

A region in transition: BHP prepares for the closure of Mt Arthur Coal mine

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Abstract

The Hunter Valley region in New South Wales, Australia, faces significant economic disruption due to open cut coal mine closures that are expected to occur over the next 10–20 years, with BHP's Mt Arthur Coal mine planned to cease mining in 2030. Current New South Wales legislation prescribes mine closure outcomes for large tracts of land used for coal mining and together with mining approvals often require rehabilitation that delivers 'safe, stable and non-polluting' outcomes (NSW Department of Planning and Environment, 2023).

Re-use of mine land in the Hunter Valley region has been identified by the NSW Government as a key enabler to mitigate downside economic and social implications of coal mine closures and energy transition across the Hunter Valley region. Multi-stakeholder alignment is required across government, business and the community to enable such outcomes, as well as enabling policy and legislation that is a known constraint.

This paper provides a case study of the approach being taken by BHP in the transition and closure of the Mt Arthur Coal mine in the Hunter Valley region of New South Wales. It highlights how current legislative and policy instruments create challenges in meeting community expectations, which extend beyond environmental concerns to include social, economic and land re-use opportunities. It concludes that the opportunities and benefits associated with 'alternate mine land and asset re-use' at the Mt Arthur Coal Mine would be significantly enhanced through collaborative stakeholder alignment and timely enabling public policy reform, helping to realise value across social, economic and environmental outcomes and contributing positively to the Hunter Valley region's transition.

Keywords: closure, just transition, post-mining land use, regulatory reform, energy transition, social value, community expectations, government policy

1 Introduction

Open cut coal mining in the Hunter Valley, New South Wales (NSW), Australia, provides significant economic contribution to the Hunter Region and the NSW state economy, and dominates the local landscape and land ownership (Ernst & Young 2022). The region is vulnerable to structural shifts in coal demand, as this has a direct bearing upon the viability of coal mines and subsequent mine closures, particularly given that the mines are not owned or subsidised by the government. The current closure plans for the open cut coal mines in the Hunter Valley region plan to deliver rehabilitated landforms that enable agriculture and native woodland outcomes; with all existing built infrastructure required to be removed. Land rehabilitation is a primary closure objective and was defined at the time of the project approval, it must be achieved to regulator satisfaction before the mine land can be relinquished and the land made available for approved post-mining alternate uses (New South Wales Department of Primary Industries and Regional Development 2024).

Relinquishment of mine land for future use is very rarely achieved in NSW (Commonwealth of Australia 2019). Land locked up in perpetuity constrains the potential for economic diversification outcomes and prosperity

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(Oei et al. 2020). Further, international leading practice for mine closure calls for more than rehabilitation outcomes, it sets out a holistic approach that emphasises environmental outcomes together with social and economic implications (ICMM 2019). This is linked to what is also necessary to enable a ‘just transition’ (Abram et al. 2022) whereby coal-dependent communities diversify their regional economies to create a prosperous future (Oei et al. 2020). Many power stations and coal mines in the Hunter Valley are set to close over the next 10–20 years (NSW Department of Planning and Environment 2022), including BHP’s Mt Arthur Coal mine. It is clear, the energy transition will happen in the Hunter Valley, however, to avoid lasting negative social and economic impacts of coal mine closures (Foden et al. 2019), evidence from international examples suggests that government policy needs to deliberately focus upon what is needed for just transition (Bang et al. 2022); with government, industry and community having important roles to play to enable successful outcomes (Oei et al. 2020).

This paper provides a case study of BHP’s approach to the closure of the Mt Arthur Coal mine against a backdrop of a region in energy transition. It aims to not only provide insight into the frameworks and approach to decision-making, but to highlight the interconnected relationship between community, government and industry, as well as articulate the key challenges that need to be addressed to enable just transition outcomes more broadly in the region (Abram et al. 2022). The community is a key stakeholder in mine closure, particularly their acceptance and support of the mine closure outcomes and economic diversification opportunities of future land uses (Gehman et al. 2017; Weller 2018). Therefore, the sentiment of the Hunter Valley community towards open cut coal mine land re-use will have a significant bearing upon associated public policy (Burstein 2003) particularly related to mine land re-use opportunities and as a result, the subsequent outcomes for the Hunter Valley region.

2 Background

2.1 A region in transition

Land utilised for open cut coal mining in the Hunter Valley is extensive and currently occupies around 130,000 ha (Ernst & Young 2022). Land use has long been a source of conflict across the Hunter Valley region as competition for land has increased over the last few decades (McManus & Connor 2013). As the open cut coal mining footprint has grown, negative social impacts on the communities surrounding the mines have increased and some smaller communities have even been squeezed out (Askland 2018). Post-mining reuse of land previously used for coal mining has been identified by the NSW Government as a key lever for economic diversification in the Hunter Region as it navigates the energy transition, including the closure of coal-fired power stations and coal mines (New South Wales Department of Planning and Environment 2022).

Access to land in the Hunter Valley is crucial to enable alternative industries, provide replacement employment opportunities, and a just transition. The German Saarland experience provides evidence of this where the availability of former mining land facilitated economic diversification and attracted new investment following coal decline (Oei et al. 2020). The quantum of land currently used for open cut coal mining in the Hunter Valley means that economic diversification and sustained future prosperity of the region will only be possible through timely access to this land. However, the German examples from the coal dependent Ruhr and Saarland regions also provides the lesson that although a key element for economic diversification, access to land alone is insufficient to enable just transition outcomes (Oei et al. 2020).

Current NSW legislative and closure approval requirements focus upon environmental risk management as a singular objective, with rehabilitation intended to achieve ‘safe, stable and non-polluting’ future land uses, including woodland and agricultural land uses (New South Wales Department of Primary Industries and Regional Development 2024). Community input for mining projects is required to be sought at the approval stage of a coal mine where the closure outcomes and objectives are determined. However, at this time, it seems more focus is generally given to immediate community concerns related to operating impacts rather than the future dated closure outcomes. There is no legislative obligation for community engagement specifically at the time of mine closure. Granted, the community are unlikely to have the technical expertise to inform many aspects of mine closure from a risk management and possible future land re-use perspective,

but the community does have a view on what mine closure outcomes they require across the spectrum of environmental, social and economic factors, which needs to be understood and addressed in closure plans. Closure outcomes determined at the point in time of mine approval have the potential to become outdated and not serve the interests of the community due to changes in community expectations and needs that evolve during the long timelines from mine approval to mine closure.

Lasting negative social and economic implications of the coal industry decline and associated mine closures can be seen in the United Kingdom, with multigenerational high unemployment and low literacy and health outcomes still evident in past coal mining regions today, decades on from the market decline and coal industry collapse of the 1970s (Foden et al. 2019). This contrasts sharply with the Ruhr region in Germany, where economic diversification was pursued and enabled in a planned and multi-stakeholder participatory approach. The coal mines were closed more deliberately and in a way that supported positive economic and social outcomes and is often referenced as being a great example of a just transition (Oei et al. 2020; Diluio et al. 2021). The contexts of the UK and Germany are different in many ways to each other and to Australia, but the approach to planning for and focus upon delivery of just transition as an outcome, is identified as a key differentiator that has enabled lasting positive economic and social outcomes in Germany (Bang et al. 2022). This highlights the importance of government policy in enabling just transition. Just transition needs to be an outcome that is pursued quite deliberately, and enablement mechanisms and plans need to be place-based and time appropriate in a way that serves the needs of community (Bang et al. 2022). The community are a key stakeholder of coal mine closure in the Hunter Valley, not only because a significant number of people – either directly or indirectly – benefit from employment from the mining industry, but also because the community will be left with the legacy of mining post closure. Understanding community views and sentiments is important for industry and government, as these are precursors to the acceptance, support and viability of future land uses that align with community needs and aspirations.

Under the current NSW legislation, the pathway to relinquish disturbed mining land upon completion of mine closure activities is lengthy and complex. There are few precedents in existence of alternate land use outcomes being realised and relinquishment being achieved. Considering the quantum of land in the Hunter Valley region occupied by open cut coal mining and associated buffer land, and the anticipated decline of mining activity in the region, the Hunter Valley region has an opportunity to diversify the local economy and re-use mining land and existing assets in a manner that delivers sustained regional socio-economic prosperity. In response to this opportunity, the NSW Government commissioned a Parliamentary Enquiry on beneficial and productive post-mining land use, to understand community and industry expectations and concerns (NSW Parliament 2025). A regulatory body is being established, the Future Jobs and Investment Authority, to oversee the future economic development and planning of coal producing regions in NSW, including the Hunter Valley region.

2.2 BHP principles, frameworks and standards

As a global mining company, BHP holds high standards for the delivery of the closure of its Mt Arthur Coal mine, guided by its global principles, frameworks and standards that apply across its operations regardless of minimum local legislative requirements. BHP's principles on equitable change and transition (BHP 2026a) sets out the key considerations and approach to be taken as it relates to the people most impacted by the change, which includes the local workforce and community. BHP also has a social value framework (BHP 2026b) as shown in Figure 1, which is broadly categorised by the themes of people, planet and prosperity. The minimum performance requirements for investments and corporate planning include consideration of social value, with these embedded into decision-making processes, including with regards to mine closure.



Figure 1 BHP social value framework (BHP 2026b)

BHP operations are also governed by global standards, such as the *BHP Closure and Legacy Management Global Standard* (BHP 2024). This standard sets out the minimum requirements for closure for BHP’s operations, with the key elements of this process shown in Figure 2. The process steps culminate in the Closure Management Plan which is iterated, updated and refined over the life of the mine, in preparation for closure.

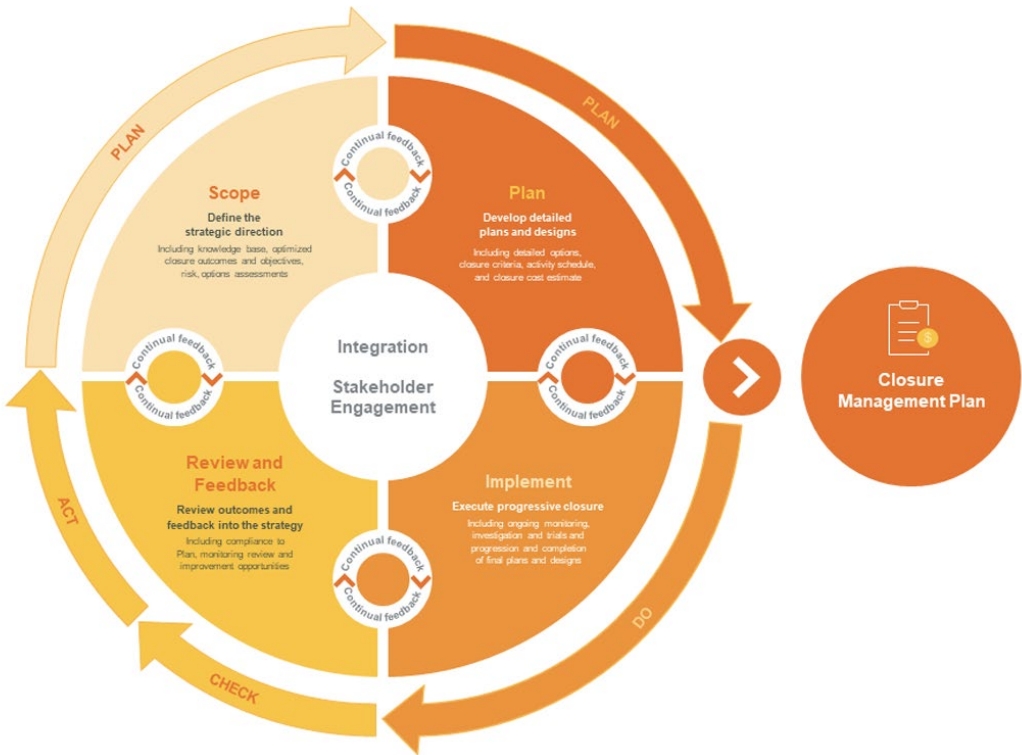


Figure 2 BHP closure management process (BHP 2024)

2.3 NSW mine closure legislative complexity

Mine closure in NSW is regulated under 2 main statutes, the *Mining Act 1992* (NSW) (The New South Wales Government 1992) and the *Environmental Planning and Assessment Act 1979* (NSW) (The New South Wales Government 1997a). The *Mining Act 1992* (NSW) is the primary legislation regulating the exploration for and mining of minerals and coal in NSW, as well as the assessment of exploration and mining titles, the

regulation of mining operations, and mine rehabilitation. The *Environmental Planning and Assessment Act 1979* (NSW) governs development applications for mining projects, including provisions for initial and modified land use approvals. These 2 statutes are supported by additional legislation including *Protection of the Environment Operations Act 1997* (NSW) (The New South Wales Government 1997b) and *Contaminated Land Management Act 1997* (NSW) (The New South Wales Government 1997c).

There are multiple NSW Government agencies responsible for various aspects of mine closure regulation that applies to the Mt Arthur Coal mine. The NSW Department of Planning, Housing and Infrastructure are the responsible agency for the *Environmental Planning and Assessment Act 1979* (NSW), under which mining project development applications are assessed and approved. Initial approvals, which generally include the final post-mining land use, are granted by the NSW Department of Primary Industries and Regional Development (who oversees the *Mining Act 1992* [NSW]). The NSW Environment Protection Authority (EPA) (who administers the *Protection of the Environment Operations Act 1997* [NSW]) may require certain environmental protection licences for mining activities. The EPA also regulate some aspects of the transition to post-mining land use, including contaminated land management under the *Contaminated Land Management Act 1997* (NSW). Licences may also be required for certain post-mining land uses, such as energy generation and agriculture.

The complexity associated with the NSW mine closure regulatory framework and the associated involvement of multiple agencies was recently noted in a NSW state parliamentary inquiry into beneficial and productive post-mining land use, to which BHP made submissions. The recognised challenges include a traditional regulatory focus on restoring land to a pre-mining state with few criteria and performance metrics. Additional challenges include rehabilitation commitments contained within historical development consents (sought prior to mine commencement) which may restrict contemporary expectations of adaptive land use management; underlying land zoning restrictions may be incompatible with productive post-mining land use outcomes; a focus on full relinquishment rather than partial or staged relinquishment; and uncertain processes for relinquishment of mining leases and the management of residual risks and liabilities.

In July 2025, the NSW Government committed to addressing these complexities through a range of initiatives, including a review of the 2 primary legislative instruments to ensure they facilitate opportunities for post-mining land use, the formation of the NSW Future Jobs and Investment Authority to encourage post-mining land use, economic growth and development, and a commitment to work with Lake Macquarie and Muswellbrook Shire Councils to fast track the re-zoning of mine-affected land as part of a ‘pilot project’. The Mt Arthur Coal mine is participating in this project to identify a re-zoning pathway for a targeted parcel of mine-affected land at the Mt Arthur Coal mine. This is an important first step to enable positive future outcomes for re-use of land and infrastructure.

2.4 The Mt Arthur Coal mine

The Mt Arthur Coal mine is located 5 km from the township of Muswellbrook in the Hunter Valley, NSW. The mine is 100% owned by BHP, and is one of the largest operating thermal coal mines selling to export markets in Australia (Zivanovic 2026), producing around 16 million tonnes of product per year and employing around 2,000 full-time workers (BHP 2026c). It is one of approximately 20 coal mines in the region and is on the lands of the Wonnarua/Wanaruah people. In 2022, BHP made the decision to close the mine by 30 June 2030. BHP made that decision for 2 reasons, firstly the value declines as BHP approaches 2030 due to the presence of a monocline, a known geological feature in the Hunter Valley, and secondly BHP wanted to allow enough time to support the workforce and the community to prepare for closure. The mine has been operated since 1968 and has contributed significantly to the Muswellbrook Shire and the state of New South Wales. In mine closure, BHP aspires to deliver a positive legacy from BHP mining in the Hunter Valley, consistent with the themes of ‘People, Planet, Prosperity’ (BHP 2026a).

The open cut mining footprint at Mt Arthur Coal mine, at the time of announcing closure in 2022, comprised around 7,000 ha of land. The post-mining landform and land uses in the current approved closure plan are shown in Figure 3 and feature rehabilitation outcomes aligned with woodland and agriculture as dominant

land uses, with all existing infrastructure to be demolished and removed, including high-quality workshops, electrical and water infrastructure (BHP 2023a). The timeframe to achieve the prescribed relinquishment outcomes, and to subsequently enable alternate land reuses, under the current approval is 2060. Despite the land being capable of hosting a range of uses, with the potential for social and economic benefit beyond environmental rehabilitation and agriculture, the prescribed land use outcomes are dominated by environmental obligations with limited job creation potential or future economic activity realised in the short- to medium-term from post-mining land re-use as a result.

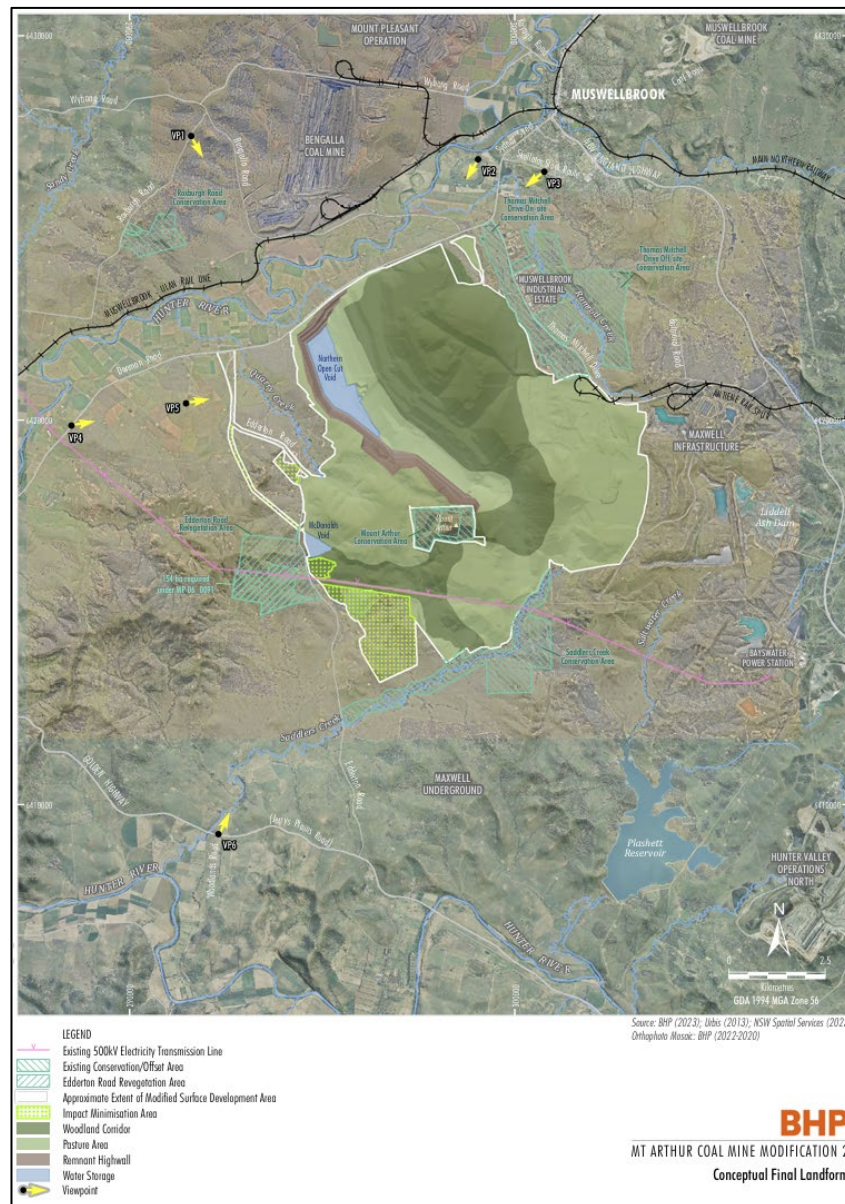


Figure 3 Conceptual final landform, Mt Arthur Coal mine (BHP 2023a)

2.4.1 Technical aspects of mine closure – a commitment to safe, stable and non-polluting

Relinquishment of mine-affected land or development of alternate land uses needs to be approvable by regulators. Early government support has been forthcoming, however the transition from the current land use outlined in the approved 'base plan' to a suite of alternative uses requires regulator engagement and mapping of agreed, clear processes, closure criteria and outcomes. There are many technical aspects related to the Mt Arthur Mine closure to consider from an environmental perspective. Some of the most relevant considerations where significant work is being undertaken for the preparation of Mt Arthur closure include the final landform, the closure of the tailings facility, spontaneous combustion and groundwater.

The final landform and visual amenity are continually highlighted in engagements with the local community. BHP has committed to geomorphic design application as part of the final landform. The benefit of this design is that it is intended to mimic the existing Hunter Valley landscape and long-term erosion profiles, enabling long-term stability outcomes. It is therefore not only visually positive but also requires minimal long-term maintenance as it is suited to the regional climatic characteristics particularly with regard to rainfall intensity.

3 Mine closure and alternate land and asset re-use

Due to the scale of land impacted by mining at the Mt Arthur Coal mine, it was identified early in the transition and closure planning work that there were many potential alternate land and asset re-use opportunities that could be realised as a result of closing the mine, and that could co-exist as outcomes on the 7,000 ha of land available at the time closure was announced. The conceptual plan for the alternate land use possibilities is summarised in Figure 4.

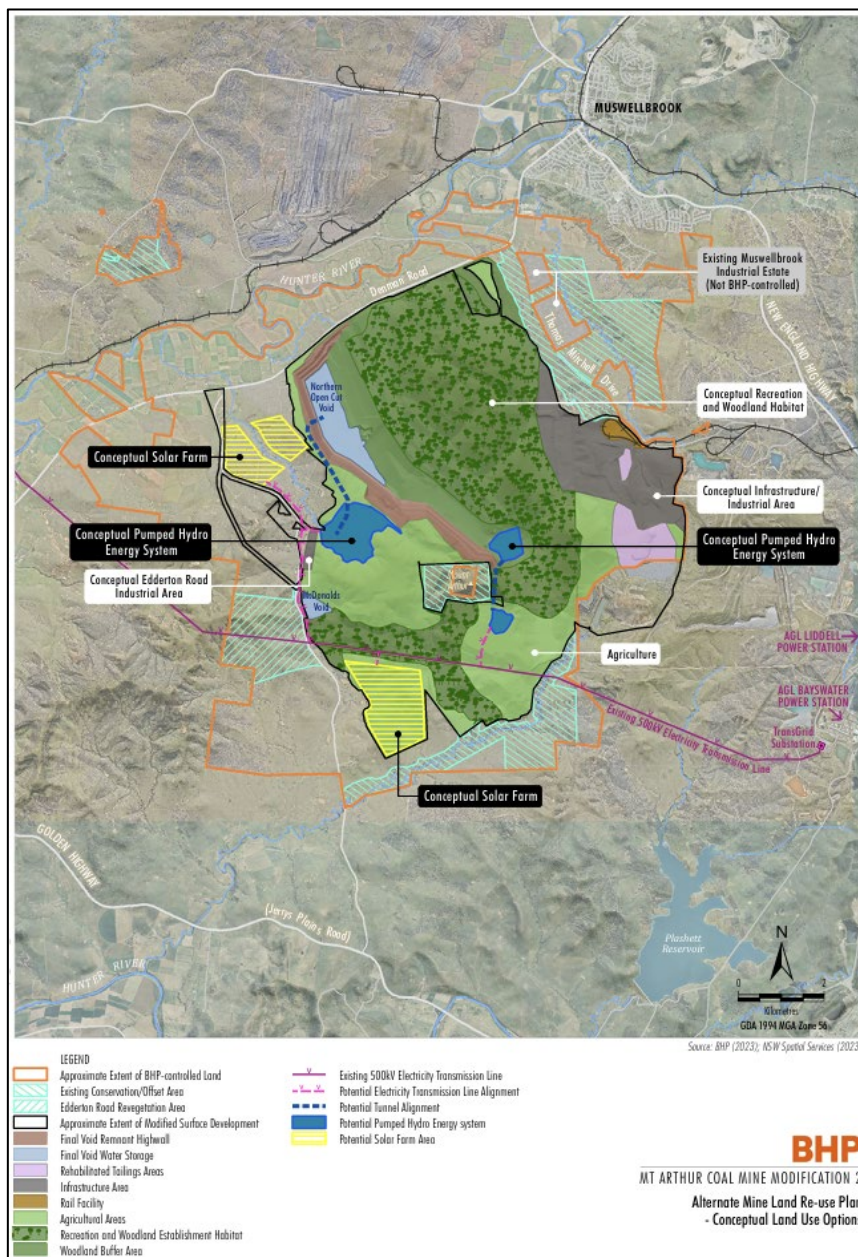


Figure 4 Conceptual master plan for Mt Arthur Mine land re-use (BHP 2023b)

Technical feasibility studies commenced to evaluate the opportunity to re-use the final void for a pumped hydro energy storage facility, due to the proximity to existing power transmission infrastructure. These studies have found that re-use of the void is technically viable and could offer a renewable energy outcome that could power up to 500,000 homes a day, with around 1,000 jobs needed in the construction phase and around 100 long-term jobs for ongoing power generation. Project specific approvals would be required to enable this option as a future land use reality (BHP 2025).

Further, work has been underway to progress the re-zoning of the Mine Infrastructure Area (MIA) as part of the land pilot project that was an outcome of the NSW Parliamentary Enquiry into beneficial and productive post-mining land use (NSW Parliament 2025). The MIA contains high-quality infrastructure built to service the mine and includes bulk fuel storage tanks, significant workshops and warehouses, large flat storage areas, administration buildings and car parks, electrical and data centre infrastructure. Under the current consent requirements, all infrastructure is required to be demolished and returned to agricultural land. Re-use of existing infrastructure may offer improved social and economic benefits for the region, however, the legislative pathway to enable a timely relinquishment to enable this outcome is the purpose of the land pilot project. The first phase of the project is to establish a pathway for rezoning the land and preparing a master plan so that a broader range of land use opportunities, beyond woodland and agriculture, can be realised by future owners. Redevelopment of the site is considered to have the highest potential for post-mining job creation compared with other alternate land uses.

Around 2,000 ha of the disturbed mine land are committed for woodland re-establishment. The opportunity to establish a recreational outcome alongside the existing ecological commitment is currently under assessment. Advice has been sought from Dr Pete Whitbred-Abrutat, the author of *102 Things to Do with a Hole in the Ground* (Whitbred-Abrutat & Lowe 2024), who has provided recommendations for BHP to consider based upon his global experience. As has been the reality for many of the examples from Dr Whitbred-Abrutat's book, options pursued will need to be financially sustainable without continued and lasting funding from BHP to be viable.

As part of an opportunity to realise improved closure and tailings storage outcomes for the Mt Arthur Coal mine through to closure, BHP reached an agreement with Malabar (the neighbouring mine) to deposit coal tailings into an existing open cut mine void that was also being used by Malabar to receive tailings as part of their underground metallurgical mining operation. In exchange, BHP agreed to transfer land to the west of the open cut mine to Malabar. This transaction creates opportunities including the potential for a future underground mine expansion approval for Malabar and the creation of around 350 jobs in the area.

4 Multi-criteria analysis

BHP has developed a Multi Criteria Analysis (MCA) for use in the evaluation of alternate land use opportunities, which supports a transparent and consistent approach for further studies and decision-making. The MCA considers factors that include social (including cultural heritage), economic (including relinquishment timeframes, costs and value generation) and environment outcomes. The MCA is used to assist in the evaluation of the likelihood that the delivery of outcomes will be more or less favourable than the base plan (which is to deliver the existing consented legislative environmental outcomes).

5 Community engagement, feedback and expectations

BHP has listened to the local community and state government and has established that there is an appetite and aspiration for more than environmental outcomes in mine closure. Evidence from overseas case studies where coal transitions have gone well suggests that for a just transition, aligned with what is required for sustainable development, a contemplation of environmental, social and economic outcomes needs to be central to coordinated planning and must include acceptance and support from the local community. Hence, how the land is leveraged for social, economic and environmental outcomes in closure is central to the land transition strategy in a way that realises outcomes better than the 'base plan' and delivers an optimised closure and transition vision.

Through a range of community engagement activities, BHP has sought to understand the community perspective on the Mt Arthur Coal mine closure in several ways.

5.1 Closure Legacy Expectations Assessment

The Closure Legacy Expectations Assessment (ICENI, 2024) engaged more than 800 community members and stakeholders through interviews, surveys, workshops and validation sessions. Participants expressed mixed emotions about the closure of the Mt Arthur Coal mine. There were strong concerns about economic uncertainty, employment, the future appearance and environmental health of the site, social and liveability impacts, cultural heritage protection, and the need for clear, timely communication. The assessment identified broad confidence in BHP's ability to manage closure responsibly, but also a clear expectation that the community should be actively involved in shaping closure outcomes. ICENI recommended that BHP focus on 5 areas: driving economic and social wellbeing outcomes, demonstrating best-practice rehabilitation, empowering community decision-making, integrating cultural and historical preservation, and improving strategic communication and engagement. Practical opportunities included establishing a community future fund, progressing future land use planning with community input, involving Indigenous stakeholders in cultural heritage and land restoration decisions, preparing buffer land for productive future use, publishing clear closure information and repeating the legacy assessment as closure approaches (ICENI 2024).

5.2 My Muswellbrook Research

The My Muswellbrook (Askland & Dimmock, 2025) research undertaken by the University of Newcastle engaged 69 residents across 13 participatory workshops to explore place identity, pride in place and community aspirations for Muswellbrook's future. The research found that residents see Muswellbrook as much more than a mining town, with strong attachment to home, family, community spirit, volunteering, natural landscapes, Aboriginal and non-Aboriginal heritage, agricultural and industrial history, and opportunities for young people. Participants expressed concern that mine closure could contribute to economic decline, population loss, weakened social ties, inadequate rehabilitation, and a 'ghost town' outcome, but also showed cautious optimism that closure could create opportunities for renewal, environmental healing, cultural heritage restoration, local employment and economic diversification. The report recommended that BHP support a place-based social legacy by investing in community-led social infrastructure, youth and Indigenous futures, training and employment pathways, collaborative post-mining land use planning, local procurement and enterprise development, transparent communication, closure literacy and community-led governance. Proposed legacy initiatives included a multipurpose community hub or community-owned social enterprise, a co-designed mine land re-use planning process, and early activation events to build trust, participation and momentum (Askland & Dimmock 2025).

5.3 Community events and outreach

BHP has continued to engage directly with the community through participation in local events including the Muswellbrook Cattle Dog Muster, Singleton Show, Tocal Field Days, and the Aberdeen Highland Games.

BHP has established a Community Reference Group to seek feedback on closure plans.

5.4 Ongoing community participation

BHP has also committed to a AUD 30 million community fund to help support the Upper Hunter region to prepare for 2030 and beyond. The fund will be delivered in partnership with the community through a shared decision-making model and will prioritise job creation, industry diversification and economic empowerment.

6 Workforce transition as a result of mine closure

Mt Arthur Coal has a workforce of approximately 2,000 people (BHP 2026c). One-on-one discussions with BHP employees in late 2023 identified 5 transition pathways for 2030 which included:

1. Retirement: some employees will reach the end of their careers and retire.
2. Rehabilitation: some employees indicated they would like to continue working at the mine as part of the final landform reshaping and rehabilitation activities.
3. Redeployment: some employees indicated they would like to continue their employment at another operation within BHP.
4. Re-skill: some employees indicated they would like to pivot their careers to something other than mining.
5. Re-employment: some employees indicated they would like to find an alternate job in the mining industry, including options outside of the Hunter Valley region.

BHP has implemented a number of support mechanisms for employees which includes:

- Financial advice support: each employee has been offered a one-on-one session with a financial advisor for financial advice.
- Career coaching: employees were offered support through one-on-one coaching to identify future pathway options.
- Re-skill support: via Registered Training Organisations and aligned to Australian Qualifications Framework, funded by BHP.
- Redundancy policies: built into staff policies and enterprise agreements, offering financial support to bridge the gap between finishing at Mt Arthur Coal and the next phase of employment for each individual (where they are not pursuing retirement).
- Individual transition plans: Each individual has an individual plan for their transition, bespoke to their specific pathway for the mine closure. These plans are to be reviewed on an annual basis and aligned to upskilling and retraining as required.

7 What's needed to enable the closure aspiration

The key elements to enable closure are summarised in Figure 5 and covered in literature (Diluiso et al. 2021), they include community buy in and support for alternate mine land and asset re-use, government enabling policy to provide confidence in timely approval pathways for future investors and industry (namely BHP, in this case) to invest in the studies and pursue outcomes that are above and beyond minimum compliance expectations. At the centre of the overlap is the element of time, with there being a window of opportunity in the short- to medium-term to realise these outcomes as a part of the Mt Arthur Coal mine closure.



Figure 5 Stakeholder alignment and collaboration bound by time

8 Conclusion

The Mt Arthur Coal mine closure contributes to the energy transition underway across the Hunter Valley region. Access to mining land is key to the NSW Government strategy to address the negative impacts of the transition and to enable alternative economic outcomes necessary for the future. Enabling legislative instruments and community support are fundamental to realise the land and asset re-use outcomes, with this work well underway. The NSW Government is aware of the urgency required and intent to streamline legislative processes and policy to enable improved closure outcomes that serves the alternate re-use of land and assets, which is key to addressing community sentiment and expectation, particularly as it relates to future employment and regional prosperity. Ultimately, BHP continues to pursue its transition and closure plan by working collaboratively to align industry, government (local, state and federal) and local community to achieve optimal outcomes in the near-term window of time for the closure of the Mt Arthur Coal mine and the Hunter Valley region.

9 Use of artificial intelligence disclosure statement

In the preparation of this work, the author used M365 Copilot (GPT-5 chat model) to generate summaries of the *My Muswellbrook report* (Askland & Dimmock 2025) and *Closure Legacy Expectations Assessment* (ICENI 2024) referred to under heading 5. The authors have reviewed the content and edited it where required and take full responsibility for said content.

References

- Abram, S, Atkins, E, Dietzel, A, Jenkins, K, Kiamba, L, Kirshner, J, Kreienkamp, J, Parkhill, K, Pegram, T & Santos Ayllón, L 2022, 'Just transition: a whole-systems approach to decarbonisation', *Climate Policy*, vol. 22, no. 8, <https://doi.org/10.1080/14693062.2022.2108365>
- Askland, HH 2018, 'A dying village: mining and the experiential condition of displacement', *The Extractive Industries and Society*, vol. 5, no. 2.
- Askland, HH & Dimmock, A 2025, *My Muswellbrook: Mapping Place Identity and Pride in Place*, University of Newcastle, Callaghan, https://www.newcastle.edu.au/_data/assets/pdf_file/0011/1128971/Askland_2025_Muswellbrook_Summary_FINAL.pdf
- Bang, G, Rosendahl, KE & Böhringer, C 2022, 'Balancing cost and justice concerns in the energy transition: comparing coal phase-out policies in Germany and the UK', *Climate Policy*, vol. 22, no. 8.
- BHP 2023a, *Mt Arthur Coal Mine - Modification 2 – Modification Report Appendix F: Landscape and Visual Impact Assessment*, NSW Planning Portal, Sydney, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0062-MOD-2%2120230927T065313.848+GMT
- BHP 2023b, *Mt Arthur Coal Mine - Modification 2 – Modification Report*, NSW Planning Portal, Sydney, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=MP09_0062-MOD-2%2120230927T065309.967+GMT
- BHP 2024, *Closure and Legacy Management Global Standard*, BHP, Melbourne, https://www.bhp.com/-/media/documents/ourapproach/governance/240000_closureglobalstandard.pdf
- BHP 2025, *Pumped hydro project study announced at Mt Arthur Coal, as it transitions to closure in 2030*, BHP, Melbourne, <https://www.bhp.com/news/articles/2025/04/pumped-hydro-project-study-announced-at-mt-arthur-coal>
- BHP 2026a, *Our Principles*, BHP, Melbourne, <https://www.bhp.com/sustainability/climate-change/equitable-change-and-transition>
- BHP 2026b, *Social Value*, BHP, Melbourne, <https://www.bhp.com/about/operating-ethically/social-value>
- BHP 2026c, *Mt Arthur, New South Wales*, BHP, Melbourne <https://www.bhp.com/what-we-do/global-locations/australia/nsw-mt-arthur-coal-mine-hunter-valley>
- Burstein, P 2003, 'The impact of public opinion on public policy: a review and an agenda', *Political Research Quarterly*, vol.56, no. 1, <https://doi.org/10.2307/3219881>
- Commonwealth of Australia 2019, *Rehabilitation of mining and resources projects and power station ash dams as it relates to Commonwealth responsibilities*, Canberra, https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/MiningandResources/Report
- Diluiso, F, Walk, P, Manych, N, Cerutti, N, Chipiga, V, Workman, A... & Minx, J 2021, 'Coal transitions – part 1: a systematic map and review of case study learnings from regional, national, and local phase-out experiences', *Environmental Research Letters*, vol. 16, <https://doi.org/10.1088/1748-9326/ac1b58>
- Ernst & Young 2022, *Diversification and Growth: Transforming mining land in the Hunter Valley*, https://assets.nationbuilder.com/lockthegate/pages/8119/attachments/original/1669702383/EY_final_report_Transforming_mining_land_in_the_Hunter_Valley_26_May_2022_%281%29.pdf?1669702383
- Foden, M., Beatty, C. & Fothergill, S. 2019, *The State of the Coalfields 2019: Economic and Social Conditions in the Former Coalfields of England, Scotland and Wales*, Coalfields Regeneration Trust, Rotherham.

- Gehman, J, Lefsrud, L & Fast, S 2017, 'Social license to operate: legitimacy by another name?', *Canadian Public Administration*, vol. 60, no. 2, pp. 293–317.
- ICENI 2024, *Closure Legacy Expectations Assessment Recommendations and Opportunities*, https://www.bhp.com/-/media/project/bhp1ip/bhp-com-en/documents/about/our-business/minerals-australia/241209_understandingcommunityperspectivesonmineclosure_report2024.pdf
- ICMM 2019, *Integrated Mine Closure: Good Practice Guide*, 2nd ed, London.
- McManus, P & Connor, L 2013, 'What's mine is mine(d): contests over marginalisation of rural life in the Upper Hunter, NSW', *Rural Society*, vol. 22, no. 2, pp. 166–183.
- New South Wales Department of Primary Industries and Regional Development 2024, *Guideline: Achieving rehabilitation completion (sign-off)*, NSW Resources Regulator. <https://www.resources.nsw.gov.au/sites/default/files/2024-08/guideline-achieving-rehabilitation-completion-sign-off.pdf>
- NSW Department of Planning and Environment 2022, *Hunter Regional Plan 2041*, <https://www.planning.nsw.gov.au/sites/default/files/2023-03/hunter-regional-plan-2041.pdf>
- NSW Department of Planning and Environment 2023, *Mine rehabilitation*, NSW Government, viewed 21 August 2026, <https://www.planning.nsw.gov.au/the-planning-system/mining-and-resources/mine-rehabilitation>.
- NSW Parliament 2025, Legislative Council, Standing Committee on State Development 2025, *Beneficial and Productive Post Mining Land Use (Report No. 53)*, Sydney, <https://files.parliament.nsw.gov.au/fileapi/ParlFiles/GetArtifact/Report%20no.%2053%20-%20State%20Development%20-%20Beneficial%20and%20productive%20post-mining%20land%20use%20-%20FINAL%20Report.pdf?serverRelativeUrl=%2Fdocs%2FInquiries%2F3046%2FReport%20no.%2053%20-%20State%20Development%20-%20Beneficial%20and%20productive%20post-mining%20land%20use%20-%20FINAL%20Report.pdf>
- Oei, P, Brauers, H & Herpich, P 2020, 'Lessons from Germany's hard coal mining phase-out: policies and transition from 1950 to 2018', *Climate Policy*, vol. 20, no. 8, pp. 963–979, <https://doi.org/10.1080/14693062.2019.1688636>
- The New South Wales Government 1992, *Mining Act 1992*, Australia.
- The New South Wales Government 1997a, *Environmental Planning and Assessment Act 1979*, Australia.
- The New South Wales Government 1997b, *Protection of the Environment Operations Act 1997*, Australia.
- The New South Wales Government 1997c, *Contaminated Land Management Act 1997*, Australia.
- Weller, S 2018, 'Just Transition? Strategic framing and the challenges facing coal dependent communities', *Politics and Space*, vol. 37, no. 2, pp. 298–316.
- Whitbread-Abrutat, P & Lowe, R 2024, *102 Things to Do with a Hole in the Ground*, Eden Projects Books, Cornwall.
- Zivanovic, J 2026, 'The five largest coal mines operating in Australia', *Mining.com.au*, <https://mining.com.au/the-five-largest-coal-mines-operating-in-australia/>