrastructure needs to be placed back on the table with the size of the mine, and the length of mining period, and a staged construction that deals with the problem incrementally, with the worst impact level crossings replaced initially.

4 ADWS = Australian Drinking Water Standards

5 A rough thumbnail calculation using standard densities of coal and overall project tonnage

6 Using standard values of \$1000-3,000 per megalitre gross production and 5 to 10 year drought drawdown

INADEQUACY 3

The plan for large open-air onsite coal-dumps for coking coal, thermal coal and tailings is inadequate. This is a complex product of the speed of mining, the size of the processing plant, the export transport capacity, and the local landscape. Visual pollution of the countryside is not an acceptable zero cost option, as travellers and tourist behaviours may be severely and irreversibly impacted in the long term.

Covered wheat storage at Ardlathan NSW, demonstrates the potential for weatherproofed and dustproofed silo storage of granulated product⁷. The EIS for the new West Cumbria Mining coalmine in Britain similarly proposes a double-covered processing plant to deal with issues of dust.⁸

ENDS

⁷ See : Google Earth Ardlathan NSW north of Burley Griffin highway.

⁸ <http://cornerstonemag.net/new-british-deep-mine-to-deliver-50-year-coking-coal-project/>

I object to the currently proposed development as the proposal does not yet go far enough to mitigate impacts on the Berrima districts social, economic and environmental amenity. The proposed developers have identified and dealt with some of the transport issues, but need to modify the proposal hand-in-hand with any revised Coalmine Development proposal.

1. **ACCEPTED:** The railway extension proposes to cover the loads to prevent coal dust contamination of the transport corridor. This practice is commended and can meet best practice expectations for similar process that has been evident in Canberra during demolition of asbestos affected houses and transport of the materials to landfill.
2. **OBJECTED:** The lack of complete isolation from road level crossings. This impact is unacceptable leading to risk for emergency services, and continuing time-cost for the community into the distant future. A solution may emerge from 2 stage construction of the mine, with initial construction of underpasses/overpasses for the most important ½ of the level crossings. Later expansion of the mine would then enable an economic impact on costs to complete the full isolation of rail from road.
3. **OBJECTED:** Times of operation: this needs to be revised with a consensus agreement of curfews related to community and other enterprise disruption, noise, vibration and light pollution of relevance to tourist development long term.

ENDS