LOCK THE GATE ALLIANCE
AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

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Submission: Mt Arthur Mod 2 (Pathway to 2030) MP09_0062-Mod-2

Lock the Gate welcomes the opportunity to respond to the call for submissions for Mt Arthur Coal Mine Modification 2 (Pathway to 2030). However, we do not support the continuation of mining at Mount Arthur for another four years to 2030 given that planning for closure should have commenced prior to the current approval expiring in 2026. The decision to continue mining operations at this late stage appears to be a consequence of BHP's failed attempt to sell Mount Arthur rather than a serious commitment to orderly and equitable planning for closure.

In our view, the assessment material makes clear that Modification 2 is part of a larger development project, the Transition and Mine Closure Project (TCMP), and that this application should be refused and the proponent directed to submit a new development application for the entire TMCP, including its proposed four-year mine extension. Alternatively, should the Modification be approved, the conditions of approval should set strict criteria regarding the preparation and implementation of the TMCP. This would correct years of neglect whereby mine extensions have been granted with "end of mining" dates with which the companies concerned apparently had no intention of complying. The risk of continuing this practice is clear: with every year that passes, the risk of sudden change in market conditions for thermal coal persists and grows. Consent conditions for all large-scale coal mining projects in NSW must ensure that arrangements for transition and mine closure are assured, that environmental risk is managed, workforce supported and the local community assisted over an extended period to adjust to these changes.

Lock the Gate Alliance is a national grassroots organisation made up of 150,000 individuals and over 200 local groups who are concerned about unsafe or inappropriate mining. The mission of the Lock the Gate Alliance is to protect Australia's agricultural, environmental, and cultural resources from inappropriate mining and to educate and empower all Australians to demand sustainable solutions to food and energy production. Lock the Gate works with communities affected by mine expansion projects in the Hunter Valley and with local communities and groups engaged on the considerable task of preparing the Hunter region for the expected rapid decline in thermal coal exports that will occur as a result of the global energy transition and climate change.

Mining operations at Mount Arthur have had a long history from commencement in the 1960s through a series of approvals for open cut and/or underground mining in 1994, 2001, 2008, 2010 and 2014. As consent to continue mining under Modification 1 ends in 2026, BHP should have been preparing for this eventuality well in advance, to give its workforce certainty and ensure the mine does not leave a

damaging environmental and social legacy. Instead, Hunter Valley Energy Coal (HVEC) is seeking to extend mining operations for another 4 years with the consequent environmental impacts:

- A maximum of 25 million tonnes of thermal coal to be mined each year until 2030,
- 193 million tonnes of GHG in total,
- 2 open cut pit voids left unrehabilitated (change in location and shape of Northern Open Cut Void).

Extending the life of large polluting mines puts at risk NSW's plan to reduce emissions by 70% by 2035 and achieve net zero by 2050. Cumulative volumes of greenhouse gases in the atmosphere are the driver of global warming, so any opportunity to avoid further greenhouse gas emissions must be vigorously pursued if the Paris Agreement temperature goals are to be achieved. This is particularly the case for methane, which has a powerful near-term warming effect.

The Minns Labor government came to power promising that *"[n]ew coal mine projects must be subject to an independent approval process"*.[1] Given the grave consequences and risks to NSW associated with any proposed increases in GHG emissions, it is unacceptable that new coal projects like this one are being determined in-house by NSW DPE. In-house determination means that there will be no independent scrutiny of DPE's final assessment report by civil society and the Independent Planning Commission. This constitutes a broken election promise.

Given that Mount Arthur is NSW's largest mine with a disturbance area of over 6000 ha, any impacts associated with its operation should be considered as potentially significant. For this reason, this application should be treated as a stand alone major project, not a modification of the 2014 consent.

Mine closure planning

Considerable weight is given in the assessment material to the importance of having four more years of planning for the closure of Mount Arthur. While this is understandable, BHP has already had many years in which to plan for the closure of the mine prior to its current approval lapsing in 2026. The absence of detailed mine closure planning in the consent process for large coal mines in New South Wales creates a serious risk of social, economic and environmental harm as this modification application demonstrates.

BHP has commenced a Transition and Mine Closure Project (TMCP) in parallel with the Modification "to help facilitate an orderly and equitable transition to closure." In the absence of the Modification, closure would commence in 2026 rather than 2030. This gives the strong impression that the opportunity for some 2200 workers to upskill to take up new employment opportunities is at risk if the Modification is not approved. The Modification is therefore an essential part of the TMCP, that is the planned closure and relinquishment of the mine site and the ostensibly orderly transition of the workforce. The EIS suggests that the extension has been split from the rest of the closure project in order to have it approved as a Modification and thereby avoid full and rigorous assessment of the project as a whole.[2] It is disappointing that BHP has delayed closure planning for so long and is now treating the four-year extension of mining as separate from the closure and transition process. The Modification 2 application should be refused and the proponent be directed to submit a new development application for the

[1] Written policy platform response to Lock the Gate, 'Survey Response - Lock The Gate - March 2023'
[2] The EIS confirms that proposed changes to final land-uses on the site have been kept separate from this application in order to allow its approval as a Modification - at page 11.

entire TMCP, including its proposed mining extension. Alternatively, should the Modification be approved, the conditions of approval should set strict criteria regarding the preparation and implementation of the TMCP, including:

- Meaningful cooperation with stakeholders, including workers, First Nations groups, local residents, and community groups.
- Incorporation of strict social and environmental standards for post-mining developments, to ensure any new projects maximise long-term benefits to the Hunter region. These should include an assessment of the viability of community-ownership and profit-sharing schemes for new developments.
- Provision and long-term security of sufficient funds to manage the post-closure environmental legacy of the operation.
- Improved rehabilitation and conservation outcomes for the mine's final landform.
- A staged wind-down of mining to ameliorate the impact of closure on the workforce.

The Social Impact Assessment (Appendix C) states that, should the Modification not proceed, "the opportunity for an orderly and inclusive closure planning process would be greatly reduced, leading to exacerbated negative impacts of the eventual cessation of mining, including cessation of current socio-economic benefits for the community." The onus was always on BHP to undertake an orderly and inclusive planning process in accordance with the legal terms of its development consent, which indicated that mining would cease in 2026. The material presented in the assessment does not indicate that the company will seriously rectify this situation, since there is no staged wind-down of mining intensity proposed between now and 2030, leaving a large number of workers all seeking new opportunities at that same time at the end of the mine's life.

The Economic Assessment (Appendix J) describes the Modification 2 employment trend as "a gradual decline through to 2030" that is in contrast to the "sharp and significant decline in MAC workforce that would otherwise occur post 2026." This is not supported by Figure 2-3 that shows a modest decrease in coal production in 2030 or by Figure 2-4 that indicates a sudden drop off in employment in 2029-30. Figure 2-4 indicates a reduction of 23% of the workforce (i.e. to 1700) in 2029 to just over half (i.e. 1000) in 2030. This is better described as 'business as usual' until 2029, leaving as little time for workers to find new opportunities with the company's support prior to mine closure, as would occur if the mine was to close as planned in 2026.

The Mt Arthur mine will be the first large Hunter open cut project to cease operating and commence closure, transition, rehabilitation, and relinquishment of its vast land area. The rules applied to Mt Arthur will set the standard for other mines in the Hunter, where numerous large mines will commence closure in coming years. The NSW Government should use this opportunity to set rigorous standard procedures for mine closure and consider the imposition of new consent conditions and planning requirements for other coal mine operators, given that it has now become clear that BHP neglected to do this. The public needs certainty that the heavily-mined areas of the central Hunter Valley will be fully restored, and that the region's post-mining landscape will provide for the social, economic, and environmental needs of its people.

Consideration of ESD principles

While the Economic Report emphasises the economic benefits of mining to NSW and the region, it downplays the environmental and social costs of proceeding with the Modification by asserting that the mitigation measures employed have been and will continue to be effective. While local employment opportunities and disposable incomes are undoubtedly important, local residents also have an expectation that they will live in a healthy environment. However, the proposed Modification will ensure that they are subjected to four more years of noise and blasting, dust and particulate emissions and impacts to water quality and quantity that will be exacerbated by extreme weather events resulting from climate change. The mitigation measures proposed demonstrate that there has been no attempt to further reduce amenity or health impacts associated with the approved mine. The additional GHG emissions associated with another four years of mining will increase the risk that NSW will not meet its 2030 and 2035 targets; the long-term cost of failing to meet GHG reduction targets or to address climate change has not been weighed up against the short-term economic benefits. The sure way to ensure that NSW is on track to meet its emissions targets is to reject Modification 2 and invest in expedited mine closure as envisaged in the 2014 consent.

Socio economic impacts

The Social Impact Assessment (Appendix C) noted that the community response to a four-year extension to mining was generally positive predominantly because it is seen as an opportunity to plan for closure. This must be weighed up against continued mining operations that are seen as a "continuation of current experiences." While residents in the direct vicinity of MAC are most likely to experience amenity related impacts, other residents are more likely to experience both positive and negative social and economic effects of mining, with those areas with highest concentrations of MAC employees (i.e. Muswellbrook and Singleton LGAs) more likely to experience those effects more acutely.

The 'cost' of environmental and social impacts associated with Modification 2 is reflected in complaints lodged by nearby residents, 90% of which related to visual amenity, lighting, air quality, noise and blasting. The Social Impact Assessment (Appendix C) reports that those areas generating the most complaints (87%) in 2019-21 would continue to be impacted by Modification 2.

Some of the residents interviewed appeared to think that mine closure would impact the community significantly but pointed to other mines near Muswellbrook that are planning expansion or continuation. This demonstrates that the NSW Government and BHP and the other major mining companies need to invest significant additional resources into transition planning, investment and communication with the community about the future of coal in the region. The Department needs to request information from every other coal mine operator in the region as to their closure plans.

Despite closure and transition planning being the main justification for the modification, none of the documents provided with the Modification Report provide any details about how workers will be supported to gain new skills and prepare them to move on to new opportunities over the next seven years. The Executive Summary of the main Modification Report states that BHP "will seek to minimize socio-economic impacts on the community through consultation, engagement, planning, support and adaptive management approaches."

Lessons learned from the closure of the BHP steelworks in 1999 are relevant here.[3] Although closure was only announced in 1997, the transition for the 14,000+ workforce occurred in stages beginning 15 years earlier. This involved, amongst other things, the negotiation of a five-year Steel Industry Plan, increased cooperation between BHP and the unions resulting in the formation of a joint Transition Steering Team (TST) and the establishment of Honeysuckle Development Corporation to drive economic diversification in Newcastle and create a more resilient socio-economic foundation. The TST helped to develop the Personal Pathways programme to provide employee-tailored support mechanisms that included support services for retraining and reemployment, financial planning and mental health. These activities helped to put in place some of the foundations for a relatively positive experience once the steelworks shut. The Pathways programme paid for itself through avoided salaries and redundancies for those employees who found new employment prior to closure. By the time the steelworks closed, it employed about the same amount of people now employed by Mt Arthur. Within a year post-closure, an estimated 90% of participants had found new employment.

As a result of the establishment of a Royalties for Rejuvenation Fund and statutory Hunter Expert Panel to oversee diversification and assist the Hunter region's adjustment to changing coal markets, a series of community workshops was run jointly by Hunter Renewal and Hunter Jobs Alliance in 2021. Three clear priorities emerged from those workshops: the need for a local coordinating authority, funding for a "flagship" job creation project and more resources for technical and vocational education[4]. Engagement with people living in the regions revealed that most common issues of concern were job security, protection of the environment and climate change and the urgency of transition planning. The key to an orderly transition is community leadership in decision making as opposed to a top-down approach.

Noise and vibration

Drilling and blasting would continue at present levels. It is predicted that night-time noise exceedances will significantly impact three private properties, but that is in addition to all the properties that are already impacted. No mitigation measures in addition to those that have been undertaken as part of the existing Noise Management Plan and Trigger Action Response Plan are proposed, as one of the properties is already subject to acquisition rights and two others have the right to request additional air and noise mitigation measures. The onus is therefore on these land owners to voluntarily sell out to HVEC or request mitigation in order to suppress excessive noise. As we have made clear to the Department in previous submissions, the Voluntary Land Acquisition and Mitigation Policy (VLAMP) has considerable social impacts that are not addressed in the assessment material for the coal mining projects that rely on it, such as this one. The fact that acquisition rights exist does not remove the environmental and social harm of unacceptable noise and dust pollution and the exercise of acquisition rights itself has considerable social impact on the people concerned and the wider community. None of this is addressed in the assessment materials.

Air quality

The assertion that predicted air quality impacts would be "reduced relative to the approved Project" is not justified since coal extraction, including blasting and drilling activity, is expected to continue at a similar rate between now and 2029. The Air Quality Impact and Greenhouse Gas Assessment (Appendix

[3] SEI 2021 Closure of steelworks in Newcastle, Australia Lessons from industrial transitions
[4] Hunter Renewal & Hunter Jobs Alliance 2021 Future-proofing the Hunter

B) also predicts that the 24-hour average levels of particulate matter less than or equal to $PM_{2.5}$ and PM_{10} would not exceed NSW EPA Impact Assessment Criteria over the life of Modification 2. However, there is no safe level of $PM_{2.5}$ which has been linked to serious health impacts including heart disease, stroke and asthma. Moreover, a submission prepared in 2013 by Hunter New England Local Health District in response to Mount Arthur Modification 1 noted that the $PM_{2.5}$ levels in the Muswellbrook population centre already exceeded annual reference levels[5].

The Upper Hunter Strategic Regional Land Use Plan promised that "Any new coal mine proposal must not cause exceedances of the health-based goals in the National Environment Protection (Ambient Air Quality) Measure (Air NEPM) at large towns such as Singleton and Muswellbrook." This promise has been broken on many occasions and the environmental and social consequences of this cumulative harm should be addressed in the assessment material for this project.

According to national and state policies there are supposed to be *no days* when ambient average PM_{10} levels exceed 50µg per cubic metre, but this has not been the case. Patterns over the last ten years indicate that air quality is worst in dry years, as would be expected. In 2020, there were numerous exceedances of the daily average air quality standard for PM_{10} particulate matter at all Hunter Valley air quality monitoring stations, including in Singleton and Muswellbrook.[6] Maximum daily averages were also recorded that are many times the average standard.

Annual average air quality standards are also not being met. This standard has been breached in recent years in the major population centres of Singleton and Muswellbrook. The air quality assessment for Modification 2 fails to accurately describe the existing environment which is experiencing these unacceptable cumulative impacts already. Moreover, the exceedances evident from the Upper Hunter air quality monitoring network (Appendix B, Tables 4-2 and 4-3) are attributed in the assessment material to non-mining sources such as bushfires, wood heaters and motor vehicles, despite the fact that the Hunter Valley is one of the most intensively mined regions in the world.

Given that multiple exceedances are recorded in the Muswellbrook area, any assurances that property owners adjacent to Mount Arthur will not be exposed to cumulative 24-hour average levels of $PM_{2.5}$ and PM_{10} are meaningless. Only one property owner will have the right to acquisition upon request but the broader region suffers ambient air quality that breaches national standards with no company or operation taking responsibility.

The Social Impact Assessment reported that a higher proportion of residents from Muswellbrook and the Hunter Valley suffer with long-term health issues than found in the NSW population. Higher than expected rates of asthma are most likely due to the poor air quality in Muswellbrook; this is despite the air quality criteria apparently being met. As the biggest mine in the vicinity, Mount Arthur holds considerable responsibility for this regional environmental problem, but the structure of the regulation, particularly the acquisition policy and the Resources and Energy SEPP allows the mine to evade this responsibility. Nevertheless, BHP wishes to be seen as an environmentally responsible operator and is not bound to comply with the low bar set by the NSW regulatory environment. Clearly, the social impact assessment indicates broadscale health and wellbeing damage being done, yet the company offers no extra mitigation action to continue inflicting this damage for another four years.

[5] Submission from Hunter New England Local Health District to Mt Arthur Mine Modification 1 dated 24/5/13
[6] NSW Air Quality Data Services

Water

The Surface Water Assessment (Appendix G) assesses the impact of catchment area loss within the context of climate change and broader hydrological change in the river system as a result of extensive open cut coal mining. Section 7.1.2 of Appendix G considers the 25.7 km^2 reduction in catchment area in the context of the total catchment area of the Hunter River at Denman, and uses this proportion to estimate mean annual flow reduction as being relatively small (i.e. 1,515ML). However, this does not address:

- the likely loss of runoff and baseflow into the river as a result of the lost catchment area and groundwater drawdown, or
- the impact of reduced flow on low and zero flow days.

The modelling indicated that the mine will capture, on average, 5,684 ML per year of runoff (Appendix G, Graph 4). However, this is a mean figure averaged over the 7-year forecast period and all 129 realisations of the model. Although modelling has also considered the effects of 95th and 5th percentiles of water availability on Mount Arthur's water management system, modelling of extreme conditions also needs to be undertaken for the aquatic environment.

The aim of the Aquifer Interference Policy 2012 is to ensure that no more than minimal harm is done to any water source, or its dependent ecosystems, as a consequence of any interference activities being undertaken (e.g. coal mining). It applies to impacts on groundwater sources, connected water sources, and their dependent ecosystems, culturally significant sites and water users.

The Policy states that, in the case of any drawdown of more than 2 metres <u>at any water supply work</u> in alluvial or porous water sources, make good provisions apply. The groundwater modelling (Appendix H) shows more than 2 metres draw down in several water supply works:

- *the amount of drawdown predicted to occur prior to the end of mining (i.e. 2023 to 2030) is greater than 2 m at GW012693, GW035959; GW064092; Maxwell Unregistered 2 and Maxwell Unregistered 3; and*
- *additional drawdown predicted to occur during the recovery period (i.e. 2030 to 2630) is greater than 2 m at GW073576, GW060263 and GW047690.*

Therefore, the Groundwater Assessment's conclusion that the impact of the Modification's activities will cause no more than minimal harm are contradicted by the data. Similarly any claims that seek to differentiate mine-owned from privately-owned bores or to apportion blame for drawdowns to the cumulative impacts of other mining companies are spurious and make good provisions must be applied.

Greenhouse gas emissions

Although BHP claims that it will implement measures described as being "*effective at reducing GHG emissions",* the data shows that Scope 1 diesel emissions are predicted to increase by 11%, fugitive emissions are predicted to increase by 16% and Scope 2 emissions are predicted to increase by 0.4%.

NSW emissions reduction targets

In their submission to the NSW Parliament's Climate Change (Net Zero Future) Bill 2023 inquiry[7], the Climate Risk Group warned that NSW is in the top 5% of states most at risk from extreme weather and climate change globally. The Group clearly explains the risk of further increases in emissions versus the obvious benefits to NSW of accelerating emissions reduction and bringing forward net zero ambition:

> *"...data analysis shows that NSW has some of the most to gain from rapid realisation of Net Zero, and some of the most to lose from any delays: the faster Net Zero is reached, the greater the reduction of damage to NSW property from climate change-related extreme weather events. For this reason, we suggest NSW should be at the leading edge - not the middle of the pack - when it comes to cutting emissions. If one of the most at-risk states in the world (where insurance availability is already starting to collapse) adopts a weak ambition, there is little or no mandate to ask other nations and states to establish Net Zero quickly."*

The Australian Academy of Science submission to the NSW Parliament's Climate Change (Net Zero Future) Bill 2023 inquiry[8] advised that *"[t]o be consistent with the Paris Agreement goal of limiting global warming to 1.5°C, Australia's 2030 emissions reduction target must be 74% below 2005 levels, with net-zero emissions reached by 2035."* Plainly, the Mt Arthur expansion is not consistent with a national effort to reduce emissions by 74% by 2030.

Emissions from Modification 2

At a company level, BHP claims that it has a goal to *"reduce its operational emissions by at least 30% by 2030"*. However it does not plan to reduce its emissions at all as part of the Modification and in fact these are projected to increase as summarised below:

[7] Climate Risk Group submission
[8] Australian Academy of Science submission

Summary of GHGs per scope (t CO2-e)

GHGs - MOD 2 (2027-2030)	Avg annual	Total	Current operations (avg over last 5 yrs)	Comment - MOD 2 vs avg annual emissions from current operations over last 5 years
Scope 1	582,000	2,516,000	505,694	An annual avg of 582,000 t CO2-e equals a **15% increase** in Scope 1
Diesel	*514,950*	*2,059,800*	*464,284*	*An annual avg of 514,950 t equals an **11% increase in diesel emissions***
Fugitive	*48,400*	*193,600*	*41,740*	*An annual avg of 48,400 t equals a **16% increase in fugitive emissions***
Scope 2	83,000	363,000	82,705	An annual avg of 83,000 t equals a slight increase of 0.4% in Scope 2 emissions
Scope 3	47,554,000	190,265,000		

Data source: 'Table 9.3 Summary of greenhouse gas emissions',. EIS Appendix B, pg 53 and 'Table 9.4 Contribution of greenhouse gas emissions' , Source: EIS Appendix B, pg 52

Scope 1 and 2 emissions from Modification 2

This Project seeks approval to add almost 3 million tonnes of new and additional GHG emissions (Scope 1 and 2) to the NSW GHG inventory. New and additional emissions are not consistent with achieving the temperature goals of the Paris agreement (which is the purpose of the Climate Change (Net Zero Future) Bill 2023 introduced by the NSW government on 12 October 2023[9]).

Scope 1 diesel emissions at current operations (avg over last 5 yrs) are 464,284 t CO2-e. HVEC seeks approval for an annual average of 514,950 t CO2-e in diesel emissions which equates to an increase of 11%.

As BHP states in its Modification Report, *"over 80% of Scope 1 emissions are associated with diesel use"*.[10] Given the significant quantity of diesel emissions predicted, we might expect effort from BHP to abate these emissions. This is not a commitment BHP is willing to make, however. It dismisses replacement of fleet equipment with low emissions equipment in advance, for two reasons: 1) capital cost; and 2) relatively short remaining duration for operations.

> "*HVEC does not consider the capital cost associated with direct abatement measures to avoid these emissions (i.e. replacement of fleet equipment with low emissions) to be feasible for the Modification given the relatively short remaining duration for operations at the Mt Arthur Coal*

[9] https://www.parliament.nsw.gov.au/bills/Pages/bill-details.aspx?pk=18510

[10] Modification Report, pg 83

Mine. Accordingly, the mitigation measures described below focus on consumption reduction and other initiatives which may assist to reduce emissions."[11]

On point 1) above 'capital cost', we are unable to assess the veracity of this claim given that no information or estimate of the cost of replacement of the fleet with low emissions equipment has been provided by BHP. What we do know however is that BHP is making huge profits from this mine[12]. Given the enormous profits being made at Mt Arthur, we do not accept that simply writing the words "capital cost" in an EIS constitutes an explanation of why this abatement measure has been dismissed.

On Point 2) above, we disagree that the timeframe is "relatively short". BHP is planning on generating significant quantities of Scope 1 emissions from the use of diesel at this site all the way out to the end of FY 2035. That's almost 12 years' of diesel emissions. These are worth investment by BHP to abate. In addition, purchase of low-emissions equipment by BHP will not go to waste post-mining and post-rehabilitation. This used equipment could be made available to other miners in NSW to assist them to decarbonise their mines.

Scope 2 emissions at current operations (avg over last 5 yrs) are 82,705 t CO2-e. HVEC seeks approval for an annual average of 83,000 t CO2-e in Scope 2 emissions which equates to an increase of 0.4% in Scope 2 emissions.

The easiest emissions to avoid are Scope 2 emissions. A BHP web page entitled Renewable Energy[13] states that *"[i]f the world is to stay within a 1.5ºC budget, it will need to transition to renewable energy."* BHP needs to explain why it is allowing the management of HVEC / Mt Arthur to 'drag the chain' on renewable energy use. BHP's Queensland mines are reducing emissions from electricity use by 50 percent[14]. There is simply no good reason at all why HVEC / Mt Arthur should not be required to either generate renewable energy to cover 100% of their electricity needs or to purchase 100% of their electricity needs from a 3rd party, renewable energy supplier.

Scope 1 fugitive emissions at current operations (avg over last 5 yrs) are 41,340 t CO2-e based on data reported by BHP to the NSW Government via Annual Reviews. HVEC seeks approval for an annual average of 48,400 t CO2-e in fugitive emissions which equates to an increase of 16%.

[11] Modification Report, pg 83

[12] Massive price increases in thermal coal allowed BHP to earn $1.4 billion from Mount Arthur in six months, the half-year report shows Newcastle Herald 2 February 2022

[13] https://www.bhp.com/about/the-future-is-clear/renewable-energy

[14]https://www.bhp.com/news/media-centre/releases/2020/09/bhps-queensland-mines-to-reduce-emissions-from-electricity-use-by-50-per-cent

Moreover, HVEC predicts that fugitive emissions will increase:

> *fugitive emissions are expected to increase over time as mining progresses into areas with higher in-situ methane contents*.[15]

Failure to assess Mod 2 emissions against NSW targets

BHP acknowledges that NSW *"has an objective to reduce emissions by 70% by 2035 compared to 2005 levels"*.[16] However, the assessment does not appear to have examined the GHG emissions of this Project against this target. We would also make the point that the current target is actually "to achieve a reduction of **at least 70%** of 2005 emissions levels by 2035".[17] We note that this Project would still be producing GHG emissions beyond 2035.

BHP is seeking approval for additional Scope 1 and 2 emissions at a time when the NSW Government is seeking to legislate the *Climate Change (Net Zero Future) Act 2023*, the purpose of which is to *"give effect to the international commitment established through the 2015 Paris Agreement"* to *"hold the increase in the global average temperature to well below 2°C"* and to *"pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels"*.

BHP has not provided any analysis of how this Project aligns with one of the key purposes of the *Climate Change (Net Zero Future) Act 2023: to* pursue efforts to limit the temperature increase to 1.5°C. On the day that submissions are due on the EIS for this Project, the UN will release its Emissions Gap Report 2023[18]. Lock the Gate requests that BHP and NSW DPE review the emissions projected for this Project against the analysis in the Emissions Gap Report 2023. BHP should be required to explain how, in light of the latest analysis from the UN, it thinks approval of its project is consistent with *"efforts to limit the temperature increase to 1.5°C"*.

Expert evidence provided to the recent NSW Parliamentary inquiry into the Climate Change (Net Zero Future) Bill 2023, by Professor Penny Sackett found that *"[g]lobal heating of 1.5°C will likely be upon us, at least as a temporary fluctuation, by 2027 or sooner".* Professor Sackett cited the latest IPCC Assessment Report (AR6 WGII) that deals specifically with climate change impacts for Australia. Specifically, ARG WII found that reducing the risks which the Paris agreement was established to manage *"would require **significant and rapid emission reductions** to keep global warming to 1.5 – 2.0°C"*.

Clearly BHP's proposal to **increase** Scope1 and 2 emissions cannot be described as action consistent with a global effort to significantly and rapidly reduce emissions.

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[15] Mt Arthur Annual Review FY22, pg 50, https://www.bhp.com/-/media/bhp/regulatory-information-media/coal/nswec/mt-arthur-coal/annual-reviews/mt-arthur-coal-annual-review-fy22_optimized.pdf

[16] Modification Report, pg 80

[17] Energy and Utilities Administration Regulation 2021

[18] Emissions Gap Report 2023

Scope 3 emissions from Modification 2

BHP/HVEC suggests that equivalent Scope 3 emissions would occur regardless of whether or not this Project is approved but the evidence does not support this assertion. President Kingham of the Land Court of Queensland (2022) and Chief Judge Brian Preston of the NSW Land and Environment Court (2019) have both rejected this argument.

At page 82 of the Modification Report, BHP cites Minister Plibersek's Statement of reasons for reconsideration decision under the Environment Protection and Biodiversity Conservation Act 1999 for the Mount Pleasant Optimisation Project "that a coal mine expansion or continuation would not necessarily lead to increased Scope 3 emissions, as alternative sources of coal could be sourced by electricity generators, as below:

> *"I considered that it is also likely that, if the proposed action does not proceed, the prospective buyers will purchase an equivalent amount of coal from a supplier other than the proponent, which would result in an equivalent amount of GHG emissions when combusted, when compared with the amount estimated for the proposed action."*

NSW's Strategic Statement on Coal policy echoes this thinking. It is based on outdated modelling of global thermal coal demand and it gives considerable weight to the 'substitution' argument which has been discredited. The following is instructive from Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6) [2022] QLC 21 where President Kingham of the Land Court of Queensland recommended refusal of applications by Waratah Coal Pty Ltd for a mining lease and an environmental authority in relation to a proposed thermal coal mine in the Galilee Basin:

> *[1026] The evidence about the perfect substitution proposition does not satisfy me the mine would have no bearing on GHG emissions. I cannot find that the same amount of coal will be combusted regardless of whether the mine proceeds. Some displacement/substitution is possible. However, demand for coal-fired electricity is falling, driven by international and national policy, and reduced cost and uptake of renewable energy sources and other technologies.*

Chief Judge Brian Preston rejected the market substitution argument, describing it as "flawed". He noted that there was no certainty that overseas mines would substitute for the Rocky Hill coal mine. Given increasing global momentum to tackle climate change, he noted that other countries may well follow his lead in rejecting future coal mine proposals. He famously stated that:

> *"…an environmental impact does not become acceptable because a hypothetical and uncertain alternative development might also cause the same unacceptable environmental impact."*

NSW law requires coal mine operators to implement all 'reasonable and feasible' abatement measures. Based on BHP/HVEC's latest Annual Review FY22 and the Mod 2 proposal, the company is in breach of this legal obligation right now and appears to have no intention of fulfilling this obligation in future.

Failure to mitigate emissions

Lock the Gate Alliance agrees with the EPA that BHP should *"first avoid, then reduce and finally to offset residual emissions"*.[19] BHP has clearly flagged that it has no intention of making any significant investments at Mt Arthur to abate emissions:

> *"Unfortunately, given the relatively short duration remaining for operations, abatement measures involving large capital expenditure are not considered feasible by BHP."*[20]
>
> *"Following the assessment, reasonable and feasible measures (emissions reduction and/or energy efficiency initiatives) that are deemed effective at reducing GHG emissions would be implemented including:*
>
> - *Consideration of ways to reduce energy consumption during project planning phases and consider practicality of more energy efficient alternatives;*
> - *Participation in the Federal Government's Energy Efficiency Opportunities program which included a review of energy usage and identified areas for potential energy efficiency improvement;*
> - *Regular scheduled maintenance of equipment and plant;*
> - *Maintain records of monthly electricity use and monthly ROM coal production to allow calculation of GHG emissions;*
> - *Turn off unnecessary lighting around the mine site; and*
> - *Participation in the Federal Government's Safeguard Mechanism under the NGERs Act."*[21]

Increasing methane emissions

Rapid methane cuts from the energy sector are crucial to avoid climate tipping points. A new report from the IEA[22] has found that rapid cuts in methane emissions from fossil fuels alongside deep cuts in carbon dioxide (CO2) emissions are essential *"to limit the risk of crossing irreversible climate tipping points".* Rather than proposing any rapid cut, this Project seeks to increase average annual fugitive emissions by ~16%.

This application to increase methane emissions, at a time when the global community is urgently trying to reduce these emissions, should be treated with great caution. If BHP were making binding commitments to electrify their mining fleet and purchase or generate 100% renewable energy, perhaps

[19] Modification Report, pg 83
[20] EIS Appendix B, pg 53
[21] EIS Appendix B, pg 53
[22] EIA 2023. The Imperative of Cutting Methane from Fossil Fuels

they could argue that they are taking all 'reasonable and feasible' abatement action (short of not proceeding with the expansion). But they are not. In light of the predicted increases in Scope 1 and 2 emissions, this application should be refused consent.

Rehabilitation

As discussed above, this Modification is actually part of a large State Significant Development project comprising the Transition and Mine Closure Plan for the Mt Arthur coal mine and the proponent should be directed to treat these developments as one project, including the long-term rehabilitation and environmental management of the site. The assessment material for Mod 2 indicates instead that "Alternate mine land re-use does not form part of the Modification and would be subject to separate approvals." This is highly inappropriate and does not allow the Department to assess the environmental and social impacts of the proposed extension of mining to 2030, which is being done to accommodate closure planning not made transparent in this application.

The Modification incorporates "some flexibility to relocate existing and proposed offset areas (including rehabilitation areas" but does not seek to reduce these. We note that there was also a lack of clarity surrounding offsets and rehabilitation areas associated with Modification 1 where those areas that were identified as future offsets for Mod 1 were later found to be at risk of destruction/disturbance due to development from planned Council infrastructure and growth corridors or to edge effects due to inappropriate siting directly adjacent to industrial land. Failure to set aside offsets/revegetation sites in perpetuity and to plan their location and connectivity to prioritise their ecological values defeats the purpose of offsetting and does not allow the public or decision makers to consider the offset package as a whole.