Submission No 31

INQUIRY INTO BENEFICIAL AND PRODUCTIVE POST-MINING LAND USE

Organisation: Muswellbrook Shire Council

Date Received: 25 June 2024

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Enquiries
Please ask for Sharon Pope
Direct
Our reference
Your reference

25 June 2024

Inquiry into Beneficial and Productive Post-Mining Land Use

Dear Sir/Madam

Background

The Hunter is the largest regional economy in Australia, ranking above Tasmania, the Northern Territory and the Australian Capital Territory in terms of economic output. It is the largest regional contributor to the State's gross domestic product.

The Upper Hunter Region contributes approximately 2.1% to the State's GSP while comprising approximately 0.8% of the State's population. It is currently the main centre for coal mining activity in NSW. Muswellbrook's coal mining operations, together with the other mines in the Upper Hunter Region, account for approximately 11% of globally traded thermal coal.

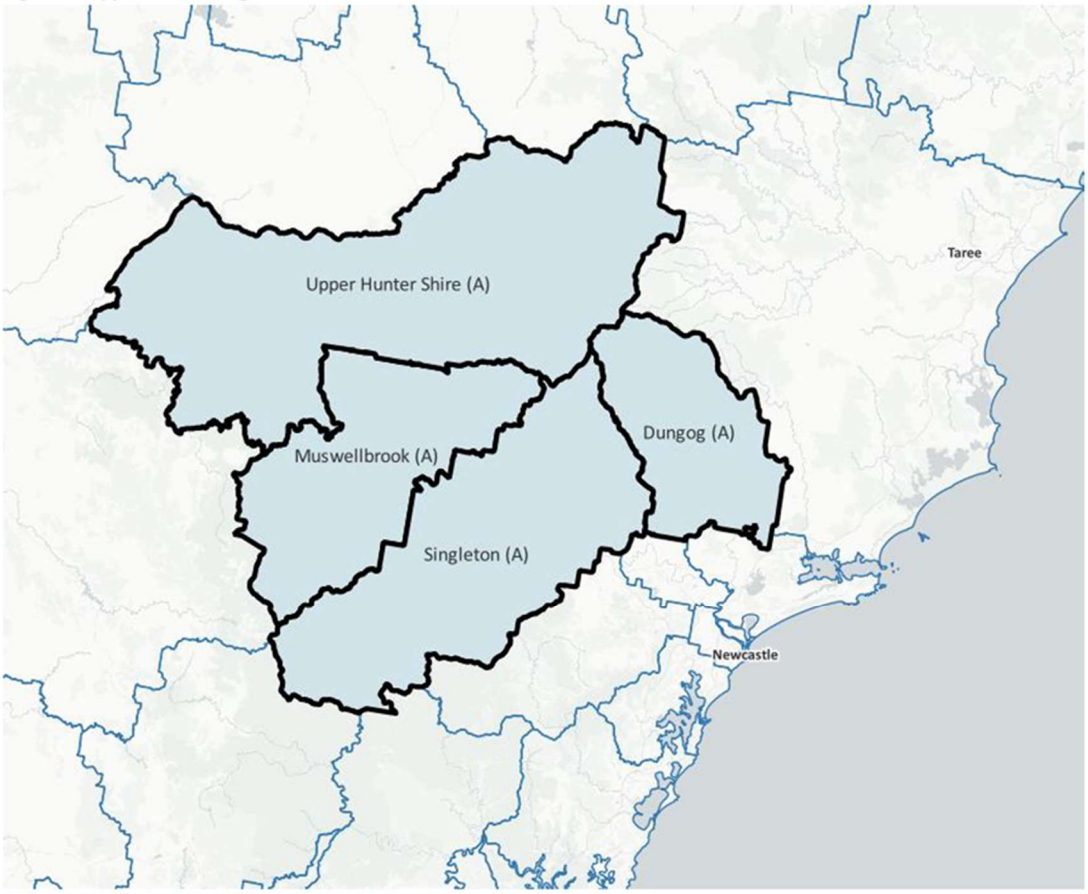
The Hunter region faces significant challenges due to changes in the coal industry driven by factors such as climate change, geopolitical tensions, and the decreasing cost of renewable energy. Modelling indicates coal production volumes in the Hunter will

begin to fall during the mid-2030s, with forecasts suggesting that production will cease by mid-century. This is concerning, since mining comprises nearly 27% of the Upper Hunter region's employment, with economic impacts extending to Greater Newcastle and the Port of Newcastle.

Resistance to decreased coal production is expected and will be driven by 'fear of change and loss' in employment, potential business closures, past negative experiences of structural change, and concerns about rising energy prices.

The four Upper Hunter Councils recently worked together to complete the Upper Hunter Region Employment Lands Strategy (Attachment A). This Strategy supplies significant relevant information for this Inquiry.

Figure 1: Upper Hunter Region



Source: HillPDA

Submission

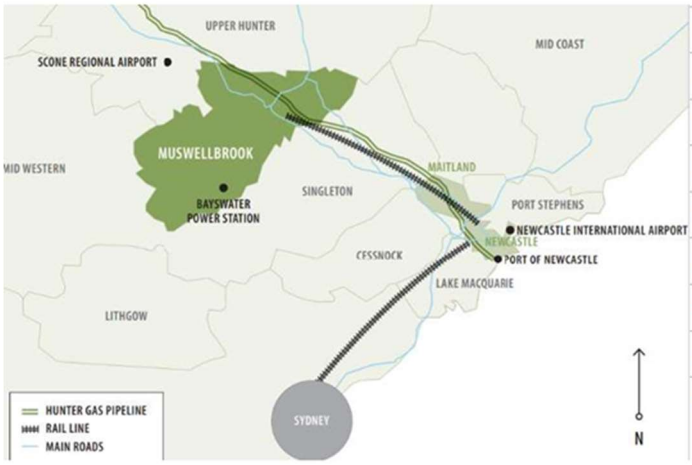
Council resolved on 25 June 2024 to make the flowing submission:

i. the benefits of having multiple successive land uses including the positive benefits for local communities and the economy, business, industry, and the broader state

The Upper Hunter has large, consolidated holdings of mining land and many other locational and infrastructure competitive advantages available for the transition to alternative employment uses. Properly staging the transition with industry attraction will ensure that more than 14,000 mining workers and the local economies in the Upper Hunter will have successful transitions from the coal industry.

The Hunter Regional Plan 2041, Objective 1, recognises that power station and coal mine sites can facilitate the diversification of job opportunities in the Hunter during operation and following closure.

THE OPPORTUNITY



- Large scale land suitable for industrial uses
- Improving Road Network
- Rail Infrastructure and future rail capacity
- Energy distribution infrastructure
- Hunter Renewable Energy Zone
- Renewable Energy Projects
- Skilled workforce
- Access to ports and airports
- Supportive Council

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The current approvals for the various mines have requirements to rehabilitate the sites at the end of mining and return the land to woodland or pasture. In the decades since some of these mines commenced, there has been a wholesale change to local economies, the number of people living in the region, and the types of industries that employ people. Unfortunately, the local economies have become less diversified and highly dependent on the input from mining. Returning sites to woodland and pasture, rather than taking opportunities to attract new industries to use parts of the mine sites, will see a dramatic loss of employment opportunities, impacts on the rate bases of the local councils, and loss of spend in the local economies.

From an environmental and planning perspective, the requirement to remove all on-site infrastructure i.e., buildings, roads, utilities, and to rehabilitate large, levelled areas of the site, would result in:

- Loss of resources and assets
- Waste generation if the demolished infrastructure is sent to landfill
- Energy and resource consumption i.e., demolition and construction of new infrastructure requires additional energy, materials and resources
- Community and social impact i.e., removal of infrastructure may lead to uncertainty among the local community and stakeholders about the future use and development of the site
- Loss of opportunity to create new jobs, attract new industry, and increase the State's export capability.

ii. changes in land use potential and demand in established or traditional mining areas, particularly those generated by the decarbonised economy, renewable technology, manufacturing, defence, skills, and training

After mining operations have ceased, Muswellbrook will have available land and infrastructure that could be repurposed for renewable energy projects, such as pumped hydro, wind, solar farms, hydrogen generation, and thermal power generation – some of these activities could commence before mining ceases on the buffer land to mine sites.

On its own, renewable energy does not have the job density to maintain current rates of employment to diversify the economy. The opportunity of the Upper Hunter Region is, therefore, to form an agglomeration of solar and wind farms that will attract and provide a competitive advantage for supporting industries and manufacturing. An example of this approach can be seen in the potential Muswellbrook Clean Industries Precinct, in which industrial lands would be located near wind, solar, and pumped hydro energy.

The area has fertile soil and access to water. It also has a strong history in agriculture, which can be revitalised. Investing in new technologies, such as hydroponics, vertical farming, intensive dairy farm systems, and other more intensive agriculture practice may boost economic return.

Due to the strong presence of the mining industry, the region has access to skilled workers and advanced manufacturing capabilities. There are also existing industries that can benefit from technology advancements, including defence, agriculture, and renewable energy.

The region is well placed to take advantage of the economic transition to a circular economy, with existing innovations in the sector, and large landholdings that can re-use or transform waste.

The Region contains assets and capabilities that support its role in defence and related industries. Singleton Military Area is located approximately 6 kilometres south of Singleton, and Myambat, a munitions storage facility, is near Denman in Muswellbrook Shire. There is the capability to extend the role of defence in the Upper Hunter economy. Existing regional assets include aerospace, data, simulation, and space expertise, which have been developed through the University of Newcastle and a variety of private industry organisations.

Furthermore, global challenges such as shortages in ammunition provide an opportunity for defence-related manufacturing on former mine sites that are removed from urban areas and have large buffer zones.

iii. opportunities for investment and growth in training and skills in established or traditional mining areas, including:

(i) the need to reskill and or retrain current workforces

Most residents in the Upper Hunter region also work in the region. The self-containment rate for the Upper Hunter Region is 81% (24,593) of the 30,500 employed residents. A

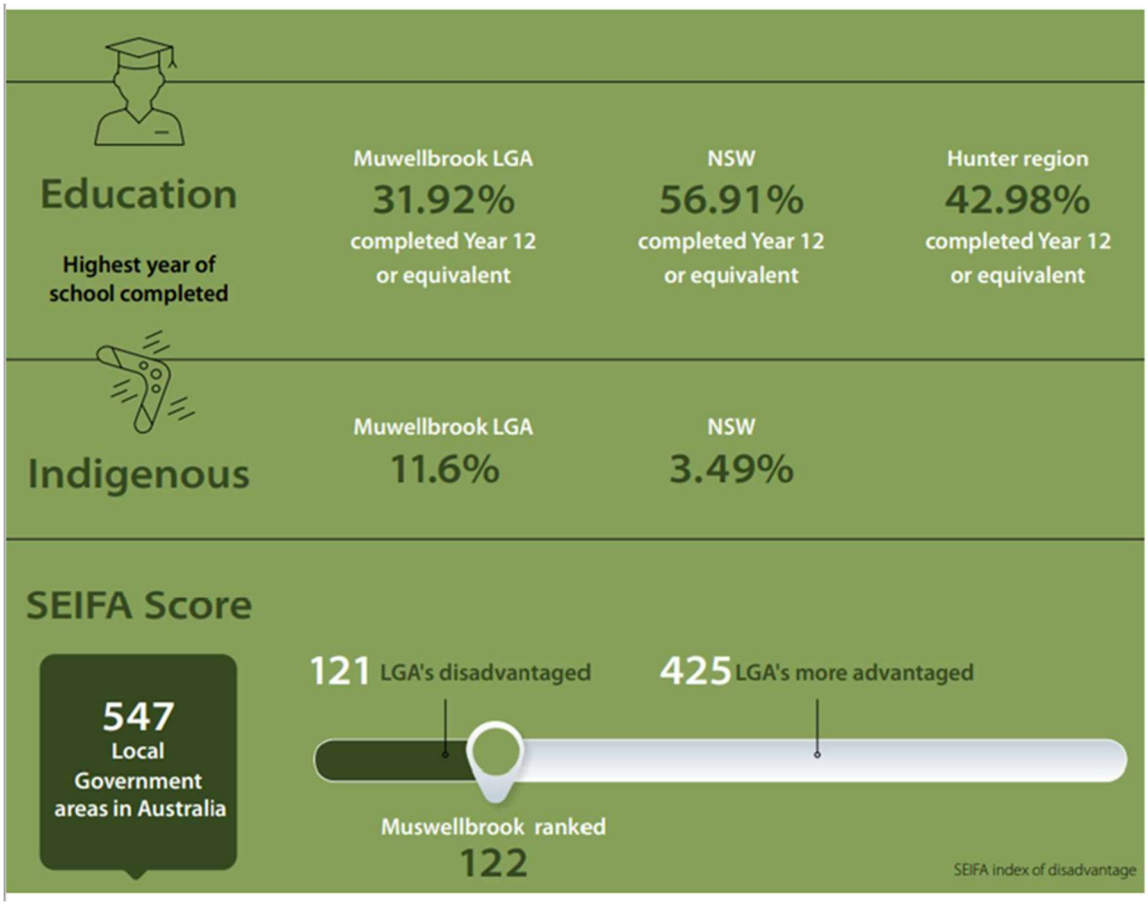
further 12 per cent of employed Region residents worked within the surrounding Hunter Region; mostly Dungog and Singleton residents who commute to Maitland and Newcastle for work.

The top five industries in the Region in 2021 were:

- Mining: 9,806 jobs (27.1% of employment)
- Agriculture, Forestry and Fishing: 2,648 jobs (7.3% of employment)
- Health Care and Social Assistance: 2,523 jobs (7% of employment)
- Retail Trade: 2,334 jobs (6.5% of employment)
- Construction: 2,219 jobs (6.1% of employment).

Compared to the Rest of NSW area, the Region has a major specialisation in the Mining industry with an LQ of 10.75, shown in Figure 9 and Figure 10. This specialisation is focused on the Muswellbrook and Singleton LGAs, which have respective LQs of 12.73 and 14.20 in mining. The region also has a secondary major specialisation in the Electricity, Gas, Water and Waste Services industry, which is predominantly concentrated in the Muswellbrook LGA (LQ of 5.92).

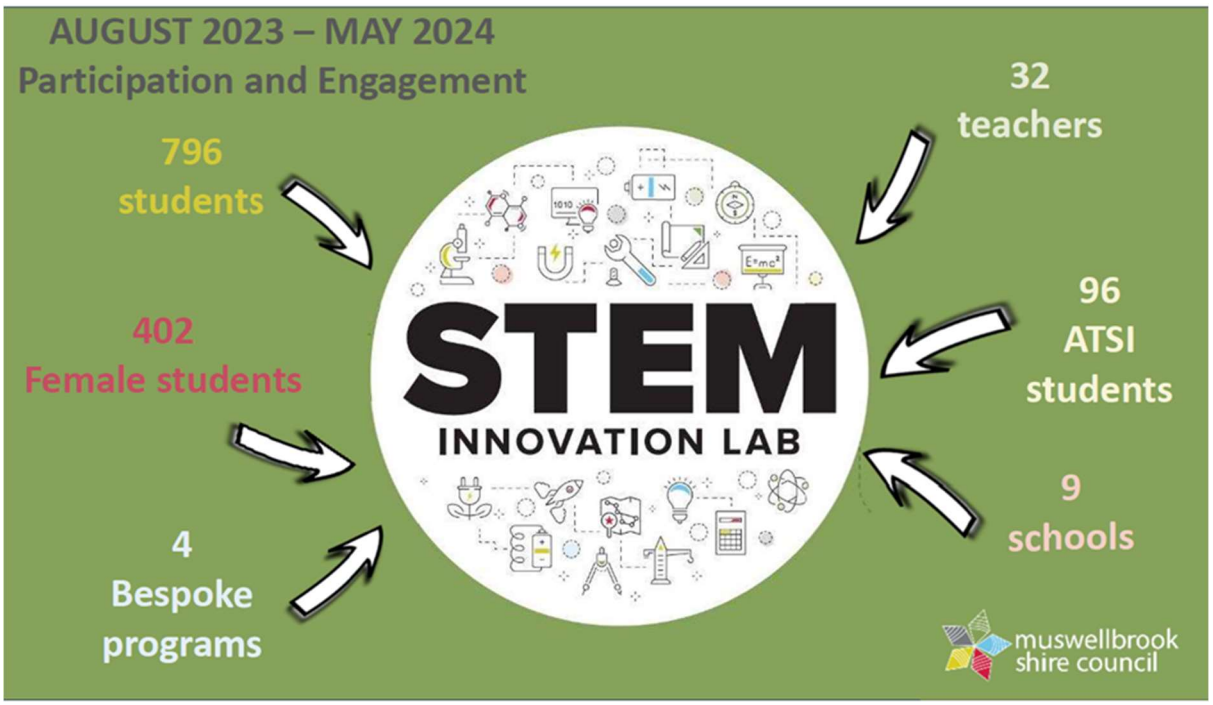
The mining industry employs a lot of people with year 10 high school levels of education attainment. This will need to change if Muswellbrook attracts new industries as mining operations close.



(ii) <u>the impact and effectiveness of existing and new education, training, and skills providers for mining communities</u>

Muswellbrook Shire Council has been actively discussing the provision of training services and opportunities in the Shire with TAFE NSW and the University of Newcastle. These opportunities are required to retain young people living in the Shire after finishing school, and to retrain workers currently employed in the mining and coal fired power generation industries. Physical facilities are available (both TAFE and Newcastle University) but more staff resources are required and more focus on attracting students and offering the courses required, e.g., bridging courses to enable electrical trades working on mines sites to take up jobs in the renewable energy industry.

Council has also invested funds and resources to deliver STEM curriculum free to all students in the region to prepare our youth for the jobs of the future.



These programs are delivered in the STEM Innovation Lab which is part of the Hunter Innovation Precinct, which also includes the Melt Advanced Manufacturing Centre to assist businesses to diversify products to new markets and the University of Newcastle. The investment in the Hunter Innovation Precinct is an exemplar model of how mining communities can prepare for transition and create an eco-system which inspires opportunities, fosters collaboration, and attracts new industries and jobs. This model has the potential to be expanded and replicated in other locations.

The opportunity to further partner with universities, TAFE, and businesses to create an innovation culture for the region would help enable the region to further grow and diversify the economy, as envisioned in the Upper Hunter Economic Diversification Action Plan.

iv. <u>opportunities to encourage innovative post-mining land uses including:</u>

I. the planning and implementation of essential supporting infrastructure for future site use

New industries require development-ready serviced, zoned and unconstrained employment land for new businesses to locate quickly. Muswellbrook has a significant quantum of land that would be suitable but is not serviced or zoned (and in some cases is fettered by mining leases). The land is also owned by large multi-nationals with strong corporate objectives to extract resources and then rehabilitate sites to gain mining lease relinquishment – they are not land developers.

From an urban development perspective, there is economic risk when developing an industrial precinct without potential future users, and therefore, identifying tenants early and understanding the financial contribution that the tenants would be willing to make through rent/purchase and expectations as to build form and infrastructure, would be critical to understanding the viability of industrial transformation.

Muswellbrook fields significant enquires from businesses looking for large scale industrial land which has long term certainty from encroachment of other non-compatible land uses.

(ii) the development of solar farms, pumped hydro, and other clean energy industries

Muswellbrook falls within the Hunter and Central Coast Renewable Energy Zone (HCC REZ). We have the "Poles and Wires" infrastructure already in the Shire, due to the coal-fired power stations, and have experienced high levels of interest for renewable energy projects.

Renewable Energy Projects

- Wind
  - Bowmans Creek Wind Farm (347MW)
  - Bowmans Creek Wind Farm Stage 2 (120MW)
- Solar
  - Muswellbrook Solar (135MW and 135MW battery)
  - Maxwell Solar (25MW)
  - Hunter River Solar (60MW and 60MW battery)
  - Kayuga Solar (100MW and battery)
  - Upper Hunter Solar (90MW and 400MW battery)
  - Sandy Hollow Solar (6MW)
  - Denman Road Solar (22MW and battery)
  - Edderton Solar (350MW)
- Battery
  - Liddell Battery (500MW)
  - Muswellbrook Battery (150MW)
  - Upper Hunter Batter (Aberdeen)
  - 2 x local batteries (4.98MW each)
- Muswellbrook Pumped Hydro (500MW)

None yet constructed

Temporary construction worker accommodation is essential to assist with the construction of renewable energy projects, to avoid disruption to the local community (e.g. increases in rental prices and reduction in rental availability), avoid the accident risks due to fatigue of a drive-in-drive-out workforce, and enable the LGA to benefit from the provision of goods and services from local businesses.

(iii) the compatibility of post mining land sites with commercial projects

Many mine sites are not well located for new commercial/retail sites unless part of a master-planned new community. Disturbance of the landform by mining may present engineering difficulties for construction of new urban areas (this needs investigation).

However, large scale industrial and commercial uses could be facilitated in several locations should the land be available for such purposes. The State Government plays an important role in the Master Planning and development of these locations to ensure the ongoing economic sustainability of mining communities.

(iv) the potential of unlocking surrounding land for residential dwellings, amenities, environmental and educational facilities

Many mine sites are not well located for residential development unless part of a master-planned new community. Disturbance of the landform by mining may present engineering difficulties for construction of new urban areas (needs investigation), but they have potential for the small lifestyle lot form of settlement. There is little desire on the part of the mine owners to plan for future housing opportunities.

Acquisition of properties for mine sites and their buffers has resulted in a loss of housing in Muswellbrook Shire, predominately small lifestyle blocks, but in some cases affordable housing on smaller lots. Where homes haven't been demolished, they are often "shuttered" giving a general air of 'desertion".

A loss of housing and a drive-in-drive-out workforce impacts on the critical mass population, goods and services in Muswellbrook Shire, making it difficult to attract people to live and invest in housing locally.

(v) potential exploration of former and legacy mining sites with modern mining technology to explore deposits in tailings and closed sites

(vi) the development of sites for use for advanced manufacturing, commercial and industrial use

Many of the mine sites contain important infrastructure (e.g., road, rail, water treatment, and electrical) and levelled areas suitable for industrial buildings (e.g., mine infrastructure areas that contain site offices and parking areas).

The planning controls applicable to mine and power station sites, such as existing zoning, primarily RU1 Primary Production and C3 Environmental Management for mines and SP2 Infrastructure (Electricity generating works) for power stations, curtails the use of these sites for alternative PMLUs such as industry, manufacturing, electricity storage, warehousing, or freight facilities. The zones represent a future of returning mining lands to their pre-mining state, which is no longer the vision set in the Hunter Regional Plan 2041 or Council Integrated Planning & Reporting documents.

An additional barrier can be water licences, which are generally linked to the use on the site.

It would be beneficial if Regional NSW were to fund the development an investment prospectus (collaboration between Singleton and Muswellbrook councils, DPE and Regional NSW) to attract large industry operators that would be interested in investing in repurposing strategic mine sites. The prospectus should:

- Advertise site opportunities
- Demonstrate the strategic merits of the region
- Engage with a wide range of potential users including defence, circular economy, and manufacturing users
- Demonstrate vision for the region and depth of market capacity.

The land will need to be available to prospective tenants to align commercial investment decisions with actual available opportunities. There is often a mismatch of timing, where companies are making business decisions within a two-year time horizon but land / facilities may not be occupiable for five years or more. This gap in timeframe needs to be de-risked by the government to provide certainty to the land holders and potential tenants.

v. <u>how to ensure the benefit from innovative post mine land uses are shared between the community and mine operators</u>

In February 2020, Council engaged the University of South Australia to provide advice on the identification of targets and measures to guide the successful management of the local economy's transformation, as the Upper Hunter navigates substantial changes in the local economy. The project was established as a goal-setting exercise, resulting in a concise list of goals, targets, measures and indicators, that were consistent with global best practice, to guide the impending plant closures in the region. This project resulted in the report 'Identifying measures of success for a global best-practice thermal coal mine and thermal coal-fired power station closure' (UniSA, 2020). (see attachment B).

Five key targets were established for the transition:

- Actively manage closures to minimise adverse impacts for workers, firms and community. Careful management will mitigate the sense of fear and loss among the affected workforce and the wider community.
- Assist workers to secure new jobs and to maximise their future career options. Maintaining displaced workers' confidence in the quality and timely delivery of employment services is crucial to mitigating the impacts of closures.
- Intervene to strengthen the long-term sustainability of the Upper Hunter economy. Successful worker, household and community transitions are all contingent on the maintenance of local job opportunities.
- Maintain and improve social cohesion and community spirit throughout the change process. Complete actions that celebrate the history and contribution of the region, that restore the environment and improve community cohesion.

vi. the expectations of mining communities in relation to post-mine land use, and how to balance this with innovative reuse of existing infrastructure

The closure of mines in the Upper Hunter has the capacity to be interpreted by some community members as a threat to place, identity, and ways of life. Transitioning away from coal will strip miners of an activity that provides them with a sense of purpose and satisfaction.

In regions where the mining workforce is supplied by locals rather than fly-in-fly-out (FIFO) workers, the loss of one job has the potential to have a major ripple effect throughout the broader community.

Surveys conducted by Council indicate the community has strong concerns about a poorly managed transition and are looking to government (all three tiers) to plan for employment diversification before mines close. The local community is not opposed to reuse of existing infrastructure and a move away from current rehabilitation plans for mine sites.

vii. the need to develop a robust independent regulatory framework to maintain and advance best practice in this area

The impact of closures will be significant for the regional economy and goes well beyond those directly employed by the closing industries. Both the energy generation and mining industries are significant 'multipliers' for the local economy. The spill over effects (multipliers) need to be considered to fully understand the impact that power station and mine closures will have on other industries.

For the Upper Hunter Region to maximise its potential, a strong coordination of public and private funding and collaboration with local communities is essential.

Council is supportive of the State Government taking the lead as a "Transition and Diversification Authority" in close partnership with Council, with funding from the mining lease holders to manage the risks associated with deferral of site rehabilitation.

The State Government currently holds rehabilitation bonds for mine sites. The rehabilitation costs for areas encompassing infrastructure, such as buildings, carparks, roads, and utilities could be calculated, and the funds required to cover these rehabilitation costs be transferred to the State Government and removed from the site rehabilitation bond held. The NSW State Government could then use the funds, and any interest earned, for:

- annual maintenance
- as an economic incentive to attract businesses to the site
- site rehabilitation if no new users can be attracted to the site.

These areas could then be relinquished from the mining leases without requiring the infrastructure to be removed. It would be important that an arrangement be put in place requiring subsequent landowners to commit to site rehabilitation if a development or re-use of the site is not commenced within a specified period of time (the State Government could require the incoming purchaser to provide a bond to cover the costs).

The Authority also needs to:

- Resolve biodiversity offset issues to allow for site infrastructure to be retained and utilised.
- Coordinate delivery of water and telecommunications infrastructure, and a pathway for reconstruction/construction and dedication of roads.
- Consider partial approval modification pathways that do not restrict current mining operations.
- Find options to amend leases or WHS (Mines and Petroleum Sites) legislation to allow non-mining operation on mining land.
- Support modifications to consent for the SSD approvals that would enable development on buffer land, as well as changes in the post mining landform (and in particular land use).

As some of the initial activities of the Authority there needs to be an opportunities and constraints analysis through desktop research and ground truthing on-site to evaluate which land uses and land within sites has the best development potential and can leverage economically viable infrastructure assets. This analysis would determine new land uses to be permitted (green light uses), and land uses that could be suitable subject to further information (amber light land uses) and which land uses should not be supported (red light land uses).

Findings and preliminary recommendations should then be tested with key stakeholders such as the expert panel, mining and development industries, councils, and agencies.

viii. <u>any other related matters</u>

There is a lack of comprehensive documentation or guidelines regarding the long-term management of voids and highwalls on mine sites, and there is an absence of specific conditions for their sustained management. To rectify this, work is required on preparing guidelines that cover:

- Implementation of safety measures to restrict public access including signage, fencing and other barriers.
- Strategies for managing groundwater levels and preventing water quality degradation in and around the final void areas.
- Protocols for ongoing engagement with local communities and stakeholders to address concerns, provide information, and gather feedback on void management practices.
- Monitoring and reporting protocols to track key indicators such as water level, water quality and stability.
- Protocols for responding to emergencies or unexpected events, ensuring the safety of the surrounding community and environment.
- Mechanisms, such as bonding or financial assurance, to cover the cost of long-term void management, including maintenance, monitoring, and potential rehabilitation efforts.
- Incorporation of adaptive management principles to respond to changing conditions, emerging technologies, and new scientific understanding over time; and
- Long-term responsibilities, such as ongoing monitoring and maintenance, that may extend beyond the life of the mine.

Council is concerned about how socio-economic impacts of mine closures will be managed. Each Mine should be required to prepare a Socio-Economic Mine Closure Plan. At a minimum, this should:

Be prepared by a suitably qualified person;

1) Be prepared in consultation with relevant stakeholders (including Council);
2) Outline measures to:

    a) Actively manage site closure to minimise adverse impacts for workers, firms and the community;
    b) Assist workers to secure new jobs and to maximise their future career options;
    c) Maintain the long-term sustainability of the Upper Hunter economy;
    d) Maintain and improve social cohesion and community spirit throughout the change process; and
    e) Maintain collaborative and inclusive governance dedicated to promoting community cohesion through the transformation process.

Council appreciates the opportunity to make a submission to this Inquiry and looks forward to an opportunity to present to the Inquiry.

Regards

Sharon Pope
Director Environment and Planning