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To Department of Planning

Hunter Valley Operations Continuation Project (HVO North and HVO South)

Submission

Climate Change Balmain-Rozelle (CCBR) is an independent community group in inner west Sydney with over 1000 supporters. We campaign to promote local and national action to reduce fossil fuel use, increase the adoption of renewable energy, and head off catastrophic global warming.

Recommendation

That the continuations proposed for HVO Open Cut Coal North, 2025 to 2050, and South, 2030 to 2045, be rejected.

Key points

- Extending any coal mine is incompatible with the urgent need to avoid worsening the climate crisis
- Emissions impact of this Project is highly significant, especially due to its methane emissions
- Proponents are not “fit and proper”
- The net benefit to NSW has been overstated
- Project’s greenhouse gas totals will significantly harm Australia’s environment

Our more detailed explanation of these points follows.

Submission prepared by A Michaelis and D Bolton on behalf of CCBR Committee

25 February 2023

Extending any coal mine is incompatible with the urgent need to avoid worsening the climate crisis

Approval of any mines for time frame to 2045/2050 is inappropriate

NSW is committed to a net zero target by 2050, but that does not mean that we can continue business-as-usual until 2045 and then take action. On the contrary, Australia and the rest of the world are already suffering from human-induced climate change events. Each day that we delay action to stop producing emission is both dangerous and expensive. The cost of reducing, say, almost 600,000 tonnes CO_2-e (a single year of methane production under this Project proposal) must be borne in future when it has caused further damage.

It is far more cost effective to reject such proposals now.

Coal miners propose to increase emissions as other sectors are asked to reduce them

Coal mining emissions in NSW are the only sector that the NSW Government predicts will increase this decade. Under the latest 'current policy scenario', fugitive emissions from coal mines (open cut and underground) are projected to increase by approximately 10% – from 11.63 Mt CO2-e in 2020 to 12.8 Mt CO2-e in 2030.

Yet the NSW government is calling on other sectors to reduce their emissions over this same period: for example, the construction sector involved in major infrastructure projects is to use less concrete; the transport sector is being encouraged to provide EV infrastructure; households and business to divert waste from landfill; and the Government is vigorously pursuing growth in renewable energy, including offshore wind farms and large and small scale solar PV.

It is essential that all sectors begin the steady and/or rapid decline of emissions now, not in 2045.

Reference: *NSW Greenhouse Gas Emission Projections, 2021−2050*, published 20 January 2023

Impact of Project must be considered alongside that of other potential coal projects

In 2023, there are eight new coal mine proposals in the planning system with likely decisions to be made this year. If they were all to be approved, this would represent the largest coal capacity increase in NSW since 2016, when Australia signed the Paris Agreement.

If each coal mine is only considered individually, it is assumed that that project causes only a fraction of NSW emissions, and therefore its contribution is close to insubstantial. And yet in 2019-20, Scope 1 and 2 greenhouse gases (GHG) from coal mining in NSW were 18.6 Mt CO2-e – **approximately 14% of all of NSW's GHG inventory**. So the cumulative impact of coal mine approvals cannot be ignored.

Reference: NSW Legislative Council, QUESTIONS AND ANSWERS No. 809 FRIDAY 19 AUGUST 2022, pg 16, 9330 ENERGY—GREENHOUSE GAS EMISSIONS FROM COAL MINES—Mr Justin Field to the Minister for Finance, and Minister for Employee Relations representing the Treasurer, and Minister for Energy.

The HVO Project is the largest project proposed, and would itself contribute more carbon pollution than any other approved in NSW since the Paris Agreement in 2016.

Impact of this Project is highly significant, especially due to its methane emissions

Project would contribute more carbon pollution than any other approved In NSW since Australia signed the Paris Agreement

The Project involves extraction of an additional 400 Mt of run-of-mine (ROM) coal and would be responsible for emissions of 1.2 billion tonnes CO_2-e.

The proponents are seeking permission to double annual Scope 1 GHG emissions (mainly fugitive methane and diesel emissions released during mining) from the 0.56 Mt CO_2-e reported in their 2021 *Annual Environmental Review*, to an average of 1.19 Mt CO_2-e for the next 27 years.

Reference: Table 30, p 87 of Appendix H - Air quality and GHG

Methane emissions would triple; new research shows these may be underestimated

This Project seeks approval to emit more than triple its current Scope 1 fugitive methane emissions – from 182,625t CO2-e projected for 2023 to 590,284 t CO2-e in 2030.

Australia has recently become a signatory to the Global Methane Pledge, and committed to reducing its emissions by 30% by 2030. Under this Pledge, Australia must reduce its energy methane emissions as a priority, and improve its monitoring, reporting and verification (MRV). According to the Intergovernmental Panel on Climate Change (IPCC), the global warming potential of methane is 20-year GWP 84-87; 100-year GWP 28-36 – that is in the shorter term, over eighty times the greenhouse gas impact of CO2.

But last year, the International Energy Agency (IEA) Global Methane Tracker found that Australia's coal mine methane emissions were double the amount that it reports to the United Nations Framework on Climate Change (UNFCC). The new update from IEA's Global Methane Tracker (February 2023) shows that Australia's coal and gas methane emissions remain much higher than official government figures.

References: Tackling Australia's Coal Mine Methane Problem,
https://ember-climate.org/insights/research/tackling-australias-coal-mine-methane-problem/
International Energy Agency Methane Tracker
https://www.iea.org/reports/methane-tracker-2021/methane-and-climate-change

Against this background, and considering the impact of methane as a greenhouse gas, to approve a project to **triple** its methane emissions is completely unacceptable.

Project will leave environmentally unacceptable voids in Hunter Valley

The pit lakes of the HVO South and North mines are super-saline lakes that will remain an environmental hazard in effective perpetuity – they will take about 1000 years to "reach an equilibrium level" (EIS Main Report, p 239).

Again, this should be seen against the overall impact of mines in NSW, especially in the Hunter Region. As Muswellbrook Council has said, "Voids are not a naturally occurring element in the landscape, so planning to retain a void is planning to create an irreversible and permanent negative change to the environment".

Reference: "**After the Coal Rush, the Clean Up: Community Blueprint to Restore the Hunter".** Hunter Renewal, February 2023. https://www.hunterrenewal.org.au/restoration_blueprint

Proponents are not “fit and proper”

Glencore has been found guilty of corruption

The *NSW Mining Act* and the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* both have provisions which require a mining title holder to be “fit and proper”. Glencore, which owns 49% of the HVO Project, is not a fit and proper entity to be granted further mining rights in NSW.

In 2022, the corporation pleaded guilty and paid $US1.5 billion in penalties for concealing corrupt payments, foreign bribery and commodity price manipulation. In no less than 5 countries in Africa, Glencore engaged in systematic bribery, for example, flying cash bribes in private jets and creating sham documents to hide the purpose of the cash. In the UK, it was given the largest ever UK penalty for this corruption.

Glencore has a poor safety and environmental record

In Australia, Glencore has a poor safety record. In 2016, a decade-long investigation at Mt Isa found Glencore’s mining operations were contributing to the spread of poisonous arsenic, cadmium and lead contamination throughout the town’s soil and water supply. In 2017, the company admitted that at the Oaky mines in Tieri, Queensland, it had flouted coal dust limits exposing workers to potentially harmful levels of the dust which can cause black lung disease.

Currently in Australia, Glencore is facing an investigation by ASIC over greenwashing and “misleading and deceptive” conduct linked to its claims about cutting carbon emissions.

References:

“Glencore pleads guilty to decade of bribery and manipulation”, Australian Financial Review, 25 May 2022 https://www.afr.com/markets/commodities/glencore-pleads-guilty-to-decade-of-bribery-and-manipulation-20220525-p5aoar; “**Glencore Entered Guilty Pleas to Foreign Bribery and Market Manipulation Schemes”,** US Department of Justice, May 24, 2022 https://www.justice.gov/opa/pr/glencore-entered-guilty-pleas-foreign-bribery-and-market-manipulation-schemes

“London court forces Glencore to pay record £281m for bribery in Africa”, The Guardian, 4 November 2022 https://www.theguardian.com/business/2022/nov/03/london-court-forces-glencore-to-pay-record-281m-for-bribery-in-africa

“Black lung patients slam 'disgraceful' coal mines over dust-monitoring failure”, ABC, 11 August, 2018 https://www.abc.net.au/news/2017-08-11/black-lung-coal-dust-patients-angry-monitoring-failure/8797962

Yanco/Glencore are not adopting available emissions reduction technologies

As noted above, Scope 1 and 2 emissions for coal mining are a major source of NSW greenhouse gas emissions. Yet companies like Yanco and Glencore resist even simple shifts in technology that would begin to reduce those. Instead of electrifying its mining fleet as part of its proposal for continuation of mining, it has applied to steadily increase its diesel emissions. The Project seeks approval to increase its Scope 1 diesel emissions by 43% from 414,245t CO_2-e in 2023 to 592,462 t CO_2-e in 2035.

The net benefit to NSW has been overstated

CCBR has analysed the costs and benefits stated in the Economic Assessment, and finds that a fair treatment of the scope 1 & 2 emissions puts the carbon cost at $7bn, not $1.3m. We further find that the costs have been inappropriately apportioned, and that a corrected calculation shows a net loss to NSW.

Greenhouse cost used in the assessment

According to its Executive Summary and Tables 5, 17 and 20, the Project's Economic Assessment (Appendix W) puts the Net Present Value cost of its 35.2Mt CO2-e of scope 1 & 2 emissions at $1.3m. This is stated to be based on the US 2022 Social Cost of Carbon, mid-trajectory, which puts the 2022 price at USD51/t CO2-e, rising at 1.38% p.a. to 2050.

To this, it applies a discount rate of 7% in real terms. Finally, this worldwide cost is apportioned to NSW according to the State's fraction of world population, 0.33%.

Sensitivity analysis

The Economic Assessment also sets out to consider variations to these assumptions:

- Discount rates of 5%, 3% and 2.5% are mentioned. Since the US 2022 social cost of carbon standard from which the USD51/tCO2e is taken specifies a 3% discount rate, that should have been used in the first place instead of 7%. Moreover, Tables 21 to 23 continue to use 7%, so the intent of testing the lower rates seems to have been forgotten.
- The total cost is apportioned as NSW's fraction of Australian population (32.7%) instead of as a fraction of world population. [That is a step in the right direction, but still not justifiable, as discussed below.]

The result, with the 7% discount rate, is to put the greenhouse cost at $388m. With the prefigured 3%, it would have been $680m.

It is disturbing that such a substantial variation does not rate a specific mention in the Executive Summary.

CCBR's analysis

Discount rate

Various studies on greenhouse gas costs have arrived at a discount rate of 2%-3%. In Australia right now, the RBA interest rate is less than the inflation rate, meaning that the "real interest rate" is negative.

For these reasons, we suggest 2%.

References: *http://piketty.pse.ens.fr/files/DruppFreeman2015.pdf*
https://iopscience.iop.org/article/10.1088/1748-9326/ab3cc9
https://www.lse.ac.uk/granthaminstitute/explainers/what-are-social-discount-rates/

Share of cost

Scaling down by NSW's share of world or national population is ridiculous if not fraudulent. It leads to the nonsensical situation that each state can ignore the costs it places on other states. On that basis, why not do the cost benefit analysis for an electorate? That way all the benefits can be claimed yet the carbon cost nearly disappears!

Indeed, the Planning Department has itself observed regarding an earlier proposal:

> *"The Department generally accepts the cost benefit analysis's assessment and conclusions, including the sensitivity analysis. The exception is in the treatment of the cost of Scope 1 and Scope 2 GHG emissions, which were apportioned to the NSW community only based on the ratio between NSW Gross State Product and world Gross Domestic Product. Alternative apportionment of these full costs to NSW and Australia have been applied in recent coal mining assessments and determinations. This significantly reduces net benefits."*
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> **Reference:** NSW Department of Planning, *Narrabri Underground Mine Stage 3 Extension Project (SSD 10269), Assessment Report,* p xii

Current social cost of carbon

The quoted US price is still very low. In November 2022 the US EPA proposed raising it to USD190/t. Various other authorities have argued for prices up to USD300/t.

References*: https://www.eenews.net/articles/epa-floats-sharply-increased-social-cost-of-carbon/,*
Kikstra, Jarmo S.; Waidelich, Paul; Rising, James; Yumashev, Dmitry; Hope, Chris; Brierley, Chris M. (2021-09-06). "The social cost of carbon dioxide under climate-economy feedbacks and temperature variability". Environmental Research Letters. **16** (9): 094037. Bibcode:2021ERL....16i4037K. doi:10.1088/1748-9326/ac1d0b. ISSN 1748-9326.

We suggest compromising at USD150/t.

Our estimate of the social cost of carbon

Using the parameters we suggest above, we calculate a total cost of $7bn. This has the catastrophic consequence for the NPV of the overall project of turning it from plus $4.8bn to *minus* $2.2bn.

Greenhouse gas effects will significantly harm Australia's environment

The greenhouse gas effects of these emissions would cause significant harm to the health and biodiversity of areas in which Australia has international obligations: World Heritage sites including the Great Barrier Reef, and Ramsar wetlands. below, we model impact on the Great Barrier Reef.

Climate Sensitivity

Climate sensitivity (ECS) is the number of degrees Celsius that Earth's surface warms for each doubling of atmospheric CO_2.

The IPCC Sixth Assessment Report (AR6) stated that there is high confidence that ECS is within the range of 2.5°C to 4°C, with a best estimate of 3°C.

Reference: *https://en.wikipedia.org/wiki/Climate_sensitivity#Measures*

Atmospheric carbon now

Current carbon dioxide content of the atmosphere is 1728Gt.

Impact of one additional Gt on temperature

From the above, we can calculate that additional CO_2e will raise Earth's surface temperature at a marginal rate of $3^oC \times \log_2(1+1/1728) = 0.0025^oC$ per Gigatonne.

Impact of temperature rise on the Reef

The consensus is that a 1.5°C rise is now unavoidable. A 2.0°C rise will effectively destroy the Reef.

Reference:
https://www.theguardian.com/environment/2021/nov/30/confronting-great-barrier-reef-faces-frequent-extreme-coral-bleaching-at-2c-heating-research-finds

A rise of 0.0025°C is 0.5% of the additional rise to go from 1.5°C to 2.0°C. Since the Reef has an area of 348 700km^2, we can think of that as meaning that each additional Gt CO_2-e destroys, on average, 1 743km^2. Note that for these purposes emission scopes 1, 2 and 3 are all relevant. The Project is expected to produce 500 mt of coal, mostly thermal.

Emissions scope	mtCO2e released	km^2 of GBR destroyed
1&2	35	61
3	1167	2034
Total	*1202*	*2095*

Other environmental impacts from the greenhouse gas emissions

It is likely that analyses similar to that above regarding the Great Barrier Reef would demonstrate significant environmental impacts on other Australian marine and terrestrial flora and fauna, through direct effects of the warming and through consequential floods, droughts and bushfires. It would be appropriate to seek expert assessments before approving or rejecting the Project.