LOCK THE GATE ALLIANCE

AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

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Submission: Mount Pleasant Optimisation

Thank you for the opportunity to comment on this project.

Lock the Gate Alliance objects to this project. It is clear from the Environmental Impact Statement, despite its manifest deficiencies, that the damages that it would inflict, environmental, social and economic, are considerably greater than its limited economic benefits.

This project is not simply an extension in time of the existing approved Mount Pleasant mine. Indeed, the proponent appears to have designed the project to intensify impacts, rather than mitigate them. It would double the rate of ROM coal mining and associated coal handling, preparation and transport, doubling the average number of trains leaving the mine per day. It would increase product coal production to 17mtpa despite slack demand in the coal market and in defiance of the obvious need to dramatically reduce greenhouse gas emissions over the next decade to achieve the Paris climate agreement goals. It would see a two thirds increase in the volume of waste rock removal and associated substantial increase in the size of spoil piles which loom over the Hunter River and the towns beside it. It will worsen already intense cumulative draw down of groundwater being experienced in the Hunter River and its alluvium. It will be an even more visible eyesore from both Muswellbrook and Aberdeen, and will intensify rural displacement, air pollution while at the same time decreasing resilience at a time when Muswellbrook is particularly vulnerable to economic change.

The project would extend operation of the mine from 2026 to 2048 and assumes there will be a market for coal during this time, without any consideration of the trajectory for coal use that would be consistent with New South Wales' commitment to the Paris climate agreement temperature goals.

The Environmental Impact Statement is deficient in many respects. There are inaccuracies and omissions that must be addressed. We have summarised these below.

- The social impact assessment fails to address gender inequity in the distribution of impacts and benefits of this project, and is superficial on the topic of rural displacement and community resilience.
- The economic impact assessment and agricultural impact statement limit consideration of agricultural decline only to lands affected by the mining lease and to the critical industry clusters, ignoring impacts to dairy and beef enterprises already being experienced and likely to reach critical thresholds if the project is approved.
- The company's water entitlements for surface water extraction do not appear to be sufficient to account for expected extraction rates, particularly in the 95th percentile modelled scenario which is presumably modelling a dry year, when the mine would be

expected to rely more on extraction against licences because of reduced run-off, but when allocations to general security entitlements would also be expected to be potentially reduced as they have been in the last years of the current drought. A clear table listing WALs, their entitlements, security level and water use approvals against the expected maximum take has not been provided.

- The EIS misapplies the Aquifer Interference Policy and does not provide information necessary to consider the impacts of the mine against the minimal impact considerations of that policy.
- Muswellbrook is already experiencing air quality that fails to meet national standards and the air quality impact assessment fails to work from this baseline to accurately describe and assess the worsening of this impact that would be caused by 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. Yet, data from 2020 shows both Muswellbrook and Muswellbrook North West Monitoring Stations experienced 15 days and 14 days respectively that experienced above this level.
- Failure to include mine-owned properties in the air quality assessment means that there is considerable risk to renters of mine properties that has not been assessed as part of the EIS.
- Amid the general prosperity of the region, Muswellbrook is a pocket of disadvantage, despite the economic claims made during a decade of intensification of mining. Muswellbrook Council acknowledged in its recent meeting with the IPC about the Mangoola continuation project that employment in mining is male-dominated and the employment *lost* as a result of expanded mining affects women, Indigenous people and the socially disadvantaged. This means that expanding mining may well exacerbate existing socio-economic challenges in Muswellbrook. This reality is not reflected in either the social or economic impact assessments provided for this Environmental Impact Statement.
- The 874 million tonnes of greenhouse pollution expected to be produced if this project proceeds would be by far the largest contribution of greenhouse emissions of any coal mine project approved in New South Wales in the last decade. This needs to be contextualised in global trajectories towards meeting the temperature goals of the Paris climate agreement, not just the NDCs of Australia and other countries.
- There is no serious attempt to address the intergenerational inequity inherent in this project's extended environmental and social impact on the Hunter and New South Wales in the form of lasting water impacts, social and economic dislocation and reduced resilience and contribution to greenhouse gas emissions.

Water

The groundwater impact assessment shows cumulative groundwater drawdown in the productive alluvial aquifer in conjunction with the Dartbrook mine of 10 metres. The project's contribution to this is roughly a fifth of that impact. This is a considerable and unacceptable impact on a productive and reliable river system that will endure well after mining ceases and will continue to affect both the environment, society and existing and potential economic activities.

In the vicinity of the project, the river has been observed with losing surface water conditions, meaning that the alluvium, which does not appear to respond to rainfall, is highly connected to and maintained by water from the river. Reduction in baseflow to the Hunter River is modelled to reach 27ML per annum during mining and rise to 32ML per annum after mining ceases. The sensitivity analysis indicates that this could actually be as high as 77ML.

The groundwater impact assessment only considers the impact of drawdown in “private bores” not all water supply works, as required by the AIP.

The groundwater impact assessment says: “Two of the private bores, CAS3_G and JLON1, are understood to already be dry. A further three bores: CAS1_G, CAS2_G and CAS4_G that are projected to experience more than 2 m drawdown due to MPO are not currently in use. Therefore, the BELGRAVE bore is the only location that is active and not dry, and predicted to experience more than 2 m drawdown due to MPO”

It is stated that CAS1_G and CAS4_G have suffered drawdown as a result of the Dartbrook mine, but it is not stated whether the owners of these bores have been offered compensatory water by the owners of that mine. Given that this project will further impact these bores by more than 2 metres action by the proponent and further assessment is required and the fact that that they not in use currently is not relevant.

It’s also not clear whether the assessment has considered what water supply works are the area of the alluvium that the sensitivity analysis indicates may (however unlikely) experience 2 metres drawdown.

It is stated that seepage from the spoil piles would have a negligible impact on water quality in the Hunter River alluvium, but no data is presented to support this statement. The groundwater quality section of the groundwater impact assessment consists of a single page of summary statements, without analysis or data showing predicted levels of salt and other contaminants in the alluvium over time during and after mining.

DPI Water’s Greater Hunter Regional Water Strategy identified runoff capture by harvestable rights-exempt dams by mining operations within the Hunter Regulated River in above median rainfall years of 45,494ML in all three zones of the regulated river. In the 10% driest years, this volume is 23,930ML and in the driest recorded rainfall years it is 11,335ML. As context, the total licenced entitlement in the regulated river is 247,463, so in the 10% driest years the mines are capturing the equivalent of 9.7% of the total licenced entitlement of the regulated river.

For this project, it is estimated in the Surface Water Assessment that in an average year, 44% of its water inputs will be drawn from captured run-off – amounting to 2,157ML, despite the harvestable right calculation being only 358ML. Essentially, the company is proposing to collect water without a licence for its commercial operation, relying on the regulatory workaround that excludes dams that are “solely” for pollution prevention.

The company’s water entitlements for surface water extraction do not appear to be sufficient to account for expected extraction rates, particularly in the 95th percentile modelled scenario which is presumably modelling a dry year, when the mine would be expected to rely more on extraction against licences because of reduced run-off, but when allocations to general security entitlements would also be expected to be potentially reduced as they have been in the last years of the current drought. The company states that it holds only 961ML worth of high security entitlements to the regulated river and 589 units of general security licences. It is also stated that “MACH Energy also holds 2,348 units currently assigned to MACH Energy-owned agricultural properties around the Project; these entitlements could be assigned to the Project if and when required.” The WAL numbers, water supply works approvals, security status and allocations of each of these licences does not appear to be specified in the EIS so it is not possible to ascertain whether MACH owns sufficient licences to account for expected river extraction and baseflow loss together, but given the statement that “a maximum of 3,241 ML would be required to be sourced from the Hunter River in

2026" it appears likely they do not have enough. This is basic information that the company was aware was necessary to include in the EIS and it is frustrating that it has not been provided and that the information available is contradictory and obscure.

The Surface Water assessment however, indicates that the modelled maximum river pumping is total of 858 ML/year Hunter River HS WALs and 2,577 ML/year Hunter River General Security.

Air pollution

The World Health Organisation (WHO) reports that "Small particle pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. Therefore, the WHO Air quality guidelines (AQGs) recommend aiming for, and achieving, the lowest concentrations of PM possible [1]

Particulate matter with a diameter of less than 10mm (PM_{10}) causes inflammation and allergic reactions in the airways and lungs, which adversely affects asthmatic patients[2]. Epidemiological studies suggest that asthma symptoms can be worsened by increases in the levels of PM_{10}. [3] No threshold has been identified below which no damage to health is observed.[4]

In the period 2007 to 2009, resident across all age groups in the Muswellbrook postcode had higher rates of emergency department presentations for both asthma and overall respiratory illness than the remainder of Hunter/New England and Sydney, with the highest among people aged less than 35 years of age.[5] Muswellbrook asthma and respiratory emergency presentations were 85% and 35% higher than the average across Hunter New England.[6] In addition, Muswellbrook local government areas experience higher rates of cardiovascular disease hospital separations than all of Hunter New England Area Health Service or NSW.[7]

Open cut coal mining and air pollution has worsened since that time. In the first month of 2021, there were ten air pollution alerts issued in the Hunter Valley, including in Muswellbrook. The Air Quality impact assessment for the EIS admits that coal mining contributes a third of the PM10 pollution load in Muswellbrook, with Mount Pleasant making up more than one fifth of this contribution.

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[1] World Health Organization, 2005. Air quality guidelines : Global update 2005. Copenhagen: WHO Regional Office for Europe; 2005.

[2] Ko, H. M., Choi, S. H., Kim, Y., An, E. J., Lee, S. H., Kim, K., Jung, H. J., & Jang, H. J. (2020). Effect of *Rosa laevigata* on PM10-Induced Inflammatory Response of Human Lung Epithelial Cells. *Evidence-based complementary and alternative medicine : eCAM*, *2020*, 2893609. https://doi.org/10.1155/2020/2893609

[3] Donaldson K., Gilmour M. I., MacNee W. Asthma and PM10. *Respiratory Research.* 2000;1(1):12–15. doi: 10.1186/rr5.

[4] World Health Organization, 2016. Ambient air pollution: a global assessment Of exposure and burden 01 disease. World Health Organization, Switzerland ISBN 978924 1511353 https://apps.who.int/iris/bitstream/handle/10665/250141/9789241511353-eng.pdf?sequence=1

[5] NSW Department of Health, 2010. Respiratory and cardiovascular diseases and cancer among residents in the Hunter New England Area Health Service. https://www.health.nsw.gov.au/environment/Publications/HNE-respi-cardio-disease.pdf

[6] NSW Department of Health, 2010. Respiratory and cardiovascular diseases and cancer among residents in the Hunter New England Area Health Service. https://www.health.nsw.gov.au/environment/Publications/HNE-respi-cardio-disease.pdf

[7] NSW Department of Health, 2010. Respiratory and cardiovascular diseases and cancer among residents in the Hunter New England Area Health Service. https://www.health.nsw.gov.au/environment/Publications/HNE-respi-cardio-disease.pdf

According to national and state policies there are supposed to be *no days* when ambient average PM_{10} levels exceed 50µg per cubic metre. Yet, data from 2020 shows both Muswellbrook and Muswellbrook North West Monitoring Stations experienced 15 days and 14 days respectively of the 50ug/m^3 PM_{10} standard with maximum daily averages being 181 and 238ug/cm^3 respectively.[8] The Air quality Assessment repeatedly points to the drought and bushfires as the conditions that led to this particularly bad period, but

It is important to note that the NSW annual average PM_{10} standard is 5ug/m^3 above the WHO recommended safe level. Both the Muswellbrook monitoring stations have exceeded the WHO annual average PM_{10} threshold for the past three years.

The town of Muswellbrook, which experiences acceptably high PM_{10} pollution due in large part to mine-related particle emissions, lies in the pathway of Mount Pleasant's dust particles during north west winds. The majority of prevailing winds in the area are from the south-southeast and north-west.

Of the 113 complaints received by Mt Pleasant Operations in 2018, 58 related to air quality[9]. In 2019, this had increased to 75 of the total 240 community complaints.[10] These numbers of complaints need to be considered in the context of remarks in the social impact assessment to the effect that some people do not both making complaints because complaining has no effect.

Existing PM_{10} pollution from Mount Pleasant

In 2018, when substantial active mining began, Mt Pleasant Operations air quality monitoring recorded 26 exceedances of PM_{10} average 24 hour limit (max 150µg/m^3). This is despite one of the monitoring units (APF4) being under maintenance for several months, and that PM_{10} was not monitored for three days at another monitoring point due primarily to equipment malfunction and power outages.[11]

The highest PM_{10} exceedances were identified by on-site monitoring station APF2 on the south east boundary, closest to Muswellbrook. In 2018 this monitoring station also recorded PM_{10} annual average concentration exceedance (28µg/m^3).[12] This monitoring station is situated to monitor site generated particle matter carried by a north west wind towards Muswellbrook.[13]

Mount Pleasant's 2018 Annual Review identifies that the highest PM_{10} readings were recorded on 22 and 23 November, with daily readings recorded as 55.2µg/m3 and 276.1µg/m3, respectively, and

[8] NSW Department of Planning, Industry and Environment air quality data for 2020.
[9] Mach Energy, 2019. Mount Pleasant Operations (DA 92/97 Annual Review 2018. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2018-Annual-Review.pdf
[10] Mach Energy, 2020. Mount Pleasant Operations (DA 92/97 Annual Review 2019. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2019-Annual-Review-Annual-Rehabilitation-Report.pdf
[11] Mach Energy, 2019. Mount Pleasant Operations (DA 92/97 Annual Review 2018. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2018-Annual-Review.pdf
[12] Mach Energy, 2019. Mount Pleasant Operations (DA 92/97 Annual Review 2018. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2018-Annual-Review.pdf
[13] Mach Energy, 2019. Mount Pleasant Operations (DA 92/97 Annual Review 2018. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2018-Annual-Review.pdf

the operation was shut down and did not restart until 24 November. This elevated reading was attributed to a significant state-wide dust storm (MACH Energy, 2018a). MACH Energy report a number of other elevated readings occurred due to regional dust events, which MACH Energy report caused the operation to be shut down and dust mitigation actions implemented. We note that the mine's most recent Independent Environmental Audit, from 2020, includes a number of non-compliance findings related to the mine's failure to respond to elevated dust levels with the required shutdowns.

In 2019, 57 "extraordinary event" days were advised by the DPIE, with the majority associated with bushfire activity and some dust storms/regional dust events.[14] MACH Energy notes that air quality levels in the vicinity of the mine may have been materially affected by regional dust or bushfire events that occurred on other days. Nevertheless, five exceedances of average 24 hour PM_{10} limits (50µg/m^3) were recorded by on-site PM_{10} monitoring. The highest exceedance of 61.2µg/m^3 was recorded by APF2 on 15 November. MACH Energy argues that while this day was not specifically identified as an "extraordinary event" day, it occurred during the period of bushfire activity in late 2019 and noted the following eight days were identified as "extraordinary event" days due to bushfire, and was attributed to bushfire activity (MACH Energy, 2018a).[15] The Independent Environmental Audit of the mine in 2020 found that there were air pollution exceedances occurring compared to the environmental assessment predictions, but attributed these to "extraordinary events." The Independent Environmental Audit of the mine in 2020 found that there were air pollution exceedances occurring compared to the environmental assessment predictions, but attributed these to "extraordinary events." However, the audit team also observed non-compliances in the management of activities that generate dust, particularly haul trucks dumping overburden without attending water carts, and without reducing speed, regardless of dust rising well above wheel height.[16] This finding is relevant to consideration of the Optimisation project given the reliance in the Air Quality Assessment on mitigation activities to prevent the expected increase in the number of days that homes near the mine will experience air pollution that breaches national and New South Wales standards.

MACH Energy estimates the contribution from the mine at APF2 was likely in the order of 33µg/m^3 and therefore did not considered the exceedance a non-compliance. Compliance with Air Quality limits appear to be subjective. For example, if a non-mining event causes PM_{10} concentrations to be at 28.2µg/m^3, and the mine's contribution of 33µg/m^3 causes the air quality to exceed healthy levels, logically the mine's major contribution should be reduced to less than 21.8µg/m^3, so that the people of Muswellbrook can breathe healthy air. However, extraordinary events and other non-mining events that elevate PM_{10} levels are not considered relevant to mine activities. Rather, it can be argued that extraordinary event declarations mask the contributions to poor air quality by mines.

The number of PM_{10} exceedances are at odds with the Air Quality Assessment for the 2017 Mine Optimisation Modification, the results of which predicted no exceedances of relevant criteria at the privately-owned receptors for the assessed scenarios, and no additional days in a year above 24-hour average criterion on background level at monitoring sites.[17]

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[14] Mach Energy, 2020. Mount Pleasant Operations (DA 92/97 Annual Review 2019. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2019-Annual-Review-Annual-Rehabilitation-Report.pdf

[15] Mach Energy, 2020. Mount Pleasant Operations (DA 92/97 Annual Review 2019. https://machenergyaustralia.com.au/wp-content/uploads/Mount-Pleasant-Operation-2019-Annual-Review-Annual-Rehabilitation-Report.pdf

[16] Independent Environmental Audit 2020.

[17] MACH Energy, 2017. Air Quality And Greenhouse Gas Assessment

The Optimisation project is going to worsen the already unacceptable load of air pollution in Muswellbrook and in rural properties near the mine. There will be increased numbers of days when the thresholds for both $PM_{2.5}$ and PM_{10} are breached. The Air Quality Assessment found that eight non-mined owned homes are predicted to exceed the "Project-only" 24-hour average PM_{10} assessment criterion. Failure to include mine-owned properties in this assessment means that there is considerable risk to renters of mine properties that has not been assessed as part of the EIS.

The EIS then applies dust mitigation measures to find that these impacts will be managed and exceedences will generally not occur, but as shown above, Mount Pleasant has not consistently applied these mitigation actions.

Social impacts

The social impact assessment for the EIS is disappointingly lacking in analysis and reflection on the significant social impacts this mine is already causing and how these will be exacerbated by the optimisation project.

One major input into the social impact assessment is the community attitudes survey, a piece of research with considerable limitations but which nevertheless speaks to the deep social problems created and worsened by this project. Not everyone who wanted to participate in the survey was able to because they did not have access to a computer or tablet connected to the internet, or a smart phone. Moreover, the survey was allowed to be undertaken anonymously, which undermines confidence in the honesty of answers provided. Significantly more men than women completed the survey (60% men and 37% women). This means that a gender skew in the results of the community survey may also create a skew in favour of the project. Furthermore, 52% of the respondents either work at or supply goods or services to the mine, with an additional 16 respondents who work in other mines. Since the workforce survey indicates that 80% of the respondents to that survey were also men, there is inherent male bias in those results as well.

This disparity reflects a broader gender division and inequity which requires further information and study and which we discuss further below. Given the obvious gender split in perceived and actual benefits of the Optimisation project, it is necessary that the social impact assessment be augmented with more detailed analysis of the impact of the existing mine and expansion project on women, their work, their incomes, their housing, social access and quality of life.

To provide a recent example of this problem, we reviewed the proportion of supporting and objecting submissions to the IPC recently about the Mangoola mine expansion where the gender of the submitter could easily be inferred from their given name. There were 544 submissions identifiable as likely being made by men or women, and 70% of these were made by men. Of the supportive submissions with published names readily inferable as belonging to men or women, 73% were made by men. On the other hand, objectors were nearly twice as likely to be women. This indicates that men are making a disproportionate contribution to public consultation and are disproportionately in favour of mining projects.

In the community survey for the Optimisation project Social Impact Assessment, men were more likely to say that the current mine has a positive or neutral impact on water resources, and women more likely to say it would be negative. Workers and suppliers were similarly more likely to say it had

a positive impact on water resources, and more likely to claim it was having a positive impact on the quality of the living environment.

Overall, 47% of respondents thought the existing mine has a negative impact on the quality of the living environment, with most of these citing dust and air pollution – a recurring theme. Even the positive comment provided indicates that a "positive" aspect of Mount Pleasant arises from comparison to the other nearby mines which may be worse.

40% of Muswellbrook residents said the mine was already having a "significant negative impact" on the quality of the living environment and this rises to 45% for expectations about the impact of the expansion. There is evidence of a significant split among those who personally benefit from Mount Pleasant compared to those who do not: 74% of respondents who don't work at or supply goods and services to the mine said negative impact on quality of the living environment and this rises to 75% when asked about the impact of the optimisation project particularly. In contrast, 58% of respondents from the Muswellbrook area believed there would be a positive effect on the living environment if the project *didn't* proceed, with the majority of these indicating the impact would be significant. These results are significant, and are linked to remarks cited in the study to the effect that "nobody wants to actually live in Muswellbrook" -- a phenomenon also observed by Muswellbrook Council in its discussion with the IPC about the Mangoola Continuation project. One respondent told the survey that "We already see that a significant number of workers living locally only for their rotation then leave back to their families." The corrosive effect of this transience demands further investigation, especially when combined with the observed depopulation of satellite rural communities closer to the mine itself. As one respondent remarked, "Mining fractures a community between the monetary beneficiaries and the dust/noise/air/cost impacted. It creates income and social disparity and violence." It is disappointing not to see further serious discussion of this problem in the EIS.

If the existing impact of the mine, cumulatively with Bengalla, Mount Arthur and Mangoola, is already leading people to not want to live in Muswellbrook, then an intensification of mining at Mount Pleasant is likely to make this worse, threatening the resilience of the community.

On housing, those who perceived a negative impact described "a complex picture whereby rental prices have risen, but house values are depressed or difficult to sell, due to the mine. 27% of comments discuss the transient nature of the local population." Again, this evidence merited more detailed analysis in the SIA. For instance, it seems that a significant proportion of workers and suppliers of Mount Pleasant are the ones that perceive a positive impact on housing from the project, but could this be an indication that this cohort are the ones benefiting from this complex picture, to the detriment of people on lower incomes and renters? An adequate social impact assessment would have investigated these dynamics: if a minority of the population are disproportionately benefiting from the project and its consequences and having a disproportionate participation in the public process to consider the mine expansion, then there are serious questions of equity and resilience that need to be understood.

Overall, women seem more likely to perceive the negative social impacts of Mount Pleasant and the optimisation project, on visual amenity, the living environment, cohesion, water and housing. On the expansion project, no women thought it would have a positive effect on the quality of the living environment and two thirds said it would be negative. The only two positive effects women perceived more strongly than men is in the impact on community services, with 45% citing positive and community cohesion. Despite this, a third of respondents that aren't workers or suppliers of the mine said there would be "significant negative impact" on this measure.

Cumulatively, community respondents to the social impact survey demonstrated "a split between people who welcome the jobs and opportunities the mine is anticipated to deliver and those who see it as a destructive force in the community." People who work at or service Mount Pleasant mine represent a disproportionate number of the community respondents compared to the broader population and also had the opportunity to take part in the dedicated survey of the workforce, further locking in the bias of the results.

Though community cohesion was one area where there was stronger agreement that the expansion project would create a benefit, it's also very telling that a larger number of those believing this effect will be positive are outside the Muswellbrook LGA. Overall, we are very concerned that resilience is being eroded in the large and small centres in Muswellbrook and that the profound negative social and economic consequences of further intensification of mining are being masked by biases in the assessment process.

As the SIA identifies, based on feedback from SIA stakeholders, the Muswellbrook Shire Council Community Strategic Plan and the draft Muswellbrook Shire Council Local Strategic Planning Statement, economic diversification is the greatest challenge for the future of Muswellbrook Shire Council LGA and the Upper Hunter region. The social impact study claims among the potential benefits of the mine proceeding, "Continuing to contribute to the Upper Hunter long term transition from coal mining and power generation." This is curious, given that the SIA also reports that respondents to the survey "SIA stakeholders described the challenges of other businesses and organisation to attract and retain skilled workers because the Mount Pleasant Operation and other mines in the area can offer higher remuneration."

The SIA identifies a number of problems: health, wellbeing, housing stress, road accidents, demand for childcare and mental health services, but repeatedly says that the contribution of Mount Pleasant to these problems is unknown. The work of the SIA should have been to reach greater understanding about this, and it is crucial that further information and analysis be provided.

Similarly, the SIA states that there has been property purchases undertaken in accordance with the original consent in the late nineties and early naughties but does not actually state how many of these were bought, what area of land they cover, whether they are now empty or occupied and what effect this land acquisition has had on the social and economic character of the localities affected. Instead it is stated that "These property purchases had largely already occurred by the time MACH acquired the Mount Pleasant Operation from Coal & Allied." This detail is not relevant and implies that the cumulative impact of the mine's property acquisition is outside the scope of the EIS because of the change in ownership. The community is still experiencing this impact and it is necessary for the proponent to undertake further work to properly assess this.

Economic

The Hunter is the largest regional economy in Australia and as well as coal and electricity, it produces 11% of the New South Wales' milk; 17% of commercial pasture seed in NSW; 20% of the state's olive production; 8% of the pastures cut for hay; 6% of NSW pecan production; and 7% of NSW beef cattle for slaughter.[18]

The Hunter region has higher average incomes than many parts of NSW and generates more gross regional product than any other region. But these averages mask pockets of disadvantage. This affects young people, who have lower high school retention rates and worse mental health than the

[18] Greater Hunter Regional Water Strategy. DPI Water.

average, Aboriginal people who have higher rates of unemployment, lower educational attainment and lower incomes and sole parent families who have higher unemployment and lower incomes.

Amid the general prosperity of the region, Muswellbrook is a pocket of disadvantage, despite the economic claims made during a decade of intensification of mining. Aboriginal unemployment is 21% in Muswellbrook and the percentage of people receiving welfare in the LGA is twice the Upper Hunter average and on the index of social disadvantage it scores poorly compared to other LGAs and NSW generally. According to the 2016 census, 19% of people in Muswellbrook have Year 10 as their highest level of educational attainment, compared to 11.5% in NSW as a whole. 12.7% have achieved only year 9 or below. 22.6% of people in Muswellbrook earn less than $650 a week

Muswellbrook Council acknowledged in its recent meeting with the IPC about the Mangoola continuation project that employment in mining is male-dominated and the employment *lost* as a result of expanded mining affects women, Indigenous people and the socially disadvantaged. This means that expanding mining may well exacerbate existing socio-economic challenges in Muswellbrook. This reality is not reflected in either the social or economic impact assessments provided for this Environmental Impact Statement.

The “case studies” appended to the Social impact assessment (Appendix N) include reflections on the situation of the owners of Glen Eden Holsteins dairy, neighbour of the Mount Pleasant coal mine, and the considerable business and environmental damage the mine has already done to it. This includes increased cost of more frequent cleaning to rid the dairy of mine dust, smells and vibrations from blasts, having to move their cattle to avoid the impacts of blasting, reduced availability of water (dry wells, tightened market for transfer trades) reduced milk production and effects on pasture from settling dust.

These neighbours report that they are in negotiations to sell to Mount Pleasant if this Optimisation project is approved, but that they would rather stay, expand their business and continue living and working in the community, but they squeezed out and powerless. They cite conversations with the mine about their problems wherein Mount Pleasant mine representatives deny these impacts are occurring or imply they would be doing them a favour by buying them out. This testimony directly contradicts statements made in the Agricultural Impact Statement that one of the operation’s aims is “being open to the feedback of nearby agricultural enterprises on the existing impacts of the Mount Pleasant Operation.”

The loss of this business to the Muswellbrook district if the Optimisation project proceeds is not mentioned in the economic impact assessment or the agricultural impact assessment. Indeed, in direct contradiction of this testimony, the Agricultural Impact Statement claims “The Project would not have any material impacts on water resources used by nearby agricultural enterprises.”

The Agricultural Impact Statement also claims that “No equine or viticulture enterprises have been identified in the EIS assessments that would experience material adverse direct impacts as a result of the Project that are not already occurring with the approved Mount Pleasant Operation.” Given that the Mount Pleasant Operation would not continue beyond 2026 without this project being approved, this statement is misleading.

Similarly misleading is the statement in the Economic Assessment (Appendix O) that “MACH would manage blasting, air quality and noise emissions to achieve ongoing compliance with applicable Development Consent criteria, which would limit potential indirect impacts on surrounding land uses, including adjoining agricultural uses.” MACH is aware that its current operation, which is not

always compliant in any case, is already having a serious impact on this adjacent agricultural enterprise to the point where it is negotiating to buy them out.

The Economic Assessment speaks of "the temporary displacement of agriculture over the Project life" but does not consider that business decisions and changes in land use may mean that these impacts are not temporary at all. Starting up a dairy is not a simple proposition, and loss of this industry in the region harms its economic resilience and diversity. In its discussion with the IPC about the Mangoola, Muswellbrook Council cited the loss of agricultural businesses in the district and their flow on effects:

> *other industries have gone into decline through lack of employees, and because of the loss of farming land, some of the – say, the veterinary practices have struggled to maintain clientele, and so their services have shrunk. Likewise, other 30 businesses that might support agriculture, because there's fewer farms operating in the area have also contracted to other locations.*[19]

The complexities of downstream economic damage from this project alone and cumulatively with other large-scale mining operations in the Muswellbrook LGA is not addressed in either the economic assessment or the agricultural impact statement.

The economic assessment estimates that 4,100 ha of land would be displaced from agricultural production for both the Mount Pleasant Operation and the optimisation project. This area corresponds only to the area of the mining leases and the assessment assumes only that this land will be unavailable for the life of the mine only. This is described as a conservative approach but does not appear to consider properties purchased by the mine because of impacts that extend beyond the mining lease boundary, nor the long duration effects post-mining that may result once a critical mass of agricultural activity is lost and established businesses close.

The conclusion reached, that this project will have "insignificant impacts on production in the agricultural, viticultural and equine industries" is not supported by the evidence of impact already occurring, both to individual highly productive agricultural enterprises like the Glen Eden dairy, and the broader fabric of the agricultural economy of Muswellbrook. Since economic benefits are the chief positive claims made for this project as justification for the significant environmental and social harm it will inflict, it is imperative that the agricultural and economic impact assessment address these matters accurately and deeply.

Mine rehabilitation

Inspections by the Resources Regulator in May 2018 found MACH Energy had failed to comply with its mining operations plan, an offence under the *Mining Act*, and the mine's rehabilitation assessment processes were flawed.[20] The audit showed there were "several areas of significant erosion" across the mine site and no erosion controls on a topsoil stockpile. Where rehabilitation issues were identified by the mine during inspections, there was "no process to capture these issues, allocate corrective action tasks, track progress and close out those issues." The Regulator further

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[19] 24 February 2021. IPC transcript of meeting with Muswellbrook Council. https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/transcripts-and-material/2021/mangoola/210224-muswellbrook-shire-council-meeting-transcript.pdf

[20] Joanne McCarthy, 2019, Mount Pleasant coal mine inspection left regulator doubting if mine had 'good understanding' of rehabilitation. Newcastle Herald OCTOBER 2 2019 - 8:00AM. https://www.newcastleherald.com.au/story/6412823/hunters-newest-coal-mine-says-severe-drought-risk-unlikely-as-drought-affects-rehab-efforts/

found that, “Where issues were identified, they remain only on the inspection checklist.” It also found the company’s spreadsheet-based compliance register did not provide a mechanism for the mine to track compliance obligations against its conditions of consent.

Greenhouse

The Environmental Impact Statement finds that the Optimisation project will result in 874 million tonnes of additional greenhouse pollution over the life of the mine. This is a huge contribution to global concentrations of greenhouse gas emissions for one facility to make, and is by far the largest greenhouse contribution expected to be made by any coal mining project assessed and determined in New South Wales over the last decade. It is nearly four times the cumulative emission reduction expected to be achieved by Australia over the next ten years, according to the most recent trajectories published by the Australian Government.[21]

Other issues

There needs to be a technical evaluation of the potential impact of the overburden piles on the signal to Muswellbrook from the Rossgale tower.

[21] Department of Industry, Science, Energy and Resources, December 2020. “Australia's cumulative emissions reduction task to 2030” table shows a 116Mt, difference between the 2020 trajectory and the emissions trajectory for the 26% reduction target. *Australia’s emissions projections 2020*. https://www.industry.gov.au/sites/default/files/2020-12/australias-emissions-projections-2020.pdf