

Research into Policy and Legislation Governing the Reuse of Mining Lands and Coal- and Gas-Fired Power Stations in Australia

Final Report

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Prepared for: Net Zero Economy Authority

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Acknowledgment of Country

Urbis acknowledges the Traditional Custodians of the lands we operate on. We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years. We pay our respects to First Nations Elders, past and present.

Urbis is committed to incorporating our respect for First Nations cultures, peoples and storytelling in our work across the Country. We are proud to have partnered with Darug Nation artist, **Hayley Pigram**, and to profile her artwork – **Sacred River Dreaming**.



The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

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Executive Summary

Australia's transition to a net zero economy will necessitate the retirement of mining sites and coal- and gas-fired power stations. While these closures present complex challenges for regional communities, environmental management, and future workforce and skills requirements, they also create opportunities for economic diversification, innovation, and long-term sustainable job creation.

This research report provides a structured representation of the existing policy, legislative, and regulatory settings that govern the rehabilitation and reuse of mining lands and coal- and gas-fired power stations within Australia. The research and analysis are undertaken across six jurisdictions – the Commonwealth, Western Australia, South Australia, Victoria, New South Wales, and Queensland – with a focus on identifying the barriers and opportunities that influence beneficial and productive reuse.

The research draws on three key components:

- **Legislative and policy review** – mapping the relevant frameworks and examining their interactions, overlaps, and limitations.
- **Stakeholder consultation** – incorporating insights from 30 interviews with government agencies, industry, energy generators, First Nations organisations, research institutions, unions, and investor groups.
- **Case studies** – provided in a companion report, offering jurisdictional, thematic, and sectoral perspectives, across funding, government levers, missed opportunities and global and local examples.

Through this multi-phase approach, this report seeks to contribute to an improved understanding of how policy and regulatory settings at both state and Commonwealth levels can enable, or constrain, the rehabilitation and reuse of mining and power station sites. These findings will inform the Net Zero Economy Authority's consideration of strategies and policy to maximise beneficial reuse to enable support for a just and sustainable net zero energy and economic transition.

Throughout the project, three key themes were consistently revisited across the legislative review, stakeholder consultation and case study development. These key themes included:

- **regulatory, legislative and policy hindrances** of productive reuse
- **challenges and opportunities** in the development and implementation of productive reuse
- **beneficial and productive reuse types** of former mining lands and power stations.

Across six jurisdictions (Commonwealth, Western Australia, South Australia, Victoria, New South Wales and Queensland), thirty stakeholders (30 one-hour virtual consultations with a diverse range of stakeholder groups), and six key case studies (themes including missed opportunities, government funding to drive change, global examples, leading Australian examples, and legislative levers to drive change), this project provides key research and insights to support the future planning and reuse of mining lands and coal- and gas-fired power stations.

This report is to be read with the companion report *Research into Policy and Legislation Governing the Reuse of Mining Lands and Coal- and Gas-Fired Power Stations in Australia: Case Studies*, with a summarised report also available, *Research into Policy and Legislation Governing the Reuse of Mining Lands and Coal- and Gas-Fired Power Stations in Australia: Summary Report*. These reports undertaken for the Net Zero Economy Authority seek to understand and examine how policy, legislation and regulation at both Commonwealth and state levels interact, enable, and hinder the rehabilitation and reuse of former mining lands coal- and gas-fired power stations.

A summary of the research findings, and stakeholder opinions on the topic, across the three themes is included below.

The research findings of the key regulatory, legislative and policy hindrances of planning and implementing productive reuse of these mining lands and coal- and gas-fired power station sites include:

- Fragmented regulatory environment hinders effective rehabilitation and land reuse efforts by creating gaps in accountability and complicating long-term oversight.
- Stakeholders describe the regulatory environment as difficult to navigate, with responsibilities split across multiple government levels and agencies, leading to slow decision-making and creating uncertainty.
- Reactive and uncoordinated planning is common, due to the lack of a clear, overarching post-mining land use framework.
- Effective quantification and management of residual risk are essential to facilitate smoother transitions and ensure safe and productive land reuse. Residual risk remains a key barrier to post-mining land use, with governments' reluctance to assume liability complicating land transfer and final relinquishment.
- Industry concerns about indefinite liability and cost uncertainty, coupled with governments' need for rigorous assurance of long-term land safety and stability, are a key barrier.
- Complex and inflexible tenure arrangements hinder the transition of mining lands and power stations to productive reuse. Modernising tenure systems may support flexibility and innovation in post-mining economies.
- The lack of a clear pathway from mining tenure to rehabilitation or redevelopment tenures creates uncertainty and slows progress. Introducing transitional or rehabilitation-specific tenure categories may enable strategic land release.
- Lengthy and unclear approval processes for rehabilitation and reuse create uncertainty and discourage investment with slow timelines, unclear criteria, and risk-averse regulators delaying proposals.
- The evolving landscape of rehabilitation legislation is creating a challenging environment for operators, marked by inconsistent expectations and decision paralysis. Jurisdictions such as Victoria are transitioning, aiming to establish clearer responsibilities and encourage investment in higher-value reuses. However, this period of regulatory reform has introduced uncertainty, prompting some operators to delay significant rehabilitation decisions. This has resulted in extended 'care and maintenance' phases, underscoring the urgent need for a consistent and clear regulatory framework.
- Better alignment between state and federal legislation is essential for effective land repurposing strategies. Currently, the disconnect between local, state, and federal policy objectives creates significant challenges. Local councils may support specific land uses that state regulations do not align with, and decarbonisation and regional development ambitions are often missing from rehabilitation regulations. This misalignment hampers coordinated decision-making and long-term planning for communities.
- Existing legislation and regulations prioritise rehabilitation, with regulatory frameworks tending to support outcomes that prioritise environmental protection and risk management over pursuit of a highest and best use of the land and productive and beneficial reuse.
- New South Wales, Queensland, Victoria, and Western Australia have all entered into bilateral agreements with the Commonwealth, enabling these states to utilise their own assessment processes to undertake EPBC assessment of a project, reducing duplication of processes.
- At the Commonwealth level, there is no legislative mandate to consider during the approval of a mining or power station proposal a productive or beneficial use of the site once operations cease.

The research findings across key challenges and opportunities in the planning and implementing of productive reuses of these sites across mining land and power stations include:

- Site specific, regional, and jurisdictional considerations present challenges and constraints to developing replicable approaches or frameworks for reuse opportunities across jurisdictions and physical sites.
- The time-lag between decommissioning and future reuse operational stages. While decommissioning of mining lands and coal- and gas-fired power stations can occur within a defined timeframe, the processes required to enable productive reuse (remediation, planning approvals, infrastructure investment, market development, construction, etc.) extends over many years. This creates a gap in which workforces and communities face reduced employment opportunities and economic contraction, well before new industries or land uses are established.
- Addressing this lag is essential to support community resilience, sustain local services, and ensure that regional economies remain viable throughout the transition.
- Regulatory complexities and lengthy approval processes present significant challenges, with overlapping roles across agencies, evolving legislative frameworks, and inconsistent standards between jurisdictions causing delays and increasing investor hesitation.
- Differing levels and agencies of government often have overlapping but distinct priorities. Distinct priorities such as ensuring rehabilitation obligations, environmental standards, financial assurance, regional economic transition, land use and local (re)zoning, community outcomes, and beneficial and productive reuse of existing land and infrastructure.
- To attract investment and drive economic growth in these regions, a unified and consistent regulatory approach, effective risk management strategies, and streamlined approval processes are essential.
- Environmental risks and remediation present substantial challenges, particularly with high remediation costs and the complexity of contaminants.
- Community and workforce planning and sequencing is essential. A skills mismatch and the risk of labour displacement are significant concerns, as many workers possess highly specialised skills with limited relocation options.
- Realistic workforce planning and robust community support are crucial, including recognising prior skills and creating tailored transition pathways aligned with actual job opportunities.
- Genuine and early engagement with communities and Traditional Owners is vital for achieving social licence and value, and to build trust with First Nations communities. Collaborative planning and ongoing consultation can foster acceptance and support.
- Lack of early notice and proper sequencing in transitions can lead to the erosion of local supply chains and reduces workforce retention.
- Mining land and coal- and gas-fired power station closures present significant opportunities for long-term economic net zero economy potential and innovation. Large land areas with existing infrastructure offer strategic reuse options, particularly when planning aligns with community and government policy.
- Due to the nascent stage and long-term development horizons in this sector, there are limited national and/or global examples of successful and productive reuse of former mining lands and decommissioned coal- and gas-fired power stations.

The research found potential beneficial and productive reuse types of former mining lands and power stations:

- Energy hubs and renewable energy projects on decommissioned sites leverage existing energy and built infrastructure and proximity to energy demand centres.
- Clean energy infrastructure, such as solar, wind, pumped hydro, and energy-from-waste, are potential end uses for post-mining land, aligning with decarbonisation goals and leveraging existing transmission infrastructure and large-scale utility connections.
- Innovative and renewable energy industrial precincts (REIPs) and uses, including manufacturing, and green steel production offer significant benefits but face economic, physical, and regulatory challenges.
- There is strong stakeholder interest in transforming these sites into industrial or circular economy precincts, such as resource recovery centres, manufacturing hubs, and data centres. These developments represent opportunities to boost local economies as communities transition away from mining.
- Agriculture and nature conservation are frequently implemented on decommissioned sites, providing some economic and significant environmental benefits. Grazing and nature conservation can offer sustainable land reuse opportunities.
- Recreational lakes, tourism ventures, and wildlife parks can create valuable community assets and drive regional development.
- Recreational and tourism-related activities, such as camping grounds, lake developments, and conservation parks, are viewed positively when rehabilitation delivers environmental and amenity outcomes.

Focus areas for further investigation or intervention

Critical areas that merit further investigation or policy intervention have been identified. The analysis of these areas is grounded in research evidence, stakeholder insights, and jurisdictional practices, highlighting both opportunities and constraints associated with the productive reuse of former mining and power generation sites. The intention is to inform strategic decision-making, support risk management, and identify priorities that could support government in identifying, sequencing and planning future directions towards further progress across this focus area.

By presenting these future direction focus areas (or red flags of the current state), government is equipped to target resources effectively, align cross-jurisdictional efforts, and enable outcomes that balance economic, environmental, and community objectives.

1. Improve the alignment between strategic objectives, and policy & regulatory frameworks
2. Reframe policy from *rehabilitation* to *repurpose* and *reuse*
3. Strengthen incentives for first-movers in repurpose investment and ownership
4. Mitigate the impact of the transition time-lag disconnect between decommissioning and future reuse operational stages
5. Introduce greater flexibility into land use planning frameworks
6. Assess the current residual risk & liability management hindering reuse
7. Further investigate the benefits of progressive rehabilitation
8. Advance workforce development and community preparedness
9. Promote the strategic and place-specific value of mining and power station lands

10. Target investment and listen to investors' concerns
11. Develop replicable frameworks for productive reuse
12. Establish a Productive and Beneficial Reuse Ministerial Council or advisory body
13. Establish a National Roadmap for Productive Reuse

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This Report is strictly limited to the matters set out in it and is not to be read as extending, by implication or otherwise, to any other matter.

In preparing this document, we have only considered the legislation, regulations and policies within scope and current as at the date of this document. There may be other legislation, regulations and policies which are beyond scope and were therefore not reviewed.

We have not considered legislation, regulations and policies specific to the Australian Capital Territory, Northern Territory and Tasmania, nor projects which are based offshore from Australia.

Each of the 6 jurisdictions (Commonwealth, Victoria, New South Wales, Queensland, South Australia, Western Australia), are provided a section, in which the sector landscape, regulatory framework review and regulatory analysis are included. For efficiency, a summary is included at the beginning of each section.

Stakeholder confidentiality

The views expressed in this document were provided by stakeholders for the purposes of this project only. They do not represent government policy, or the formal positions of the organisations involved in the stakeholder consultations. Several stakeholders requested confidentiality and anonymity for their responses.

Other stakeholders have allowed for the inclusion of their organisations in this report, and have reviewed and approved their responses prior to the report being made public.

1 Introduction

As Australia transitions to a net zero economy, the retirement and transition from fossil-fuel based energy infrastructure and mining lands offers opportunities to drive economic diversification and job creation in impacted regions. To support this shift, this research report identifies existing policy, legislation, and regulations governing the planning and reuse of mining lands and coal- and gas-fired power stations. The report focuses on identifying the barriers and opportunities to increase the beneficial and productive reuse of these mining lands and power stations at a jurisdictional level.

This multi-phase project report seeks to understand and examine how policy, legislation and regulation at both Commonwealth and state levels interact, enable, and hinder, the rehabilitation and reuse of former mining and energy infrastructure sites. Current policy, legislation and non-enforceable guidelines across six jurisdictions – Commonwealth, Western Australia, South Australia, Victoria, New South Wales and Queensland – have been mapped, with the identification and analysis of the interactions of these different pieces of legislation, regulation and policy undertaken.

To maximise the opportunities for future beneficial and productive reuse, the Net Zero Economy Authority was seeking a comprehensive assessment of existing legislation and policy, an analysis of the current state through stakeholder consultation, and an examination by case studies – to understand the policy and legislation governing the planning and beneficial reuse of mining lands, and coal- and gas-fired power stations.

The planned closures and transition of mining lands, and coal- and gas-fired power stations presents complex challenges across the regional and local communities, environments, and future jobs and skills requirements. Stakeholders impacted by these changes are diverse, with government agencies, industry, energy generators, environmental regulators, First Nations organisations, research institutions, unions, and investor groups, all crucial to this discussion.

To capture these key stakeholders' views, stakeholder consultation interviews were carried out, with 30 stakeholders selected based on their sectoral relevance, regional presence, and ability to contribute unique insights and commentary into mining land reuse and coal- and gas-fired power station reuse. The key findings and summaries from these consultations have been included in this report by jurisdictional relevance.

Case studies focusing on the beneficial and productive reuse of mining lands, and coal- and gas-fired power stations, are included in a companion document *Research into Policy and Legislation Governing the Reuse of Mining Lands and Coal- and Gas-Fired Power Stations in Australia: Case Studies*, with six key case studies providing key insights and learnings at thematic, jurisdictional and sector levels. Missed opportunities, government funding to drive change, global examples, leading Australian examples, and legislative levers to drive change, are some of the key themes covered in the case study report.

Under both state and Commonwealth jurisdictions, this stocktake and analysis will inform our exploration of opportunities to increase the beneficial and productive reuse of mining lands and other key energy infrastructure sites in different regions.

1.1 Overview of contents and approach to this report

This research report is structured into six jurisdictional sections, each containing relevant legislative reviews and stakeholder findings. An overview of each section ordered by jurisdiction is provided below for clarity.

- Regulatory Framework Analysis provides a legal analysis of the interplay between the legislation, regulation and policy instruments, explaining when remediation and reuse are to be considered, and how obligations are enforced.

- Stakeholder Consultation Findings provides the jurisdictionally relevant stakeholder consultation and findings, providing the insights and views of a diverse range of stakeholders – noting some have requested to remain anonymous.
- In preparing this document, we have only considered the legislation, regulations and policies within scope and current as at the date of this document. There may be other legislation, regulations and policies which are beyond scope and were therefore not reviewed.
- We have not considered legislation, regulations and policies specific to the Australian Capital Territory, Northern Territory and Tasmania, nor projects which are based offshore from Australia.

1.2 Overview of the legislative, regulatory and policy review approach

A summary at the beginning of each jurisdiction provides an overview of key terms, sector insights, simplified regulatory tables, a hierarchy of instruments, key stakeholders and responsibilities, and the regulatory framework over a project's life cycle.

1.2.1 Legislative, regulatory & policy analysis

For each jurisdiction, an analysis of how the various pieces of legislation, regulations and policies interact to govern and guide the remediation, rehabilitation and beneficial reuse of mining lands and coal- and gas-fired power stations, with a particular focus on:

- a. broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse;
- b. at what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered;
- c. how remediation and rehabilitation works are secured by the regulatory framework;
- d. what is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use;
- e. to what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure; and
- f. to what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements.

The report analyses both 'primary' and 'secondary' legislation, regulations and policies. In these circumstances, 'primary' instruments are the main instruments which regulate the planning, use and rehabilitation of mining lands and power stations. These 'primary' instruments typically provide the systems by which planning, mining (if applicable) and environmental approvals are granted for a mining and/or power station project (without which, the project would not be able to operate). 'Secondary' instruments are those that regulate matters ancillary to the primary approvals. While important, these are not the key instruments regulating the planning, use and rehabilitation of mining lands and power stations (for example, legislation governing water entitlements).

Limitations

This legal study is limited to the identification and review of key mining, planning, environment, water rights and cultural heritage focused legislation, regulation and policy documents relevant to the planning, use, and rehabilitation of mining lands, and coal- and gas-fired power stations.

It does not purport to identify and review every piece of legislation, regulation and policy documents, which may be pertinent. For example, it does not consider legislation, regulation and policy documents focused on matters such as the storage and transport of dangerous goods, occupational health and safety, use of crown

land, native title, gas pipelines and transmission lines, and building permits, among others.

1.3 Overview of the stakeholder consultation approach

The methodology for the stakeholder engagement and consultation was designed to ensure comprehensive and targeted stakeholder engagement, capturing diverse perspectives on the challenges and opportunities in the closure, decommissioning, and productive reuse of mining lands, and coal- and gas-fired power stations. This section outlines the stakeholder engagement process, criteria for selecting stakeholders, and the consultation methods employed.

1.3.1 Stakeholder engagement process

Engaging with stakeholders is crucial for understanding the multifaceted issues surrounding the decommissioning and repurposing of former mining and power station sites. In collaboration with the Authority and guided by the outcomes of the policy, legislation, and regulatory review, we identified and mapped key stakeholder groups requiring engagement and consultation.

To ensure a thorough and meaningful engagement process, 30 one-hour virtual consultations with a diverse range of stakeholder groups were planned. At the time of preparing this document, 30 consultations had been completed. Given the complexity of the subject matter and the variation across jurisdictions and contexts, a qualitative, direct engagement approach was adopted. While the overarching themes remained consistent throughout the consultation process, minor adjustments were made to reflect the specific context of each stakeholder group and to ensure the questions were relevant and relatable to each participant.

1.3.2 Selection of stakeholders for consultation

The selection of stakeholders is a critical step to ensure that the engagement process is purposeful and targeted. We have chosen stakeholders based on their relevance to the mining and energy sectors, their influence on policy and practice, and their representation of diverse interests and perspectives across all appropriate jurisdictions. In close consultation with the Authority, priority stakeholders for initial consultation were identified and categorised by key engagement group, as follows:

- Environmental protection and rehabilitation;
- Government;
- First Nations;
- Industry peak bodies;
- Investors;
- Unions;
- Mining operators;
- Power generators; and,
- Research institutions.

1.3.3 Overview of consultation methods

Consultation methods, themes and questions were tailored to each stakeholder group, considering their context and specific needs. Given the complexity of the subject matter, one-hour one-on-one interviews were conducted with each stakeholder to ensure detailed and focused discussions. All consultations occurred in a virtual setting to maximise flexibility and participation.

Discussion papers were issued prior to the consultation sessions, to introduce the project purpose, outline the stakeholder-specific topics to be explored during the interviews and the expected outcomes of the engagement, alongside targeted questions tailored to each group. To gain a deep understanding of the drivers, challenges, opportunities and barriers stakeholders are observing, supplementary to the desktop investigations in Deliverable 1, engagement questions were broadly structured around:

- Legislative, regulatory, and policy barriers and hindrances

- Understanding of what each stakeholder sees as a productive and beneficial use
- Best industry practices for rehabilitation and beneficial and productive use
- Innovative land use and reuses with the greatest potential
- Common challenges in decommissioning activities
- Risk and liability as a development and investment barrier
- First Nations and community engagement and consultation practices
- Improving knowledge transfer between research institutions and industry
- The role of government in supporting research and beneficial reuse
- Case studies and/or exemplars of successful site reuse and lessons learnt
- Contributions of research institutions to piloting new land uses
- Immediate actions to strengthen collaboration among stakeholders, including the Authority.

By tailoring our collection methods and approaches to each stakeholder group, we effectively captured key insights and opinions, ensuring a comprehensive understanding of the challenges and opportunities in this field.

This report is structured by jurisdiction. Where a stakeholder covers multiple jurisdictions or has provided comments or insights relevant to a specific jurisdiction, those insights have been attributed to the corresponding section.

1.4 Companion case study report

Case studies focusing on the beneficial and productive reuse of mining lands, and coal- and gas-fired power stations are included in a separate document, with six key case studies providing key insights and learnings at thematic, jurisdictional and sector levels. Missed opportunities, government funding to drive change, global exemplars, leading Australian examples, and legislative levers to drive change, are some of the key themes covered in the case study report.

1.5 Designed to be accessed by jurisdiction or complete report

This report has been designed to be optionally read at an individual jurisdiction level (with Executive Summary and Introduction), or as a complete document.

2

Commonwealth

2 Commonwealth

Terminology

Term	Meaning
Basin	Murray–Darling Basin
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
Minister	Commonwealth Minister for Environment and Water
MNES	Matters of national environmental significance

2.1 Commonwealth regulatory framework analysis

2.1.1 Summary

The regulation of the development, operation, closure or decommissioning and remediation or rehabilitation of mines and coal and gas-fired power stations is generally the remit of state and territory governments. In certain circumstances these projects can require approvals under Commonwealth legislation. The most relevant piece of Commonwealth legislation is the EPBC Act. A mining or power station project may require an approval under the EPBC Act if it will have, or is likely to have, a significant impact on ‘matters of national environmental significance’ (MNES).

The Commonwealth has entered into bilateral agreements with many of the state and territory governments, which enables EPBC assessment of a proposal to be carried out by the state and territory governments – reducing duplication of processes.

The EPBC Act may impose remediation and rehabilitation obligations on project operators through the imposition of conditions on EPBC approvals. Action management plans are typically required to be prepared pursuant to a condition on an EPBC approval. An action management plan is required to specify how impacts of the action will be addressed and will often be made up of sub-plans such as a progressive rehabilitation and closure plan.

2.1.2 Overview of the regulatory framework for mining lands and coal- and gas-fired power stations

EPBC Act

While the regulation of mining operations and power stations is generally the remit of state and territory governments, the Commonwealth regulates these matters insofar as they relate to MNES. The EPBC Act (and associated instruments), provides for the protection of the environment, in particular, those aspects of the environment that are considered MNES.

Where proposed actions are likely to have a significant impact on MNES, the EPBC Act provides a framework for the assessment and approval of such proposals. Part 3 of the EPBC Act provides a finite list of MNES, which are: threatened species and communities; listed migratory species; Ramsar wetlands of international importance; Commonwealth marine environment; world heritage properties; national heritage places; the Great Barrier Reef Marine Park; nuclear actions and water resources, in relation to coal seam gas development and large coal mining development.

While the objects of the EPBC Act do not explicitly relate to the regulation of mining and power station operations, the EPBC Act is broadly concerned with promoting the protection of the environment, conservation and sustainable development – each of which are relevant to the remediation and rehabilitation of mining and power station lands and the reuse of these sites.

The following MNES are those which are most typically impacted by mining operations and power stations: Ramsar wetlands of international importance; Commonwealth marine environment; world heritage properties; national heritage places; the Great Barrier Reef Marine Park and nuclear actions. The EPBC Act explicitly protects water resources as a matter of national environmental significance, in relation to unconventional gas developments (including coal seam gas) and large coal mining developments. This is in explicit recognition of the water intensive nature of such projects, and the ability for these projects to detrimentally impact upon water resources.

Once assessment and approval of the proposal is completed, it will be determined whether the proposal can proceed and if so, on what basis. The Minister is empowered to impose conditions on the approval of the proposal. Broadly, conditions of approval may relate to:ⁱ

- the protection of MNES for which the approval impacts; or
- repairing or mitigating damage to a MNES for which the approval impacts.

The conditions accompanying EPBC approval therefore explicitly relate to managing impacts on MNES, but also indirectly relate to generally managing any detrimental impacts of a proposal on the environment, and ensuring any damage is mitigated (firstly) and repaired (secondly).

The Commonwealth is also empowered to impose financial assurance conditions on projects, as part of conditional approval under the EPBC Act.ⁱⁱ

Financial assurance can be provided by way of bond, guarantee or cash deposit, and acts as security to ensure compliance with the EPBC Act and conditions attached to an approval. While such financial assurance is not designed to secure remediation and rehabilitation works per se, the financial assurance can be drawn upon to ensure the mitigation and repair of any damage to MNES caused by a controlled action.

2.1.3 Intersection between the EPBC Act and other regulatory frameworks

While the Minister has broad powers to impose conditions on EPBC approvals, the Minister must consider any relevant conditions imposed under laws of the states or territories (for example, in relation to mining, planning, or environmental approvals).ⁱⁱⁱ

The EPBC Act empowers the Commonwealth to impose conditions relevant to the provision of a financial assurance in respect of a project. Such financial assurance operates in addition to any requirements for financial security imposed by the state or territory regulatory regimes. However, where approvals or authorisations under state or territory instruments require the provision of a financial assurance, the Commonwealth may consider it unnecessary to impose an additional requirement for financial assurance.

Heritage While matters of heritage (world heritage property and national heritage places) are regulated under the EPBC Act, there is no stand-alone legislation regulating heritage at the Commonwealth level. Where a project will have a significant impact on a world heritage property or national heritage place, it will require EPBC approval. Otherwise, the regulation of heritage (European and Aboriginal) is undertaken by each state and territory in Australia. In this respect, where a project is situated on a heritage site that comes within the ambit of both the EPBC Act and the relevant state legislation, approvals will be required at both the state and federal level.

States and Territories Under the EPBC Act, the Commonwealth has entered into bilateral agreements with many of the state and territory governments which enables EPBC assessment of a proposal to be carried out by the state and territory governments. For example, under the Victorian bilateral agreement, an EPBC assessment may be undertaken in parallel with a planning permit application process under the PE Act, an

EES assessment under the EE Act, certain licence applications under the Water Act 1989 or a heritage permit application under the Heritage Act 2017. After assessment, the relevant decision maker under the ‘accredited pathway’ provides a report to the Commonwealth assessing the likely impacts of the project on matters of national environmental significance to inform the Minister’s EPBC approval decision.

New South Wales, Queensland, Victoria, and Western Australia have all entered into bilateral agreements with the Commonwealth, enabling these states to utilise their own assessment processes to undertake an EPBC assessment of a project, reducing duplication of processes.

Unlike the above states, at the time of writing this report, South Australia does not have a current bilateral agreement with the Commonwealth to facilitate a single assessment process for South Australian projects requiring EPBC approval.

The previous bilateral agreement between the South Australian and Commonwealth government is no longer operable, and the preparation of the new bilateral agreement is underway.

Where states do not have bilateral agreements, or the EPBC Act does not explicitly refer to and interact with state legislation, a relevant project will require both EPBC approval in addition to the required state approvals. These approvals will exist in addition to one another, and all requirements under these approvals will need to be adhered to. Where possible, the practical requirements under these approvals (for example rehabilitation requirements) will be synthesised to ensure consistency.

Water Act 2007

In addition to the EPBC Act, the Water Act 2007 (Cth) is a federal law which applies to project operators who take and use water resources in the Basin.^{iv} Given that the Basin extends across numerous states and territories, the Water Act 2007 provides a uniform regulatory framework to ensure the efficient and equitable use of water resources in the Basin.

The Water Act 2007 provides for a system by which water users can obtain rights/entitlements to the Basin’s water resources. Such entitlements are particularly pertinent for water intensive activities, including the operation of a mine, in addition to rehabilitation and remediation activities. For example, the filling of a pit void with water requires a significant volume of water, which must be managed according to the regulatory framework. Water rights/entitlements will therefore have a bearing on what remediation and rehabilitation activities can occur (and when), and how the land can be reused once rehabilitated.

2.1.4 Overview of the hierarchy of instruments for mining lands & power stations, Commonwealth

Table 1 Overview of the hierarchy of instruments for mining & power stations, Commonwealth

Name	Type	Related act, instrument, policy, guidelines	Obligation	Applicable to mining lands?	Applicable to power stations?
Environment Protection, Biodiversity Conservation Act 1999 (Cth) (EPBC Act)	Act	Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)	The proponent of a project capable of having a significant impact on MNES.	Yes	Yes

Water Act 2007 (Cth) (Water Act)	Act	Water Regulations 2008 (Cth) Basin Plan 2012	Proponent/operator of projects in the Murray-Darling Basin.	Yes	Yes
Environment Protection and Biodiversity Conservation Regulations 2000 (Cth) (EPBC Regulations)	Guideline	Environment Protection, Biodiversity Conservation Act 1999 (Cth)	The proponent of a project capable of having a significant impact on MNES.	Yes	Yes
Mine Rehabilitation: Leading Practice Sustainable Development Program for the Mining Industry	Guideline	Not applicable.	Proponent/operator of mining operations.	Yes	No

2.1.5 Overview of the key stakeholders and responsibilities for mining and power stations

Table 2 Overview of the key stakeholders and responsibilities for mining and power stations

Stakeholder	Responsibility
Minister for the Environment and Water	Minister responsible for administering the EPBC Act
Department of Climate Change, Energy, the Environment and Water	Department responsible for administering the EPBC Act

2.1.6 Focus questions for mining lands and coal- and gas-fired power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

The EPBC Act may impose remediation and rehabilitation obligations on project operators through the imposition of conditions on EPBC approvals. Conditions can relate to the manner in which the project is operated, the protection of MNES, repairing or mitigating damage that the action may cause, and compliance with conditions specific in instruments made under other state or territory laws (such as mining, environment or planning permissions). As discussed above, rehabilitation and remediation requirements as part of an EPBC approval will exist in addition to any approvals required and granted at a state level. Notwithstanding this, such requirements under both federal and state approvals will often be consistent to ensure that project proponents are not subject to disparate rehabilitation requirements. Consistency is achieved through the integration of the Commonwealth and state/territory approval processes articulated above.

Action management plans are typically required to be prepared pursuant to a condition on the EPBC approval (though they may also be required to be prepared during assessment of the project). An action

management plan is required to specify how impacts of the action will be addressed and will often be made up of sub-plans such as a progressive rehabilitation and closure plan.

If an action management plan is required to be prepared, any commitments made within (for example, in relation to the ways that impacts will be avoided or mitigated) will need to be fulfilled.

At what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

EPBC approval is required before a controlled action can commence. The materials and information that are assessed as part of the assessment process under the EPBC Act must include information that relates to remediation and rehabilitation matters. As a result, these matters are required to be considered at the outset (in the preliminary project planning stage), and in any case prior to the commencement of the action. Delivery of remediation and rehabilitation matters will also be dealt with according to the EPBC approval, any conditions attached to the approval and, where applicable, the action management plan.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

The EPBC Act is primarily concerned with protecting the environment, particularly MNES. When assessing a mining or power station project that is a controlled action, the Commonwealth has regard to the objects of the EPBC Act to ensure that any detrimental impacts on the environment are appropriately minimised and managed. Accordingly, while assessment under the EPBC Act is likely to afford consideration to matters relating to the remediation and rehabilitation of mining land and power station sites once operations cease, there is no legislative mandate to consider during the approval of a mining or power station proposal the most productive or beneficial use of the site once operations cease.

To what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements?

The EPBC Act requires public consultation at both the referral stage, and assessment stage in relation to an action. Any referral under the EPBC Act is open for public comment, at which point stakeholders, and the broader public have an opportunity to comment on the mining or power station project, and any remediation and rehabilitation activities and proposed post-rehabilitation land uses specified in the project documentation. Once it is determined that an action requires assessment under the EPBC Act before it can proceed, the relevant assessment pathway will also be decided. While each assessment pathway requires public consultation in relation to the action, the extent to which the public are consulted varies.

How are remediation and rehabilitation works secured by the regulatory framework?

The Commonwealth, pursuant to an EPBC approval, may require the approval holder to provide financial security in the form of a bond, guarantee or cash deposit. This financial security is intended to ensure, among other things, compliance with the EPBC Act and regulations and conditions attached to an EPBC approval.

Accordingly, in circumstances where the Commonwealth imposes conditions explicitly relevant to remediation and rehabilitation works, any financial security will ensure that these are complied with. As such, while the EPBC Act does not expressly secure rehabilitation and remediation works, such works are ultimately secured by virtue of approval conditions.

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

Remediation/rehabilitation requirements for a mining or power station operation subject to an EPBC approval will be contained in the conditions of the EPBC approval. For example, the EPBC approval will likely include a condition requiring the approval holder to implement an approved progressive rehabilitation and closure plan. This plan will form part of the broader action management plan for the approval. Amending rehabilitation outcomes may, therefore, require a variation to the EPBC approval's action management plan. An application for a variation must be made in writing and accompanied by the information and fee prescribed by the EPBC regulations. Applications to vary an action management plan need to be accompanied by an explanation of the differences between the plan as approved and the plan as proposed, and a statement setting out the reasons why the proposed variation is required.

In saying this, an EPBC approval may include an administrative condition allowing certain sub-plans of the action management plan to be "unilaterally" revised by the authority holder without a formal variation application being submitted, provided certain conditions are met. For example, the revision must not be likely to have a new or increased impact.

A proposal to reuse mining land or a power station site for an alternative use post-closure could also trigger a need for assessment and approval under the EPBC Act if the proposal itself could have a significant impact on MNES (that is, the action is a 'controlled action'). Where EPBC approvals and plans are amended to account for changes to intended remediation/rehabilitation outcomes for a site, the approval holder will also need to consider whether amendments to any state approvals/instruments are required to ensure consistency. The amendment processes for an EPBC approval and any state approvals/instruments are not integrated. In saying this, the Victorian, Western Australian, South Australian (now ceased) and Queensland bilateral agreements require the Commonwealth and the relevant state authorities to notify each other before varying conditions attached to an approval for an action, where the condition relates to, or affects, a matter protected under Part 3 of the EPBC Act, while the NSW bilateral agreement requires NSW authorities to annually report on any substantial variations to conditions of approvals.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The Commonwealth regulatory framework, underpinned by the EPBC Act, does not mandate consideration of the most productive or beneficial use of a mining or power station site once operations cease. While the assessment process under the EPBC Act must include information that relates to remediation and rehabilitation of a site, these matters are assessed primarily to ensure that MNES are protected. Accordingly, the regulatory framework does not expressly support the productive or beneficial uses of a site post-closure by requiring mining and power station operators to proactively consider these matters. Arguably this is appropriate though having regard to the remit of the EPBC Act (i.e., its focus is on protecting matters of national environmental significance, not regulating mining or power station operations).

A primary way in which the EPBC Act can be said to actively support the realisation of the productive or beneficial reuse of a site post closure is by providing regulatory efficiency in circumstances where intended remediation/rehabilitation outcomes need to be varied to support a proposal to reuse mining land or a power station site for an alternative use post-closure. As detailed earlier, remediation/rehabilitation outcomes are usually imposed through conditions on an EPBC approval and will often form part of an action management plan for a project. Action management plans may in certain circumstances be "unilaterally" revised by the authority holder without a formal variation application being submitted, provided certain conditions are met.

The EPBC Act arguably also hinders the productive or beneficial reuse of a mining or power station site post closure by being an additional regulatory hurdle that needs to be overcome where the specific reuse proposal triggers a need for assessment and approval under the EPBC Act (because it could in and of itself have a

significant impact on MNES). Stakeholder feedback obtained by Urbis indicates that overlapping regulatory roles between Commonwealth and State and Territory governments and the two-tiered assessment process for proposals - requiring approvals under both Commonwealth and State/Territory legislation - can lead to long, complicated and expensive approvals processes which undermine investor confidence and hinder the strategic and sustainable repurposing of mining land and power station sites. Consultation also found the importance of bilateral agreements, with states with bilateral agreements in place experiencing time benefits, increased speed and efficiency, compared to those without such agreements in place.

A recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended 'care and maintenance' to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

Stakeholders during the consultation sessions raised a list of other hindrances across the regulatory framework, which included fragmented governance and overlapping regulatory roles continuing to pose challenges for effective decision-making and policy implementation for post-mining land use. It was also noted that reluctance by state governments to assume residual risk, together with limited financial safeguards, creates exposure to significant remediation liabilities. Stakeholder further noted that progress on legislative reform remains uneven across jurisdictions, resulting in inconsistency and uncertainty for industry. Lengthy and unclear approval processes can add cost and delays, complicating efforts to transition land for productive reuse.

2.2 Commonwealth stakeholder consultation & findings

2.2.1 Summary

The stakeholder consultations have been synthesised into four key themes; Beneficial and Productive Reuse, Challenges and Opportunities, and Legislative, Regulatory and Policy Hindrances. These have been provided below in table format, followed by the key findings per stakeholder.

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none"> ▪ Post-mining sites offer significant potential for renewable energy projects, clean energy hubs, and local manufacturing. These initiatives can leverage existing infrastructure, support decarbonisation, and align with national and regional priorities. ▪ Sites can be transformed into agriculture, grazing lands, nature conservation areas, wildlife parks or recreational lakes, creating a tourism offering. ▪ There is opportunity to repurpose sites for industrial uses that create full time employment capacity. However, careful planning is required to confirm economic viability of these initiatives. ▪ Leveraging new technologies, including digital twins, to use real time data to plan and tactically adjust approaches in long term planning can significantly aid in solving repurposing challenges. 	<ul style="list-style-type: none"> ▪ Effective workforce planning and community support are essential for transitioning local workers and retaining skills in new industries. ▪ Attracting investment requires addressing key barriers, providing economic incentives, and ensuring government support to de-risk early-stage developments and projects. ▪ Clear regulatory frameworks, streamlined approval processes, and coordinated national and regional planning are crucial. ▪ Managing liabilities, addressing environmental risks, and integrating First Nations knowledge are vital for safe and sustainable site rehabilitation and reuse. ▪ Balancing environmental, social, and economic objectives through place-based, bottom-up approaches ensures tailored and effective regional development. ▪ Repurposing retired sites and investing in new technologies can bridge the gap between closure and new industry readiness, preventing time-lag, and driving regional economic growth.

Legislative, Regulatory & Policy Hindrances
<ul style="list-style-type: none"> ▪ Fragmented governance and overlapping regulatory roles create significant challenges in effective decision-making and policy implementation for post-mining land use. ▪ State Governments' reluctance to assume residual risk, coupled with insufficient financial safeguards, exposes significant liabilities in mine site remediation. ▪ Uneven progress in state reforms and diverging legislation highlight the need for a unified national policy to ensure consistent and effective post-mining land use. ▪ Lengthy and unclear approval processes result in significant delays, costs and challenges, complicating the financial returns on the transition of land for future productive reuse. ▪ The lack of coordinated frameworks and continually evolving policies undermines investor confidence and hinders strategic and sustainable repurposing of mining sites. ▪ Exploited loopholes and imbalanced policy settings necessitate updated and robust rehabilitation standards and balanced support for both new and existing industries.

2.2.2 Key findings by stakeholder

CRC TiME (Cooperative Research Centre for Transformation in Mining Economies)

Productive Uses:

- **Best practice principles to guide rehabilitation and reuse:** Incorporating best practice principles into post-mining land reuse is essential for achieving sustainable and productive outcomes. Early planning ensures future land uses are considered from the outset, facilitating smoother transitions.
- Progressive rehabilitation should be implemented rigorously and transparently, with ongoing monitoring and validation to continuously improve efforts. Effective planning must consider waste placement, supporting infrastructure, and long-term land functionality, significantly impacting the success of post-mining land uses. Expectations of best practice have evolved since the 1970s–90s, with modern standards requiring more comprehensive and sustainable approaches.
- Rehabilitation and transition must account for changing land values and evolving community expectations, necessitating flexible and adaptive planning. Collaborative planning, engaging local community expertise, leads to more productive and accepted outcomes, as seen in the Latrobe Valley.
- CRC has been involved in the *Regions in Transition* Latrobe Valley Collaborative Governance Project, which is part of the Latrobe Collaborative Planning initiative. This project aims to shape a shared vision for the future use of the Latrobe Valley's mine lands as Victoria transitions away from coal-fired power generation.
- The project brought together Traditional Owners, mine operators, government agencies, universities, and community groups to co-develop and assess post-mining land-use scenarios, including opportunities in the bioeconomy and renewable energy. This process used facilitated multi-criteria analysis and values-led approaches, resulting in two reports that outlined progress to date and summarised regional aspirations for development.
- A cultural shift is needed, moving from compliance-driven approaches to proactive, outcomes-based planning. This requires a change in mindset and regulatory frameworks, fostering a more innovative approach to post-mining land reuse.
- **Common uses:** Several uses were cited as typical post-mining uses, including grazing, nature conservation, tourism, and wildlife parks. These uses are more frequently implemented and can be linked to other activities like tourism, providing economic and environmental benefits.
- **Aspirational/rare uses:** Innovative uses such as pumped hydro and underground infrastructure are limited by economics, physical feasibility, and regulatory barriers – but can offer significant benefits. Careful planning and investment are required to overcome these challenges and realise the potential of these advanced reuses.

Challenges:

- **Workforce & community planning:** Realistic workforce planning and community support are essential for successful transitions from mining to new industries. Considering the different nature of jobs compared to mining, it is crucial to address the skills and expectations of the local workforce. Additionally, supporting communities with deep place-based ties is vital. Understanding and respecting the community's connection to the land can facilitate more successful transitions, ensuring that new developments are accepted and supported by local residents.
- **Investment barriers:** Attracting capital is hampered by unclear site ownership, residual risk, and complex approval systems. These barriers create uncertainty for investors, making it difficult to secure the necessary funding for redevelopment projects.

- Addressing these issues requires simpler regulatory frameworks, effective risk management strategies, and streamlined approval processes. By reducing these barriers, it becomes easier to attract investment, which is essential for driving economic growth and facilitating the transition to new, productive land uses.
- **Ongoing liabilities & risks:** Managing ongoing liabilities and risks is critical to successful post-mining transitions. Avoiding the transfer of mining assets to under-capitalised companies is essential to prevent evasion of closure responsibilities. Additionally, addressing the underestimation of closure costs, especially when calculated as Discounted Cash Flow, Net Present Value (DCF NPV), ensures that sufficient resources are allocated for closure and rehabilitation.
- CRC Time has done research into the inadequacy of this method for assessing the costs or economics of mine closure and post-closure activities due to its significant limitations. CRC Time noted that mining companies need to reconsider how they approach the evaluation of operations, particularly in relation to closure. Alternative approaches may offer more appropriate frameworks for estimating the financial implications of closure, although challenges remain in accurately quantifying risks and uncertainties.
- Further, there is a significant gap between the development of Mine Closure Plans and their actual implementation, resulting in missed opportunities for post-mining land use. One of the main challenges lies in accurately estimating the costs of post-mining options, as these are often affected by evolving knowledge of the deposit, changes in mine ownership, shifting regulatory requirements, and the expectations of external stakeholders.
- **One key issue is the inconsistency in regulation.** Many regulatory agencies face knowledge gaps, making it difficult to effectively oversee, track, and update closure processes across numerous sites while also preparing the necessary compliance reports. This is further complicated by limited flexibility in integrating regulatory frameworks. To address this, there is a need for a clear, uniform set of outcome-focused legislative requirements.

Opportunities & Recommendations:

- **Learning from best practices:** International examples such as the US model, Germany's Ruhr Valley, and other US models offer valuable insights for post-mining land reuse. The US model demonstrates the potential for niche companies to take responsibility for sites, using fees to remediate and rent out for industrial use. However, the US context might be different to Australia, given it is supported by stronger demand for industrial use and more flexible regulatory settings.
- Germany's Ruhr Valley demonstrates the importance of sustained coordination, significant financial commitment, and governance across multiple levels. The region's transition spanned five decades and required an investment of €38 billion. These lessons highlight the need for substantial resources, collaborative planning, and flexible regulatory frameworks, which would need to be designed to suit the Australian context.
- **Taking a holistic approach:** Taking a holistic approach to post-mining land use involves balancing trade-offs between environmental, social, and economic objectives. Over the last five years, there has been a shift towards productive reuse, reflecting changing regulatory and community expectations. Capturing environmental values in regional planning systems ensures that environmental benefits are considered alongside economic and social objectives.

Legislative, Regulatory & Policy Hindrances:

- **Misalignment in goals:** A core issue is the misalignment of goals between regulators and mining companies. Government regulators focus on closure approvals while mining operators in many instances would like to finish the closure works as quickly as possible. This often leaves no clear owner or responsibility for long-term oversight and risk management.
- **Residual risk:** Governments are often reluctant to assume liability for residual risk, making land transfer and final relinquishment difficult. Effective quantification and management of residual risk are essential to facilitate smoother transitions and ensure that post-mining land can be safely and productively reused.
- **Regulatory inconsistency:** Regulation of mine authorisation and closure primarily falls under state jurisdiction, leading to variations in how each state manages the process. These differences are compounded by the complexity of legal and regulatory communication. Queensland has the most clearly defined legal framework supported by an independent institutional structure, while Victoria operates under a similarly well-defined framework but with a different institutional approach. In contrast, Western Australia relies heavily on guidelines rather than legislation, which can limit enforceability and, in some cases, credibility.
- Key elements of a strong regulatory framework include transparent and staged rehabilitation planning from the initial mining proposal, secure financial mechanisms to cover non-implementation, mandated community engagement, clear processes and criteria for land tenure relinquishment following rehabilitation, and early identification of residual risks and potential post-mining land uses.
- **Tenure system constraints:** Existing land tenure arrangements often make it difficult to convert mining leases into new productive uses. This is particularly complex in jurisdictions where lease conditions and rehabilitation obligations are fragmented or slow to resolve. Modernising tenure systems, such as through streamlining approvals for re-purposing land use, can support flexibility and innovation in post-mining economies, enabling more efficient and effective land transitions.

Anonymous stakeholder

Productive Uses:

- **Energy hubs:** Retailers are increasingly interested in developing "energy hubs" on decommissioned mining sites. These hubs can leverage existing transmission infrastructure and proximity to demand centres, making them attractive for new energy projects.
- **Recreational lakes:** Converting disused mine sites into recreational lakes is an attractive option for post-mining land use. However, progress is often hindered by regulatory complexity including the number of government institutions, and a lack of ownership in the decision-making process.
- These challenges create uncertainty in realising the proposed new uses. For instance, the creation of a pit lake would require water, raising questions about who would approve the provision of such resources. Overcoming these hurdles requires coordinated efforts and clear regulatory frameworks to facilitate the successful transformation of these sites into valuable community assets.

Challenges:

- **Coal plant closure and site rehabilitation:** Decommissioning coal-fired power stations often involves complex legacy issues, including the rehabilitation of ash dams.
- Progress in repurposing disused sites is often hindered by regulatory complexity, inconsistent government engagement, and a lack of ownership in the decision-making process, creating uncertainty in realising proposed new uses.

- **Role and future of gas:** While coal is being phased out, the Integrated System Plan developed by AEMO acknowledges the continued role of gas in firming renewable energy, especially during peak demand. Questions remain about repurposing retired gas sites for peaking plants or synchronous condensers and to provide essential system services. This is an ongoing, complex, and broad market discussion.
- **Labour market challenges:** The reliability of closure schedules affects workforce planning. When a potential closure has been delayed, this creates uncertainty on transition plans including labour. Maintaining skilled labour is difficult when workers know their jobs are temporary. Retention becomes more difficult if closure dates shift. While many skills are not directly transferable, upskilling pathways exist.

Opportunities & Recommendations:

- **Technical and market solutions:** Some generators are investing in synchronous condensers to provide essential grid services like inertia. AEMO is currently working on better defining these system security services and how they will be designed to create the right incentives for the market.
- Transparency from AEMO and other bodies on system services (like inertia and system strength) is critical for supporting future investment cases. Clear definitions and valuation of these services will encourage further investment in technologies that enhance grid stability and reliability.
- **Market settings and investment:** There is a disconnect between identifying required investments (e.g., firming capacity) and providing policy or financial mechanisms to secure them. Government co-investment can be used as a lever, particularly for large, long-term infrastructure projects such as Snowy 2.0 or transmission upgrades. States could also explore strategic reserve models where mothballed plants can be brought back online as needed, acting as an insurance policy for system reliability. This approach could work in a co-investment model with government, ensuring that critical infrastructure is available when needed.
- **Regional scenario planning:** A more detailed, regionally specific scenario analysis is needed. National plans often lack the granularity to address local employment and infrastructure challenges. The orderly transition of the energy system requires better alignment between emissions targets, infrastructure delivery, and investment timing. By focusing on regional specifics, planning can more effectively address the unique needs and opportunities of different areas, ensuring a smoother and more equitable transition.

Legislative, Regulatory & Policy Hindrances:

- **Approval processes for rehabilitation and reuse:** Approval processes for rehabilitation and reuse are lengthy and unclear. Previous experience suggests that six years is often insufficient for full master planning and approval. This lack of clarity and extended timelines can hinder progress and discourage investment in rehabilitation projects.
- **Fragmentation and ambiguity:** There is fragmentation and ambiguity around who holds decision-making authority within government departments, leading to delays and frustration. This lack of clear governance can impede the efficient execution of rehabilitation and reuse projects, creating uncertainty for stakeholders.

Anonymous stakeholder

Challenges:

- **Workforce transition:** Workforce transition is a significant challenge, as employees must decide whether to stay until closure or relocate immediately. Retaining the workforce and skills is difficult without guarantees of new jobs and the fruition of the transition. Due to the lower impact and quicker transition of power generator sites, some energy companies can act as a bridge to maintain the

existing workforce and skills where possible. This approach supports the transition and establishes new industries, which can then support mine sites as a second stage, accelerating the ignition of new industries while continuing to support the supply chain and local businesses and retaining the existing workforce in the region.

- **Risk sharing:** Investing in transition infrastructure and rezoning is necessary, but the private sector cannot carry the entirety of the risk without certainty. Addressing these issues is crucial for private sector investment to materialise. Ensuring that there is a clear framework for risk sharing between the private sector and government can provide the necessary certainty and encourage investment in the transition process.

Legislative, Regulatory & Policy Hindrances:

- **Misalignment of state and federal policy settings:** There is a misalignment of legislation, with mechanics and policy sitting at the state level. Despite ‘in principle support’, there is no forum or practical mechanism to facilitate joint state and federal collaboration. This misalignment creates challenges for companies facing challenges in attempting to facilitate cooperation. Without a coordinated approach, it is difficult to implement effective policies that support regional development and investment.

Australian Workers Union

Challenges:

- **Lack of clarity in job materiality:** There is a lack of clarity for members regarding job opportunities in the transition to a net zero economy. While members see the need for this transition, they do not see the accompanying job opportunities, which is critical to all government policies. Ensuring that job opportunities and pathways are clearly communicated and understood is essential for gaining support, trust and ensuring successful policy implementation.
- **Consultation with regional communities:** While the AWU is consulted, there is a lack of engagement with the actual on-the-ground community and businesses. The importance of social licence and community buy-in is crucial, and long-term employment opportunities need to be provided. Engaging with regional communities and balancing new start-up opportunities with the continuation of existing businesses is essential for long-term regional development.

Opportunities & Recommendations:

- **Importance of social licence:** The importance of social licence and community buy-in is crucial for successful transitions. Long-term employment opportunities need to be provided to ensure community support. In some cases, there will be skills shortages, and part of the solution will be training people within the local community. Engaging with regional communities and ensuring their needs and concerns are addressed can foster a supportive environment for new and existing industries.
- **Investment in the supply chain:** Investment in the supply chain businesses in the region is necessary to support existing industries effectively. Prioritising existing businesses and supply chains can help maintain economic stability, support job retention, and ensure a smoother transition to a net zero economy. This approach can also create a more resilient and diversified local economy, capable of adapting to future changes.

Legislative, Regulatory & Policy Hindrances:

- **New industries vs existing industries:** Current policy settings often prioritise new opportunities over existing industries. This imbalance risks neglecting the established businesses that have built the economy and can continue to contribute significantly.

It is crucial to ensure that policies support both new start-up opportunities and the continuation of existing businesses.

Anonymous Stakeholder

Productive Uses:

- **Renewable energy generation:** This stakeholder is supportive of the adaptive reuse of brownfield sites, particularly those with minimal biodiversity value, for productive outcomes such as renewable energy generation and associated transmission infrastructure. Many coal- and gas-fired power station sites, located on brownfield land with existing infrastructure and typically not in areas of environmental significance, are strong candidates for this type of redevelopment, enhancing rehabilitation efforts and contributing to sustainable energy goals.

Challenges:

- **Environmental risks:** Environmental risks, such as contaminated soil or groundwater, particularly near wetlands, can trigger federal oversight. These risks require careful management to prevent further environmental degradation and ensure compliance with regulations.
- **Legacy mines:** Legacy mines often present significant challenges, including unstable voids, lack of topsoil, and ongoing environmental monitoring requirements. While using landfill to fill voids has been contentious as an option to fill the voids, it can be a viable solution if managed appropriately to stabilise the land and mitigate risks.

Opportunities & Recommendations:

- **Integration of First Nations knowledge:** There are significant opportunities to further integrate First Nations knowledge into environmental projects, such as using traditional seed banks and native species for reforestation. Ongoing consultation with First Nations groups, particularly around ecological restoration and the use of native seeds, is essential.

Legislative, Regulatory & Policy Hindrances:

- **Importance of bilateral agreements:** There are no significant hindrances at the federal level, as the process is transparent and structured to avoid duplication with states. However, states with bilateral agreements in place experience time benefits, such as increased speed and efficiency, compared to those without such agreements.

This highlights the importance of establishing and maintaining bilateral agreements to streamline processes and enhance coordination between federal and state levels.

Minerals & Resources Division, Department of Industry, Science and Resources (DISR)

Productive Uses:

- **Renewable energy technologies:** The government has been developing the sector decarbonisation plan for over a year, incorporating stakeholder input and focusing on renewable energy generation and new technologies. However, some Australian mining companies are risk-averse and hesitant to adopt new technologies without proven case studies, highlighting the value of successful pilot projects to demonstrate viability and encourage broader adoption.
- **Industrial and manufacturing:** Some areas of the mines could be repurposed for industrial and manufacturing activities. However, this option requires assessing economic viability, the scale of necessary investment in supporting infrastructure, remediation expenses, and ensuring suitable market conditions, such as sufficient demand for these alternative land uses.

Challenges:

- **Risk-averse mining operators:** Some Australian mining companies are risk-averse and hesitant to adopt new technologies or models without proven case studies. This cautious approach can hinder the adoption of innovative solutions that could improve models or options in the mining sector.
- **Technical barriers:** Challenges such as the settlement of waste dumps, acid-forming dumps, contaminants, and the economic feasibility of remediation versus productive reuse present significant technical barriers. These issues complicate efforts to transition from traditional practices to more sustainable and productive land use.

EnergyAustralia

Productive Uses:

- **Recreation, housing and early activation:** Prioritising the early replacement of capacity, such as constructing batteries, solar or gas plants, can drive early activation of former mining areas. This could see the retraining of workers to work at the new energy or industrial facilities. With an approved mine plan and access to water, a site offers the opportunity for recreational activities like fishing and boating, as well as potential housing developments. This can create diverse and productive uses for these sites, benefiting local communities and economies.

Challenges:

- **Water access and costs:** Water access and associated costs have posed significant challenges for mine rehabilitation. While filling pits with water can effectively stabilise mine voids and surrounding landforms, acquiring water entitlements to support rehabilitation may be more costly than costs for use in an operating power station. These factors introduce the risk that sites could remain in indefinite care and maintenance rather than achieving full rehabilitation, particularly when large water volumes are required for rehabilitation.

Opportunities & Recommendations:

- **Bridging the gap between closure and new industry readiness:** To address the significant gap between mine closure timelines and new industry readiness, accelerated investment and incentives are essential. This requires high-level coordination with current and future employment opportunities to prevent long-term workforce displacement. EnergyAustralia has supported this transition by offering career coaching, study leave, and training, ensuring that the workforce is supported and prepared for new roles.

- **Providing certainty and economic incentives:** Providing industry with certainty on new uses and rehabilitation plans, along with clear economic incentives such as seed funding and taxation incentives for investors, is essential to attract significant investments into regions. This approach can help draw in large-scale projects like data centres and manufacturing, driving economic growth and development in post-mining regions. However, overall investment attraction strategies remain underdeveloped relative to the scale of the transition challenge, highlighting the need for more robust and comprehensive investment efforts.

Legislative, Regulatory & Policy Hindrances:

- **Changing legislation:** Changing legislation makes mining operators hesitant to commit to expensive plans that might need to be redone later. This uncertainty can lead to prolonged "care and maintenance" phases, which are not conducive to beneficial uses.

Inconsistent and evolving rehabilitation expectations create decision paralysis, as companies seek clarity and shared objectives to invest confidently in higher-value reuse.
- **Fragmented regulatory process:** The regulatory process is fragmented, involving overlapping responsibilities among regulators, state government departments, and local councils, which further slows decision-making.
- **Lack of state-led framework and incentives:** Without an overarching state-led framework or incentives, the repurposing of mining sites is fragmented and reactive rather than coordinated. This approach risks failing to deliver long-term benefits to local communities and the economy, as efforts are not strategically aligned to maximise positive outcomes.
- **Lack of detailed local planning:** EnergyAustralia has considered existing frameworks from local LGAs, but detailed land use planning has not yet been undertaken by state or local government. This lack of detailed or concrete local planning hinders effective and coordinated repurposing efforts, leaving gaps in the strategic development of former mining sites.

Investor Group on Climate Change (IGCC)

Productive Uses:

- **Clean energy hubs:** Rehabilitated coal sites have the potential to be repurposed into clean energy hubs and manufacturing sites, such as solar manufacturing or hydro projects. An example is the Green Gravity initiative, which explores these possibilities. This approach emphasises the importance of co-designed, community-centred projects that reflect local aspirations and needs, supported through two-way consultation.
- **Renewable energy generation and supply chain:** Productive uses of post-mining land can include renewable energy generation and local manufacturing, such as solar panels, wind and battery storage projects. Pacific Blue's wind project in Ararat serves as a model for best-practice co-design, where the company engaged directly with schools and established community consultation hubs.

This approach builds strong relationships and trust, ensuring community buy-in and educating the community on the benefits of renewable energy. Clear transition plans from governments, outlining key stakeholders and trade partners, are essential to ensure investment confidence and alignment with national and regional priorities.

Challenges:

- **Specialist Investment Vehicles need reform for net zero and Future Made in Australia:** While Australia has significant public investment capacity, the system governing these vehicles was designed for a slower, more stable era – not for the pace, scale and global competition defining today's clean-

industry transition. Reforming Australia's public capital system would expand the nation's pipeline of investable decarbonisation and resilience projects, streamline processes, improve risk-sharing between public and private capital, and better align investment with national climate and industry goals – ultimately enabling significantly more private capital to be crowded in.

- **Addressing risk:** Investors are increasingly focused on assessing a range of risks, including workforce capability and transferability, infrastructure readiness (e.g., freight and ports accessibility), transitional costs, co-benefits (e.g., job creation), and physical risks associated with climate change. Inadequate planning in these areas could reduce investor appetite, particularly where long-term resilience and community adaptation have not been adequately addressed.

Opportunities & Recommendations:

- **Government intervention to attract global capital:** For renewable projects in Australia, approximately 60–70% of investment comes from international institutional investors who seek specialised investment vehicles or government guarantees to de-risk early-stage projects. Government support in the form of volume guarantees, long-term contracts, or procurement commitments could significantly lower perceived risk and increase private sector participation. Adopting these "novel approaches" and looking at successful international examples could prove beneficial in attracting global capital into transitional regions.

Legislative, Regulatory & Policy Hindrances:

- **Lack of a clear, consistent policy architecture:** The lack of a clear, consistent, and long-term policy architecture remains a critical barrier to investor participation in climate-aligned projects. While initiatives like the "Future Made in Australia" policy and the updated Safeguard Mechanism have improved certainty, contradictory signals from continued subsidies for carbon-intensive industries undermine investor confidence. Slow and complex planning processes further exacerbate these challenges, leading to uncertainty and hesitation among investors. In the near-term, the Government could improve long-term policy certainty by legislating for regular updates to the National Climate Risk Assessment and National Adaptation Plan, as well as sector-by-sector decarbonisation plans.

Minerals Council of Australia (MCA)

Productive Uses:

- **Native Title considerations:** Repurposing mines must take into account Native Title determinations, as land rights often revert to Traditional Owners who may prefer rehabilitation back to nature. Engaging with Traditional Owners and respecting their preferences is crucial for the success of any repurposing project, ensuring that outcomes align with cultural and environmental values.
- **New technologies (digital twin):** New technologies like digital twins can significantly aid in solving repurposing challenges by providing real-time data and long-term projections. These insights help stakeholders make informed decisions, optimise the repurposing process, and ensure sustainable outcomes, addressing complex questions more effectively.

Challenges:

- **Lack of coordinated national workforce planning:** There is a significant challenge due to the lack of coordinated national workforce capacity planning. Fragmented frameworks across sectors and jurisdictions need to be unified to fill gaps and provide workforce confidence in job transitions, such as post-renewable energy infrastructure construction.

Opportunities & Recommendations:

- **Opportunity to partner with CRC Time:** Partnering with CRC Time offers a valuable opportunity to navigate relinquishment and explore future use options for repurposed sites. This collaboration can help map education opportunities, understand changing skills requirements, and identify critical technologies for new industries. By working together, communities can be better prepared to upskill and participate in emerging sectors, accelerating positive outcomes and fostering regional development.
- **Place-based, bottom-up approach:** Advocating for place-based solutions through partnerships with industry and peak bodies is essential. Engaging members in discussions to address policy barriers and challenges ensures that solutions are tailored to the unique needs of each community. The Commonwealth's focus on regional-based approaches aligns with this strategy, recognising that a place-based, bottom-up approach is necessary, as not all communities are the same.

Legislative, Regulatory & Policy Hindrances:

- **Lengthy approval processes:** Lengthy approval processes create significant gaps in workforce transitions between mines, making it difficult to plan effectively. Certainty and streamlined processes are needed to ensure smoother transitions and maintain workforce stability.
- **Diverging state legislation:** Diverging state legislation assessed at the Commonwealth level is inefficient and prone to errors. Harmonisation across jurisdictions is recommended, particularly in health and safety regulations, to attract the next wave of investment. The Commonwealth has a strong role in convening states and ensuring consistent, effective legislation that accounts for natural differences.

Mining and Energy Union (MEU)

Challenges:

- **Inadequate planning and sequencing:** Ensure clear sequencing so that new industries can be planned and established before closure occurs. Without appropriate sequencing, there is a risk of losing local labour and established supply chains that support these operations. Pre-closure planning is essential to avoid long delays and the erosion of communities and jobs.
- **Environmental and safety considerations:** Environmental and safety considerations, including asbestos and toxic chemicals, further complicate site reuse and closure strategies. Careful remediation is required to ensure these areas can become safe and productive, addressing long-term potential health risks and environmental impacts.
- **Insufficient financial capacity of mining operators:** There have been examples where larger mining operators are exiting coal mining by selling their assets to smaller or less financially robust operators. This creates challenges when new operators cannot fulfil rehabilitation obligations. Smaller operators may acquire sites without sufficient financial capacity, leading to unfulfilled obligations and further complicating the transition process.

Opportunities & Recommendations:

- **Genuine, early engagement:** Early, genuine, engagement with both the workforce and the community is essential, as planning takes years and proper sequencing and timing are critical. Consultation has often been superficial and disconnected from workers' realities. Workers are frequently unaware of plans until late stages and have little choice. The MEU emphasised prioritising those most affected in planning over general community interests. Proposals are often presented without genuine co-design with the workforce.

- **Buffer zones and voids:** Large buffer zones and mining voids present opportunities to create new industries, such as pumped hydro or industrial precincts. These areas can be repurposed to support new economic activities, leveraging existing infrastructure and land to drive regional development.
- **Skills mapping/transfer plans:** Many skills developed in coal mining and fossil fuel operations are highly specialised and not easily transferable to other industries. There is a need for specific skill transfer plans tailored to individual circumstances and objectives.

Legislative, Regulatory & Policy Hindrances:

- **Rehabilitation loopholes:** Companies sometimes exploit loopholes to avoid fulfilling rehabilitation commitments or to lower rehabilitation standards. Closing these loopholes is essential to ensure that all operators meet their obligations and maintain high standards for site rehabilitation.
- **Lack of mandated closure notice/transition timeframes:** Standards for closure notices and transition timeframes vary significantly. For mining sites, there is no formal requirement to provide notice to the workforce, unlike energy generation, which has obligations for advance notice of closure. Implementing requirements for advance notice before the closure of mining sites would give workers time to plan and prepare, ensuring a smoother transition.

Anonymous stakeholder

Challenges:

- **Risk-return appetite alignment:** Investors have capital to deploy, but investment decisions need to meet the right risk-return appetite. Ensuring that government initiatives align with investors' risk appetites is crucial to drive capital investment. If the government is considering deploying capital, they need to engage with investors to understand what would change their risk appetite for investing capital.
- **Government coordination:** There are issues of overlaps, lack of clarity, or gaps between state and Commonwealth regulations. Effective communication from companies about the regulatory challenges they face, such as those related to decarbonising, highlights the need for better coordination and clarity between different levels of government.

Opportunities & Recommendations:

- **Addressing risk to unlock investor capital:** Investors have a pool of funds, but new opportunities must compete with existing portfolios and offer an adequate risk-return benefit to be considered for investment. Investors often seek a de-risking role from the Government to make new opportunities competitive with their current investments. This could involve co-investing, baseline guarantee returns, or policy support to shift the risk-return analysis, such as pricing carbon and externalities. Government support in de-risking is crucial, as investors want guaranteed high support with minimal risk.

3

Victoria

3.1 Victoria regulatory framework analysis

Terminology

Term	Meaning
AH Act	Aboriginal Heritage Act 2006 (Vic)
CHMP	Cultural heritage management plan, pursuant to the AH Act
DMRP	Declared mine rehabilitation plan
EE Act	Environment Effects Act 1978 (Vic)
EES	Environment Effects Statement, pursuant to the EE Act
EES Guidelines	Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act (2023)
EPA	Environment Protection Authority (Victoria)
EP Act	Environment Protection Act 2017 (Vic)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
FFG Act	Flora and Fauna Guarantee Act 1988 (Vic)
Heritage Act	Heritage Act 2017 (Vic)
MRSD Act	Mineral Resources (Sustainable Development) Act 1990 (Vic)
MRSD (MI) Regulations	Ministerial Resources (Sustainable Development) (Mineral Industries) Regulations 2019 (Vic)
P&E Act	Planning and Environment Act 1987 (Vic)
Rehabilitation Authority	Mine Land Rehabilitation Authority (independent Authority established by the MRSD Act, relevant only to declared mines)
SMO	Site management order
Strategy	Latrobe Valley Regional Rehabilitation Strategy
Water Act	Water Act 1989 (Vic)

3.1.1 Summary

The development, operations, closure and rehabilitation of mines in Victoria are principally regulated by the MRSD Act, though mining proposals may require assessment and approvals under other Acts.

Mining licensees are required to progressively rehabilitate mining land in accordance with their approved rehabilitation plan. A rehabilitation plan must include a final landform for the site which is capable of supporting proposed future land uses. Mining licensees are required to consult with the community and consider stakeholder views in determining proposed post-mining land uses as part of their rehabilitation planning obligations. Rehabilitation obligations are secured by bonds held by the Regulator for the value of delivering the rehabilitation works specified in the approved rehabilitation plan.

The development, operations, decommissioning and remediation and/or rehabilitation of coal- and gas-fired power stations in Victoria are principally regulated by the EP Act and P&E Act. Similar to mining proposals, power station proposals may also require assessment and approvals under other Acts.

EPA issued operating licences for power stations generally require licensees to prepare and implement decommissioning plans. A decommissioning plan must address:

- how the site environment will be reinstated to the condition it was in before; and
- post-activity land uses.

EPA may secure decommissioning and remediation obligations with a financial assurance (i.e. bond, guarantee, etc.).

The reuse of mining land and decommissioned coal- and gas-fired power stations will be subject to further approvals – the nature of these approvals dictated by the specifics of the reuse proposal. The reuse of land that has been the subject to a potentially contaminating activity will require consideration of the environmental condition of the site. The likelihood of the presence of contamination and the sensitivity of the proposed new land use will dictate what level of environmental assessment is required to support the reuse proposal.

The regulatory framework governing the remediation, rehabilitation and reuse of mining land in Victoria is primarily underpinned by the MRSD Act and the P&E Act.

The MRSD Act establishes the framework for the approval of mining and extractive industry operations in Victoria. In particular, the MRSD Act establishes a system by which mine operators are licenced to carry out mining operations. The P&E Act establishes a framework for the use and development of land in Victoria. Generally, a planning permit will be required to use and develop land as a mine. There are, however, exceptions to this rule.

The regulatory framework for mining in Victoria operates on the premise that any land used for mining will be rehabilitated once mining operations cease. With respect to the MRSD Act, that requirement is contained in the provisions of the Act itself which requires the preparation of rehabilitation plans and progressive rehabilitation in accordance with approved rehabilitation plans. With respect to the P&E Act, the preparation of a rehabilitation plan (and rehabilitation in accordance with the rehabilitation plan) is typically required as a condition of the mine's planning permit. Both a mining licence and a planning permit for the use and development of land for mining will authorise the rehabilitation works (i.e. no new approval under those Acts will be required to undertake the rehabilitation works authorised as part of the original approvals).

MRSD Act (Mineral Resources (Sustainable Development) Act 1990)

Under the MRSD Act, a person must not carry out mining on any land unless it does so in accordance with a mining licence.^v

Licensees, as part of the approvals to establish a mine, must prepare a work plan which guides how the mine can be operated.^{vi} The work plan must include a rehabilitation plan which establishes rehabilitation milestones and dictates the landform once mining operations cease.^{vii} Once the work plan is approved, operators are required to operate their mines in accordance with the approved work plan and progressively rehabilitate the land in accordance with the rehabilitation plan ensuring that rehabilitation is completed before the mining licence ceases to apply to the land.^{viii} To secure rehabilitation and remediation works, mine operators are required to provide a rehabilitation bond. If the mining licensee fails to deliver the required rehabilitation work, the Minister for Energy and Resources may draw on the bond to carry out the rehabilitation obligations.^{ix}

The MRSD Act and associated instruments also include further obligations on mines which have been 'declared', which include the Loy Yang, Yallourn and Hazelwood mines in the Latrobe Valley Region.^x Further rehabilitation requirements are applied to declared mine lands, which exist in addition to the general requirements for mines, including the preparation of a DMRP.^{xi}

P&E Act (Planning and Environment Act 1987)

A planning permit is also typically required to use and develop land for mining. Once issued, a mine operator is required to conduct their operations in accordance with the planning permit, any documents or plans endorsed pursuant to the planning permit, and any conditions of the permit. In the case of a mine, planning permits will often stipulate obligations with respect to the decommissioning of operations and the rehabilitation of the land. For example, a planning permit may require a mine operator to submit a rehabilitation management plan for endorsement by the relevant responsible authority. Once endorsed, rehabilitation of the site will need to be conducted in accordance with this plan. Further in this section, the integration of the approvals processes under the MRSD Act and P&E Act with respect to mines is addressed. This integration typically ensures that there is consistency across both approval documents (i.e. an approved work plan under the MRSD Act and a planning permit under the P&E Act) in terms of rehabilitation requirements.

Whilst the rehabilitation of the mining land will be approved under the planning permit authorising the use and development of the land for mining, any reuse of mining land (i.e. for an alternative use) may require separate planning permission.

Under the MRSD Act a mining licensee is not required to obtain a planning permit at all in respect of a proposal if an EES has been prepared under the EE Act for the proposal and an assessment of the EES has been submitted to the Minister for Planning. A mining proposal will be assessed under the EE Act if the Minister for Planning determines that assessment is required because the proposal is reasonably capable of having a significant effect on the environment. It is not uncommon for mining proposals to require assessment under the EE Act.

3.1.2 Overview of the regulatory framework for mining lands

The regulatory framework governing the remediation, rehabilitation and reuse of mining land in Victoria is primarily underpinned by the MRSD Act and the P&E Act.

The MRSD Act establishes the framework for the approval of mining and extractive industry operations in Victoria. In particular, the MRSD Act establishes a system by which mine operators are licenced to carry out mining operations. The P&E Act establishes a framework for the use and development of land in Victoria. Generally, a planning permit will be required to use and develop land as a mine. There are, however, exceptions to this rule.

The regulatory framework for mining in Victoria operates on the premise that any land used for mining will be rehabilitated once mining operations cease. With respect to the MRSD Act, that requirement is contained in the provisions of the Act itself which requires the preparation of rehabilitation plans and progressive rehabilitation in accordance with approved rehabilitation plans. With respect to the P&E Act, the preparation of a rehabilitation plan (and rehabilitation in accordance with the rehabilitation plan) is typically required as a condition of the mine's planning permit. Both a mining licence and a planning permit for the use and development of land for mining will authorise the rehabilitation works (i.e. no new approval under those Acts will be required to undertake the rehabilitation works authorised as part of the original approvals).

MRSD Act (Mineral Resources (Sustainable Development) Act 1990)

Under the MRSD Act, a person must not carry out mining on any land unless it does so in accordance with a mining licence.^{xii}

Licensees, as part of the approvals to establish a mine, must prepare a work plan which guides how the mine can be operated.^{xiii} The work plan must include a rehabilitation plan which establishes rehabilitation milestones and dictates the landform once mining operations cease.^{xiv} Once the work plan is approved, operators are required to operate their mines in accordance with the approved work plan and progressively rehabilitate the land in accordance with the rehabilitation plan ensuring that rehabilitation is completed before the mining licence ceases to apply to the land.^{xv} To secure rehabilitation and remediation works, mine

operators are required to provide a rehabilitation bond. If the mining licensee fails to deliver the required rehabilitation work, the Minister for Energy and Resources may draw on the bond to carry out the rehabilitation obligations.^{xvi}

The MRSD Act and associated instruments also include further obligations on mines which have been 'declared', which include the Loy Yang, Yallourn and Hazelwood mines in the Latrobe Valley Region.^{xvii} Further rehabilitation requirements are applied to declared mine lands, which exist in addition to the general requirements for mines, including the preparation of a DMRP.^{xviii}

P&E Act (Planning and Environment Act 1987)

A planning permit is also typically required to use and develop land for mining. Once issued, a mine operator is required to conduct their operations in accordance with the planning permit, any documents or plans endorsed pursuant to the planning permit, and any conditions of the permit. In the case of a mine, planning permits will often stipulate obligations with respect to the decommissioning of operations and the rehabilitation of the land. For example, a planning permit may require a mine operator to submit a rehabilitation management plan for endorsement by the relevant responsible authority. Once endorsed, rehabilitation of the site will need to be conducted in accordance with this plan. Further in this section, the integration of the approvals processes under the MRSD Act and P&E Act with respect to mines is addressed. This integration typically ensures that there is consistency across both approval documents (i.e. an approved work plan under the MRSD Act and a planning permit under the P&E Act) in terms of rehabilitation requirements.

Whilst the rehabilitation of the mining land will be approved under the planning permit authorising the use and development of the land for mining, any reuse of mining land (i.e. for an alternative use) may require separate planning permission.

Under the MRSD Act a mining licensee is not required to obtain a planning permit at all in respect of a proposal if an EES has been prepared under the EE Act for the proposal and an assessment of the EES has been submitted to the Minister for Planning. A mining proposal will be assessed under the EE Act if the Minister for Planning determines that assessment is required because the proposal is reasonably capable of having a significant effect on the environment. It is not uncommon for mining proposals to require assessment under the EE Act.

3.1.3 Other relevant legislation

While the MRSD Act and the P&E Act (and in certain circumstances the EE Act) provide the primary framework for the authorisation and ongoing regulation of mining operations in Victoria, the following additional legislation may be relevant to the approval, operation, rehabilitation and post-closure of a mine:

- A mining operation may require a development licence (to enable the development of the mine) and operating licence (to enable the ongoing operation of the mine) under the EP Act. Such permissions typically contain conditions relevant to decommissioning.
- A mining proposal may require a CHMP to be prepared and approved under the AH Act.^{xix} A CHMP addresses how cultural heritage is to be managed and protected both during the operation of the mine and after operations cease, which may in turn influence the rehabilitation of the mining land and its post-closure use. If a CHMP is required, then it must be obtained before a statutory authorisation (such as a planning permit under the P&E Act, development licence under the EP Act, or approval of a work plan under the MRSD Act) can be issued in respect of the mining proposal.
- A mining proposal may require a permit under the Heritage Act. A permit is required under the Heritage Act if, among other things, the proposal will involve removing, relocating, demolishing, damaging, despoiling, developing, altering or excavating a registered place or object,^{xx} which is any place or object listed on the Heritage Register. It is an offence to undertake (either recklessly or knowingly) such activities without a permit.^{xxi}

- Mining projects are often water intensive, as are measures to remediate and rehabilitate mining land. As such, mining operators will typically require a take and use licence issued under the Water Act and may require other forms of authorisations depending on the nature of the mine's operations such as a works licence if, for example, a bore is required to be constructed or there are works proposed to a waterway in connection with the mining activities.
- An approval under the EPBC Act may be required in the event the relevant mining proposal is assessed as being a controlled action that has or will have a significant impact on the environment.
- A licence, permit or authorisation may be required under the FFG Act if the relevant mining proposal involves dealing with protected flora or fauna, or undertaking activities within a protected habitat.^{xxii} In relation to dealings with protected flora and fauna, a licence, permit or authorisation is required to: take, trade in, keep, move or process protected flora; or take, trade in or keep fish.

3.1.4 Interactions within the regulatory framework

There are numerous interactions between the various instruments which comprise the Victorian regulatory framework, principally to provide for integration and to minimise duplication of processes. There are also interactions with the relevant Commonwealth instruments.

- Under the MRSD Act, approval of a work plan, or a work plan variation where a planning permit is required, is facilitated by a statutory endorsement process. The statutory endorsement process provides that a work plan cannot be approved until it has been referred to any authorities who would also be referred the relevant planning permit application and endorsed by the Department Head (being the relevant decision maker under the MRSD Act).^{xxiii}
- The Department Head cannot make a decision on the work plan that is inconsistent with the response and comments of the referral authorities.^{xxiv} Once a mining licensee has obtained its statutory endorsed work plan, it may then apply for its planning permit. The statutory endorsed work plan must accompany the permit application, and the application is not required to be "re-referred" to any authorities that were referred the work plan. Once the mining licensee obtains its planning permit, the statutory endorsed work plan can then be approved by the Department Head. This integration of the approvals processes under the MRSD Act and P&E Act with respect to mines is intended to minimise duplication, and ensure that there is consistency between approvals under these Acts (so that the relevant regulators do not impose disparate and potentially conflicting requirements on project proponents).
- The MRSD Act overrides the P&E Act in that it enables a mining licensee to be granted a planning permit for the relevant use and development of the land, even in circumstances where the planning scheme prohibits the proposed use or development of the land.
- Under the EPBC Act, the Commonwealth has entered into a bilateral agreement with Victoria to enable an EPBC assessment of a proposal to be carried out by the state government. Under the Victorian bilateral agreement, an EPBC assessment may be undertaken in parallel with the planning permit application process under the P&E Act or assessment under the EE Act where an environment effects statement is required.

3.1.5 Overview of the hierarchy of instruments for mining lands

Table 3 Overview of the hierarchy of instruments for mining lands

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Mineral Resources (Sustainable Development) Act 1990 (Vic) Planning and Environment Act 1987 (Vic) Environmental Effects Act 1978 (Vic) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Aboriginal Heritage Act 2006 (Vic) Environment Protection Act 2017 (Vic) Heritage Act 2017 (Vic) Water Act 1989 (Vic)
Subordinate Legislation	<ul style="list-style-type: none"> Ministerial Resources (Sustainable Development) (Mineral Industries) Regulations 2019 (Vic) Planning and Environment Regulations 2015 (Vic) Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act (2023) 	<ul style="list-style-type: none"> Environment Protection Regulations 2021 (Vic) Aboriginal Heritage Regulations 2018 (Vic) Water (Resource Management) Regulations 2017 (Vic)
Policies/ Guidelines	<ul style="list-style-type: none"> VIC Government Latrobe Valley Regional Rehabilitation Strategy Preparation of Rehabilitation Plans: Guideline for Mining and Prospecting Projects Rehabilitation Bond Policy for the Latrobe Valley Coal Mines Establishment and Management of Rehabilitation Bonds for the Mining and Extractives Industries 	<ul style="list-style-type: none"> EPA Publication 1823.1: Mining and quarrying – guide to preventing harm to people and the environment Decommissioning Guidelines for Licences

3.1.6 Overview of the hierarchy of key stakeholders and responsibilities for mining lands

Table 4 Overview of the hierarchy of key stakeholders and responsibilities

Stakeholder	Responsibility
Minister for Energy and Resources	Minister responsible for administering the MRSD Act
Department of Energy, Environment and Climate Action	Department responsible for administering the MRSD Act
DEECA Department Head	Decision maker under the MRSD Act
Earth Resources Regulator sitting within Resources Victoria	Regulator responsible for administering the MRSD Act
Mine Land Rehabilitation Authority	Independent Authority established by the MRSD Act, relevant only to declared mines (i.e. Hazelwood, Loy Yang)

and Yallourn), Mining Warden (responsible for dispute resolution process under Act).

3.1.7 Overview of the regulatory framework over project cycle of mining lands

Table 5 Overview of the regulatory framework over the project cycle of mining lands

Phase	Explanation
Approval phase	<ul style="list-style-type: none"> ▪ Obtainment of a Mining Licence under MRSD Act and approval of Work Plan (inclusive of a Rehabilitation Plan for the site which addresses, among other matters, proposed land uses and a completed landform). ▪ Obtainment of a Planning Permit under P&E Act (if required). Planning Permit will contain conditions relating to the rehabilitation of the site. ▪ Ministerial assessment of the project's EES (if required). The EES will include consideration of the project's rehabilitation plan. If the project is a "controlled action" under EPBC Act, the EES Ministerial Assessment will inform the EPBC approval decision. ▪ Obtainment of other relevant approvals (if required), including CHMP under the AH Act and Take and Use Licence under Water Act. Assessment of Mining Licence's Rehabilitation Bond under MRSD Act.
Operational phase	<ul style="list-style-type: none"> ▪ Progressive rehabilitation required during operational phase under MRSD Act. ▪ Rehabilitation is required to be undertaken in accordance with the approved Work Plan and (if applicable) any Planning Permit, EPBC approval, CHMP and Take and Use Licence. ▪ The risks progressively rehabilitated land pose are required to be managed under MRSD Act. ▪ Periodic review of the Mining Licence's rehabilitation bonds under MRSD Act.
Closure phase	<ul style="list-style-type: none"> ▪ Completion of rehabilitated landform in accordance with applicable approvals (i.e. approved Work Plan, Planning Permit and EPBC approval). ▪ Any changes to Rehabilitation Plan (including a change to the proposed landform) must be approved through a variation to the Mining Licence's Work Plan and may require amendments to other relevant approvals (i.e. Planning Permit, EPBC approval, CHMP and Take and Use Licence). ▪ Any changes to Rehabilitation Plan that introduce a new or additional significant environmental effect may require a new EES.
Post-closure phase	<ul style="list-style-type: none"> ▪ Implementation of any ongoing management, monitoring and mitigation requirements under the approved Rehabilitation Plan and any other applicable approvals. ▪ Return of rehabilitation bond under MRSD Act once land has been rehabilitated to an acceptable level and in accordance with the approved Rehabilitation Plan. ▪ Surrender of Mining Licence. ▪ Obtainment of any approvals required for the beneficial reuse of the site.

3.1.8 Focus questions for mining lands

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

The MRSD Act requires mine licensees to rehabilitate land subject to a mining licence in accordance with the mining licence's approved rehabilitation plan.^{xxv} The rehabilitation plan forms part of the mining licence's approved work plan. A rehabilitation plan is required to include, among other matters, details of:

- land uses for the mining land after it has been rehabilitated, that considers community views expressed during consultation;
- the final landform that will be achieved, which must be both: safe, stable and sustainable; and capable of supporting the proposed land use;
- a description and schedule of rehabilitation milestones; and
- the identification and assessment of relevant risks that the rehabilitated land may pose and how those risks may be managed.

It is noteworthy that these requirements, in terms of the content of rehabilitation plans, only apply to work plans lodged for approval after 1 July 2020. Mines with work plans that were approved prior to this date may not address these matters in the relevant rehabilitation plan.

Notably though 'declared' mines, which include the Loy Yang, Yallourn and Hazelwood mines in the Latrobe Valley Region, have been required to prepare a DMRP within certain prescribed timeframes. The MRSD Act imposes specific requirements for the contents of a DMRP, in addition to the process of preparing a DMRP.^{xxvi} For example, DMRPs must include, among other matters, proposed outcomes for land use and proposed post-mining land use, closure criteria for the mine, a post-closure plan (to ensure the land is maintained in a safe and stable state) and certain risk assessments concerning geotechnical, hydrogeological, water quality or hydrological matters.

In addition to their obligations under the MRSD Act, a mine operator will also typically be required to rehabilitate the mining land pursuant to the conditions of the mine's planning permit, if one was required.

At what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Under the MRSD Act and P&E Act, consideration of the rehabilitation requirements for a mine will occur at the outset of a project. In relation to the MRSD Act, that is when the mining licensee submits the mine's work plan (which includes a rehabilitation plan) to the Department Head for approval. In relation to the P&E Act it is when the application for a planning permit is made, as that application must be accompanied by the mine's statutory endorsed work plan which will include the proposed rehabilitation plan for the mine. The respective regulators will consider the appropriateness of the rehabilitation plan when determining whether to grant the relevant approvals for the mining project.

Rehabilitation requirements may also be revised during the operation of the mine or post closure. For example:

- A mining licensee that is seeking to vary the approved work plan for a mine will be required to update the approved rehabilitation plan for the mine to address certain matters if the rehabilitation plan was approved before July 2020.
- Certain declared mines (the Loy Yang, Yallourn and Hazelwood mines) which are nearing the end of their operations (or in the case of Hazelwood, closed) have been required to prepare "fresh" rehabilitation plans (DMRPs).
- A mining licence may voluntarily apply to vary the mine's approved rehabilitation plan (see discussion below).

- The Department Head may also direct that a work plan (including the rehabilitation plan) be varied and require the mining licensee to make such an application.

In terms of rehabilitation delivery, the MRSD Act requires a mining operator to progressively rehabilitate the land during operations and rehabilitation must be completed prior to the mining licence ceasing to apply to the land. If a mining licensee fails to complete rehabilitation prior to the mining licence ceasing to apply to the land, then it must complete rehabilitation 'as expeditiously as possible'.^{xxvii}

If the mine is also governed by the operation of a planning permit, the permit may also contain a condition specifying that rehabilitation is to occur within a specified timeframe.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

Generally, the regulatory framework does not require mine operators to consider the most productive or beneficial uses of a site post-closure.

The MRSD Act and MRSD (MI) Regulations require mining land to be rehabilitated to a form that is safe, stable and sustainable and which is capable of supporting proposed uses of the rehabilitated land. Whilst mining licensees are required to propose post-mining land uses and landforms in their rehabilitation plans there is no requirement for the proposed land uses to be the most productive or beneficial uses. In saying this, the MRSD Act does elevate agriculture uses by requiring a rehabilitation plan to take into account the desirability or otherwise of returning agricultural land to a state that is as close as is reasonably possible to its state before the mining licence was granted.

It is also relevant that rehabilitation bonds are calculated with reference to the costs of implementing the mine's approved rehabilitation plan. The calculation of the rehabilitation bond on the basis of what landform is proposed in the rehabilitation plan means that there is no incentive (indeed, there is a disincentive) to propose a landform that could support a "higher" end land use if it is more costly to deliver. In practice, this means that the regulatory framework encourages mining licence holders to propose a post-closure landform that is most affordable to deliver, which may not necessarily facilitate the most productive or beneficial reuse of the site post-closure.

Noting this disconnect between rehabilitation objectives and reuse planning, the Strategy identified the need for mine rehabilitation and regional land use planning to be better integrated to allow for rehabilitated sites to be suitable for their intended uses. Specifically, the Strategy suggests that the DMRPs for Loy Yang, Yallourn and Hazelwood should identify both practicable and intended land uses for the rehabilitated landform, having regard to (among other matters):^{xxviii}

- Relevant objectives and strategies in the Latrobe Planning Scheme;
- Innovative practice in the after-use of rehabilitated open-pit coal mines;
- Current and emerging technologies for land uses in the Latrobe Valley region;
- Opportunities for environmental enhancement; and
- Opportunities for siting of infrastructure of state or regional significance.

Notably, the Strategy also recommends that the Latrobe Planning Scheme be amended to, among other matters:^{xxix}

- incorporate a structure plan for the post-mining use and development of rehabilitated mines and immediate adjoining land within mine licence areas, as rehabilitation progresses and is completed; and
- require assessment of proposed new land uses and development in relation to both: likely environmental, economic and social effects; and applicable policy for after-use of rehabilitated coal mine land.

To what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements?

MRSD Act

The MRSD Act and MRSD Regulations require the mining licensee to:

- consult with the owner of the land when preparing a rehabilitation plan; and
- propose (in the rehabilitation plan) land uses for the affected land after it has been rehabilitated, that considers community views expressed during consultation.

More broadly, mining licensees have a duty to consult with the community throughout the period of the mining licence and are also required to include within the work plan a community consultation plan, which sets out how the licensee will share information with the community and receive feedback in relation to mine operations.^{xxx}

There are significantly more prescriptive requirements for the preparation and content of a DMRP, in relation to stakeholder engagement. Specifically:

- A declared mine licensee must consult with certain prescribed people in relation to the preparation of the DMRP including (among a number of others) the Rehabilitation Authority, the area's traditional owner group and, for mines located in the Latrobe Valley region, certain communities in the Gippsland Region.^{xxxii}
- A declared mine licensee must give public notice of a proposed DMRP 60 days prior to submitting it to the Department Head for approval and consider any submissions received.^{xxxii}
- A DMRP must include a stakeholder engagement plan listing the prescribed people and entities that were consulted on the draft DMRP and a strategy and milestones for ongoing engagement with those persons and classes of persons during rehabilitation and closure of the declared mine.^{xxxiii}

Further, in assessing a DMRP the Department Head must consult with the Rehabilitation Authority, Crown Land Minister and the Ministers responsible for administering each of the following Acts: *the Crown Land (Reserves) Act 1978, the EP Act, the Forests Act 1958, the Land Act 1958, the National Parks Act 1975, the P&E Act, the Water Act and the Wildlife Act 1975.*

P&E Act

Under the P&E Act, permit applications are (in most cases) required to go on public notice, affording the public an opportunity to make submissions.^{xxxiv} While this is not active consultation per se, this is one means by which the community can also comment on the rehabilitation plan for a mine. It is also the primary way that the community will be able to make its views known with respect to any proposed reuse of the mining land post-rehabilitation, as a reuse proposal will likely require a planning permit.

EE Act

If the mining proposal is assessed under the EE Act, an EES will be prepared with advice from a Technical Reference Group, including members from government agencies, local government and statutory authorities. The EES also goes on public notice, at which point the public can make written submissions pertaining to the mine's rehabilitation plan, which will be considered by the Minister for Planning when assessing the proposal.

How are remediation and rehabilitation works secured by the regulatory framework?

Rehabilitation is secured via a rehabilitation bond under the MRSD Act.

A rehabilitation bond under the MRSD Act is a financial security which must be provided by a mine licensee prior to work commencing.^{xxxv}

The rehabilitation bond reflects 100 per cent of the estimated rehabilitation cost and is in place to ensure that rehabilitation can be undertaken by the Minister for Energy and Resources should the licensee be unable to meet their rehabilitation obligations. That is, the rehabilitation bond equals the cost associated with rehabilitating the land to the form specified in the rehabilitation plan.

Rehabilitation bonds are periodically reviewed, including when a work plan is varied or prior to a mining licence being transferred. The Minister for Energy and Resources is empowered under the MRSD Act to require a licensee to enter into a further bond if he or she is of the opinion that the bond already entered into is insufficient.^{xxxvi}

A rehabilitation bond is required to be returned once the Minister is satisfied that:

- the land has been rehabilitated in accordance with the approved rehabilitation plan;
- rehabilitation is likely to be successful; and
- in the case of declared mines (Loy Yang, Yallourn and Hazelwood) that the closure criteria (which is specified in the DMRP) has been met.

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

MRSD Act

Varying a rehabilitation plan for a mine (including the intended post closure use specified in the rehabilitation plan) under the MRSD Act involves a formal work plan variation application as the rehabilitation plan forms part of the mining license's work plan.^{xxxvii} In short, this involves a variation application to the Department Head, accompanied by the prescribed information. Among other things, the prescribed information includes descriptions of the variations sought, descriptions of any new or changed hazards, proposed changes to the work plan, and details of changes to rehabilitated areas. An application to change a work plan must also be accompanied by the prescribed fee.

In practice, work plan variation applications can be quite complex and time consuming. The applications are heavily scrutinized and require considerable background work and documentation to support the application. Further, if the variation to the work plan also requires a new or amended planning permit, then the work plan variation application will need to be statutorily endorsed before it can be approved by the Department Head, adding to the complexity of the variation process.

P&E Act

Under the P&E Act, amendments to endorsed rehabilitation plans may be done by a "secondary consent mechanism" if the planning permit conditions enable this to be done. Secondary consent is a more streamlined approval process that allows changes to endorsed plans to be made without a formal amendment application being submitted. The responsible authority may however form the view that the change warrants a formal amendment application under section 72 of the P&E Act. The process to formally amend a permit is much the same as an initial planning permit application and involves an application to the responsible authority which may be subject to public notice.

Interactions in the amendment process under the MRSD Act and P&E Act

If a mining licensee wished to vary a rehabilitation plan for a mine (including the intended post closure use) and this change also required a section 72 amendment to the existing planning permit for the mine, the mining licensee would essentially be required to go through the following three-step process:

1. have a variation to the approved work plan statutorily endorsed by the Department Head;

2. obtain an amendment to the existing planning permit; and
3. have the variation to the approved work plan approved by the Department Head.

Steps 2 and 3 cannot occur unless the variation to the approved work plan is statutorily endorsed.

An application for statutory endorsement of a work plan variation is made under section 77TC of the MRSD Act. On receiving an application under section 77TC, the Department Head must give a copy of the application to every referral authority that the Department Head considers should be given the work plan variation (having regard to the kind of work proposed under the work plan variation).

The Department Head is not required under the MRSD Act to give notice of an application for statutory endorsement to any other person or body except the Environment Protection Authority. A referral authority who is given a copy of a work plan or work plan variation is required under the MRSD Act to consider the work plan variation and advise the Department Head of any comments it has and if it objects, or does not object, to the statutory endorsement of the work plan or work plan variation.

The Department Head is restricted from making any decision in relation to the statutory endorsement of the work plan or work plan variation which would be inconsistent with anything that a referral authority tells the Department Head, or any comments the referral authority gives to the Department Head.

Once a mining licensee has received its statutorily endorsed work plan variation it can then apply for an amendment to the existing planning permit. A mining licensee cannot apply for the amendment to the planning permit before receiving its statutorily endorsed work plan variation as it must accompany the amendment application.

Referral authorities who receive a copy of a work plan variation under Section 77TE of the MRSD Act will not then also be referred the associated planning permit application. The responsible authority may, however, require the permit amendment applicant to give public notice of the permit amendment application.

Once the mining licensee has obtained the amended planning permit, they can then apply to have the work plan variation approved under the MRSD Act.

AH Act

Amendments to a CHMP under the AH Act can be made in a limited number of circumstances, including where the amendment is a minor amendment and is undertaken within 5 years of the CHMP being approved.^{xxxviii} Outside of these circumstances, a new CHMP will be required. Amending a CHMP will be relevant where, for example, a change to the rehabilitation plan will change how the land is disturbed.

Heritage Act

Amendments to a permit under the Heritage Act may be requested by the permit holder. Such requests ought to be made to the Executive Director, in the prescribed form and accompanied by the prescribed fee.^{xxxix} If the amendment request reaches a certain threshold, the Executive Director is required to refuse the application and require a new application to be made.^{xl} Alternatively, the amendment application may be refused if the amendment may result in harm to the relevant registered place or object.

Additionally, water entitlements under the Water Act can also be amended to facilitate changes to rehabilitation outcomes. Where required, the holder of a water entitlement can request an amendment to a water entitlement by application to the Minister for Water.^{xli} Such amendments are particularly important where amended rehabilitation outcomes require either a greater or lesser volume of water.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a mining land site post-closure?

The regulatory framework in Victoria does not mandate that mining lands ought to be returned to their prior condition, post-closure. This allows for mining licence holders to propose a broad array of future uses.

However, there are various ways in which the regulatory framework hinders the realisation of productive or beneficial uses of a mine site post-closure.

Firstly, the regulatory framework in Victoria (and as is the case with other states) is primarily focussed on ensuring there are minimal residual risks to the environment, people and infrastructure post-closure. This is achieved by requiring mining operators to progressively rehabilitate the site in accordance with their approved rehabilitation plan and to a state that is safe, stable and sustainable. As the legislation is focused on achieving environmental stability and public safety, little regard is given to promoting the productive or beneficial use of land after mining activities have ceased. As is the case with Queensland, the legislative framework can, therefore, hinder the realisation of innovative post-mining land uses, as the legislative intent is not explicitly aligned with maximising beneficial reuse.

Secondly, a rehabilitation plan (which forms part of an approved work plan) for mining lands under the MRSD Act needs to outline post-closure land uses and the final landform that will be achieved, which must be capable of supporting the proposed land use. Any variation to a rehabilitation plan, including to the proposed post-closure land use and final landform contained within, must be undertaken in accordance with the work plan variation application process which we have outlined above. Such applications can be quite complex and time consuming. The applications are heavily scrutinized and require considerable background work and supporting documentation. Further, if the variation to the work plan requires a new or amended planning permit then the work plan variation application will need to be statutorily endorsed before it can be approved by the Department Head, adding to the complexity of the variation process. The complexity of this process operates as a significant hindrance to adopting alternative landform uses of a site that are not compatible with the approved landform.

Thirdly, as we have noted above, the calculation of rehabilitation bonds under the MRSD Act can act as a disincentive to proposing a landform to support a “higher” end land use once mining lands have been rehabilitated. Presently, rehabilitation bonds are calculated with reference to the costs of implementing the mine’s approved rehabilitation plan, based on the approved post-closure landform and end use. Proposed landforms that could support a “higher” end land use are usually more costly to deliver and will therefore attract a higher rehabilitation bond. Proposed landforms that are cheaper to deliver are arguably more suited to a “lower” end use, such as open space. In practice, this means that the regulatory framework disincentivises mining licence holders from proposing a post-closure landform that supports a higher end land use but may be more costly to deliver.

Another recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended ‘care and maintenance’ to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern including in Victoria. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

The Victorian regulatory framework is undergoing reform, under the *Minerals Resources (Sustainable Development) Amendment Act 2023*, which will commence 1 July 2027. The regulatory framework will shift from a prescriptive to a risk-based model. Whether the reforms will facilitate the productive site reuse will greatly depend on the simplicity and flexibility of the new framework.

3.1.9 Overview of the regulatory framework for coal and gas-fired power stations

The regulatory framework for the remediation, rehabilitation and beneficial reuse of power stations in Victoria is primarily governed by the P&E Act and the EP Act.

The P&E Act establishes a framework for the use and development of land in Victoria. Generally, a planning permit will be required to use and develop land as a power station and any proposed reuse of a decommissioned and rehabilitated power station site is also likely to require planning permission. The EP Act establishes a framework for managing and regulating activities that pose a risk of harm to the environment

and human health. The EP Act provides a permission system for such activities, referred to as prescribed activities. Power generation is a prescribed activity.^{xlii}

P&E Act

As noted above, a planning permit will generally be required to develop and use land for the purpose of a power station. Once issued, a power station operator is required to conduct their operations in accordance with the planning permit, any documents or plans endorsed pursuant to the planning permit, and any conditions of the permit.

In the case of power station operations, planning permits may include conditions pertaining to the decommissioning, remediation and/or rehabilitation of a power station site. For example, a planning permit may require a power station operator to submit a decommissioning plan and/or a rehabilitation plan for endorsement by the relevant responsible authority. If this is the case then, once endorsed, decommissioning of the power station will need to be conducted in accordance with this plan.

Any reuse of power station sites would also likely require planning permission, granting the proponent the ability to use and develop the land for the intended reuse purpose.

EP Act

As noted above, power generation is a prescribed activity under the EP Act and EP Regulations.^{xliii} A power station will, therefore, ordinarily require a development licence (to enable the development of the power station) and an operating licence (to authorise the ongoing operation of the power station).

The EP Act requires the power station (as a prescribed activity) to be conducted in accordance with its permissions and any conditions attached to the permissions.^{xliv} It is standard for an operating licence for a power generation facility to contain a decommissioning condition requiring the operator to prepare a decommissioning plan for approval by the EPA.

A power station may also be subject to a remedial notice or SMO issued under the EP Act if the site poses a risk of harm to the environment or human health.^{xlv} Remedial notices and SMOs, in the context of power stations, are more common once operations cease. They allow for the ongoing and in some cases long-term regulation of power station sites post-closure to address the risk of harm from contamination in circumstances where other relevant approvals (such as a planning permit or operating licence) may have expired or been surrendered.

Where there is a risk of a power station site not being appropriately decommissioned and remediated, either pursuant to its permission or under a remedial notice or SMO, the EPA may also require financial assurance as a form of security for the performance of the relevant obligations.^{xlvi}

The reuse of a power station site may also require permissions from the EPA, depending on the nature of the use or development.

3.1.10 Other relevant legislation

While the P&E Act and EP Act provide the primary framework for the authorisation and ongoing regulation of power stations in Victoria, the following additional legislation may be relevant to the approval, operation, decommissioning, remediation and post-closure of a power station:

- Power station proposals may require assessment under the EE Act. The EE Act and EES Guidelines provide a framework for the assessment of works which may have a detrimental effect on the environment. If a proposal could reasonably be considered capable of having a significant effect on the environment, then it may be referred to the Minister for Planning to determine whether an EES should be prepared for the proposal.

- If a project is required to be assessed under the EE Act, the information submitted will need to describe the proposed development and any significant effects of the proposal on the environment. The assessment materials will also often include details of the implementation of the project and, where relevant, decommissioning and remediation (in order to assess ongoing environmental effects over the life of the project). In making a decision in respect of a proposal under the EE Act, the Minister may impose certain conditions on the project (which, among other things, constrain the form and impact of the development, or impose specific environmental management requirements).
- An approval under the EPBC Act may be required in the event the power station proposal is assessed as being a controlled action that has or will have a significant impact on the environment.
- A power station proposal may require a CHMP to be prepared and approved under the AH Act.^{xlvii} A CHMP addresses how cultural heritage is to be managed and protected both during the operation of the power station and after operations cease, which may in turn influence the power station's post-closure use.
- A power station proposal may require a permit under the Heritage Act. A permit is required under the Heritage Act if, among other things, the proposal will involve removing, relocating, demolishing, damaging, despoiling, developing, altering or excavating a registered place or object,^{xlviii} which is any place or object listed on the Heritage Register. It is an offence to undertake (either recklessly or knowingly) such activities without a permit.^{xlix}
- Power stations can be water intensive, as can be measures to remediate power station sites. As such, a power station may require a take and use licence issued under the Water Act and may require other forms of authorisations depending on the nature of the power station's operations, such as a works licence if, for example, a bore is required to be constructed or there are works proposed to a waterway in connection with the power station's activities.

A licence, permit or authorisation may be required under the FFG Act if the relevant power station proposal involves dealing with protected flora or fauna or undertaking activities within a protected habitat. In relation to dealings with protected flora and fauna, a licence, permit or authorisation is required to: take, trade in, keep, move or process protected flora; or take, trade in or keep fish.

3.1.11 Interactions within the regulatory framework

There are numerous interactions between the various instruments which comprise the Victorian regulatory framework for power stations. There are also interactions with the relevant Commonwealth instruments. The key interactions include:

- Under the EPBC Act, the Commonwealth has entered into bilateral agreement with Victoria to enable an EPBC assessment of a proposal to be carried out by the Victorian government. Under the Victorian bilateral agreement, an EPBC assessment may be undertaken in parallel with the planning permit application process under the P&E Act or assessment under the EE Act where an environment effects statement is required.
- If a CHMP is required, then it must be obtained before a statutory authorisation (such as a planning permit under the P&E Act or development licence under the EP Act) can be issued in respect of the power station proposal. As such, if a CHMP is required it is typically the first step in the "approval process".
- Under the EP Act, a development licence which requires a planning permit or planning scheme amendment is not effective until a planning permit or amendment is approved.
- Under the EP Act, if a proposal requires both a development licence and either a planning permit or an EES then public notice of the development licence application under the EP Act may be combined with notice required to be given under the P&E Act or EE Act, as the case may be.

3.1.12 Overview of the hierarchy of instruments for power stations

Table 6 Overview of the hierarchy of instruments for power stations

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Environment Protection Act 2017 (Vic) Planning and Environment Act 1987 (Vic) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Environment Effects Act 1978 (Vic) Aboriginal Heritage Act 2006 (Vic) Heritage Act 2017 (Vic) Water Act 1989 (Vic)
Subordinate Legislation	<ul style="list-style-type: none"> Planning and Environment Regulations 2015 (Vic) Environment Protection Regulations 2021 (Vic) 	<ul style="list-style-type: none"> Aboriginal Heritage Regulations 2018 (Vic) Water (Resource Management) Regulations 2017 (Vic) Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act (2023)
Policies/ Guidelines	<ul style="list-style-type: none"> Decommissioning Guidelines for Licences 	

3.1.13 Overview of the regulatory framework over project cycle of power stations

Table 7 Overview of the regulatory framework over project cycle of power stations

Phase	Explanation
Approval phase	<ul style="list-style-type: none"> Obtainment of a Planning Permit under the P&E Act (if required). Planning Permit may contain conditions relating to the rehabilitation/remediation of the site and preparation of decommissioning or rehabilitation plan. Obtainment of a development licence (to enable the development of the power station) and an operating licence (to authorise the ongoing operation) under the EP Act. An operating licence will likely contain conditions relating to decommissioning of the site, preparation of decommissioning plan and identification of risks of harm to human health and environment. Ministerial assessment of the project's EES (if required). The EES will include consideration of the project's decommissioning and rehabilitation/remediation plan. If the project is a "controlled action" under the EPBC Act, the EES Ministerial Assessment will inform the EPBC approval decision. Obtainment of other relevant approvals (if required), including CHMP under the AH Act and Take and Use Licence under Water Act.

Phase	Explanation
Operational phase	<ul style="list-style-type: none"> Preparation and maintenance of decommissioning or rehabilitation plan, to detail post-activity land uses and actions required to reinstate land to its condition prior to the commencement of the prescribed activity.
Closure phase	<ul style="list-style-type: none"> Supply to EPA an updated decommissioning plan under the EP Act, 40 business days prior to commencement of decommissioning, ceasing part or all of licenced activity, divesting a section of licenced site or reducing the basis upon which the licence was granted to a point where licensing is no longer required. Decommission site in accordance with decommissioning plan within any reasonable timeframe provided. Operating licence condition may require provision of financial assurance. Changes to decommissioning plans can be approved by EPA without formal amendment. Endorsed decommissioning plans under P&E Act may require a formal amendment application.
Post-closure phase	<ul style="list-style-type: none"> If relevant, implementation of remedial actions in accordance with remedial notice or SMO issued under the EP Act. The SMO or remedial notice may require financial assurance for performance. Release of financial assurance, once condition which financial assurance was relevant to, ceases to apply. Surrender of operating licence. Surrender will be subject to EPA's satisfaction of decommissioning actions under decommissioning plan, or management under remedial notice or SMO. Obtainment of any approvals required for the beneficial reuse of the site. Approval will require consideration of environmental condition of site and any presence of contamination.

3.1.14 Focus questions for coal- and gas-fired power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Planning permit holders are required to comply with their planning permits, and permit conditions. These conditions can relate to a range of matters, including decommissioning and/or remediation/rehabilitation. For example, a planning permit may include a condition requiring the use and development of land to be conducted in accordance with approved decommissioning and/or remediation/rehabilitation plans.

Operating licences (issued under the EP Act) for power generation facilities do include a standard decommissioning condition. The condition requires operators to:

- develop and maintain a decommissioning plan that is in accordance with the current decommissioning guidelines published by the EPA;
- provide the decommissioning plan to the EPA upon request;
- supply to the EPA an updated detailed decommissioning plan 40 business days prior to commencement of decommissioning, divesting a section of the licensed site, ceasing part or all of the licensed activity or reducing the basis upon which the licence was granted to a point where licensing is no longer required; and
- decommission the licensed site in accordance with the detailed decommissioning plan, to the satisfaction of EPA and within any reasonable timeframe which may be specified by EPA.

Operating licenses for power generation facilities also include conditions concerning the identification and management of risks of harm to human health and the environment, with the purpose of mitigating the risks of harm as far as reasonably practicable.

When land has been the subject of a potentially contaminating activity, the approval of a reuse of the site either through a PSA or issuance of a planning permit under the P&E Act will require consideration of the environmental condition of the site. The likelihood of the presence of contamination and the sensitivity of the proposed new land use will dictate what level of environmental assessment is required to support the reuse proposal. The highest level of assessment is an environmental audit which is conducted by EPA appointed environmental auditors and in accordance with the provisions of the EP Act. An environmental audit prepared in the context of a proposed PSA or permit application will typically:

- assess the nature and extent of the risk of harm to human health or the environment from the contaminated land;
- recommend measures to manage the risk of harm to human health of the environment from the contaminated land;
- make recommendations to manage the contaminated land, waste, pollution or activity; and
- assess the suitability of the site for the proposed new land use.

At what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Unlike the regulatory framework for mines under the MRSD Act, there are no specific statutory requirements for the proponent of a power station facility to consider, address or plan for the decommissioning and remediation/rehabilitation of the power station site at the time of applying for the power station's planning permit under the P&E Act and permissions under the EP Act. Rather, the preparation of decommissioning and/or remediation/rehabilitation plans is typically a condition of the relevant approvals and/or a requirement of remedial notices or a site management order. As such, consideration of these matters typically comes after the approvals are granted and during the operation of the facility or even during closure or post-closure.

In terms of timing and delivery of remediation, the standard decommissioning condition on a power generation operating licence requires decommissioning to be completed to the satisfaction of EPA and within any reasonable timeframe which may be specified by EPA.¹ When power station operations cease, the operator may apply to EPA to surrender the operating licence. EPA will not accept the surrender of an operating licence that is subject to a decommissioning condition unless they are satisfied:

- decommissioning has been completed in accordance with an EPA-reviewed decommissioning plan;
- decommissioning is not required; or
- decommissioning will be managed under a remedial notice or site management order.

If the power station is subject to a planning permit that includes a condition pertaining to decommissioning and/or remediation/rehabilitation, then that condition may also specify a timeframe within which decommissioning and remediation is required to be completed.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

Decommissioning plans for power generation operating licences must be prepared in accordance with the EPA's decommissioning guidelines. The current decommissioning guidelines provide that a decommissioning plan must include, among other matters:

- how the site environment will be reinstated to the condition it was in before the prescribed activities commenced; and
- post-activity land uses.

Whilst operators must, therefore, consider the post-activity land uses for a power station site they are not required to consider the most productive or beneficial use of the site post-closure.

Consideration of the suitability of a reuse proposal will be assessed at the time that the relevant permit application for that reuse proposal is submitted (assuming a planning permit is required). It is important to note that the responsible authority (i.e. the decision maker for a permit application) is not required to consider whether a proposal, the subject of a permit application, is the most productive or beneficial use the site could be put to.

Rather, the responsible authority is required to consider, among other matters, the appropriateness of the proposal having regard to the provisions of the relevant planning scheme. Planning schemes are ever evolving statutory instruments and are amended frequently to give effect to strategic planning initiatives.

To what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements?

EPA's decommissioning guidelines require a decommissioning plan to include stakeholder management plans detailing:

- information on engagement undertaken with stakeholders relevant to decommissioning and rehabilitation;
- a record of the engagement undertaken to date; and
- a strategy for ongoing engagement.

The regulatory framework does not otherwise impose specific consultation requirements beyond those required in relation to the initial approval applications for the power station proposal, i.e.:

- notice, affording the public an opportunity to make submissions.

This is also the case for development licence applications under the EP Act. While this is not active consultation per se, it is one means by which the community can comment on the power station proposal. It is also the primary way that the community will be able to make its views known with respect to any proposed reuse of the site assuming that the reuse proposal requires either a planning permit or a development licence (or both).

- Under the EE Act, an EES will be prepared with advice from a Technical Reference Group, including members from government agencies, local government and statutory authorities. The EES also goes on public notice, at which point the public can make written submissions which will be considered by the Minister for Planning when assessing the proposal.
- The preparation of CHMP under the AH Act is required to be prepared in consultation with the sponsor, heritage advisor, Registered Aboriginal Party, an Activity Advisory Group (where applicable), and Secretary to the Department of Premier and Cabinet. While such consultation does not extend to the community at large, project proponents are required to consult a broad range of stakeholders.

How are remediation and rehabilitation works secured by the regulatory framework?

Decommissioning and/or rehabilitation/remediation works may be secured via a financial assurance under the EP Act.ⁱⁱ The provision of financial assurance can be required as a condition of a permission (e.g. operating licence), site management order or environmental action notice. The EPA may consider a power station's decommissioning plan when determining the appropriate form and amount of financial assurance required. The EP Act provides that the EPA must have regard to 'a reasonable estimate of the costs and expenses of remediation or clean-up activities for the particular activity' when determining the amount of a financial assurance.

EPA may claim on a financial assurance if the person who provided the financial assurance has failed to conduct the remediation or clean-up activities required.ⁱⁱⁱ

EPA will release a financial assurance once the permission (e.g. operating licence), site management order, or environmental action notice that the financial assurance was required as a condition of ceases to apply.ⁱⁱⁱ

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

Under the P&E Act, amendments to endorsed decommissioning plans may be done by a "secondary consent mechanism" if the planning permit conditions enable this to be done. Secondary consent is a more streamlined approval process that allows changes to endorsed plans to be made without a formal amendment application being submitted. The responsible authority may however form the view that the change warrants a formal amendment application under section 72 of the P&E Act. The process to formally amend a permit is much the same as an initial planning permit application and involves an application to the responsible authority which may be subject to public notice.

Amendments to decommissioning plans required to be prepared and maintained pursuant to a condition on an EPA issued operating licence can be approved by EPA without a formal amendment to the operating licence being required.

Amendments to a CHMP under the AH Act can be made in a limited number of circumstances, including where the amendment is a minor amendment and is undertaken within 5 years of the CHMP being approved.^{iv} Outside of these circumstances, a new CHMP will be required. Amending a CHMP will be relevant where, for example, a change to the decommissioning and/or remediation/rehabilitation outcomes will change how the land is disturbed, potentially leading to novel impacts on Aboriginal cultural heritage.

Amendments to a permit under the Heritage Act may be requested by the permit holder. Such requests ought to be made to the Executive Director, in the prescribed form and accompanied by the prescribed fee.

If the amendment request reaches a certain threshold, the Executive Director is required to refuse the application and require a new application to be made.^{lv} Alternatively, the amendment application may be refused if the amendment may result in harm to the relevant registered place or object.

Additionally, water entitlements under the Water Act can also be amended to facilitate changes to decommissioning and/or remediation/rehabilitation outcomes. Where required, the holder of a water entitlement can request an amendment to a water entitlement by application to the Minister for Water.^{lvi} Such amendments are particularly important where amended decommissioning and/or rehabilitation/remediation outcomes require either a greater or lesser volume of water.

Any proposal to reuse the power station site for an alternative use post-closure will be assessed at the time that the relevant applications for the reuse development are submitted.

The nature of the reuse proposal will dictate what approvals are required, though they may be similar to the approvals mentioned in the context of power stations, for example:

- a planning permit under the P&E Act;
- a permission or permissions under the EP Act;
- a CHMP under the AH Act;
- a permit under the Heritage Act;
- an EPBC approval under the EPBC Act; and
- an EES assessment under the EE Act.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

While there is a comprehensive regulatory regime for mining land in Victoria that specifically addresses rehabilitation and post-closure land use, the regulatory framework for power stations does not require contemplation of end-uses for power station sites post closure. This is most likely the result of power station operations being regulated by general environmental and planning legislation as opposed to mining operations, which are regulated by mining-specific legislation.

The primary objective of the regulatory framework for power stations is to ensure the site is returned to a state that poses minimal environmental risk, which is achieved through decommissioning (the removal of significant infrastructure), site remediation and ongoing management and monitoring. Any productive and beneficial reuse of the site for an alternative purpose is unlikely to be considered until the site's post closure stage. This may result in missed opportunities for decommissioning and remediation plans to have regard to reuse opportunities.

As detailed above, the nature of the reuse proposal will dictate what approvals are required for that proposal, however it would not be unusual for a reuse proposal to require multiple approvals with involvement from numerous government agencies and authorities. Such authorities include Resources Victoria (DEECA), Earth Resources Regulator (ERR), Environment Protection Authority (EPA), Mine Land Rehabilitation Authority (if applicable) (MLRA), planning authorities, and local councils.

A lack of co-ordination between government agencies and authorities and competing objectives can lead to long and expensive approvals processes dissuading site owners from pursuing reuse proposals. Further, the existing zoning of a power station site is also unlikely to support or permit alternative uses for the site. While the zoning of the site can be amended through a planning scheme amendment, again this can be a very lengthy and costly process which also requires local and state government support.

Amendments to the regulatory framework which facilitate coordination between the various levels of government and government agencies and provides certainty with respect to the timing and costs associated with the approvals process would go a long way to facilitating the productive and beneficial reuse of power station sites.

3.1.15 Overview of regulatory framework for mining lands and power stations

Table 8 List of Victoria's key legislation, regulations or non-enforceable policies/guidelines

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
Mineral Resources (Sustainable Development) Act 1990 (Vic) (MRSD Act)	Act	<ul style="list-style-type: none"> ▪ Ministerial Resources (Sustainable Development) (Mineral Industries) Regulations 2019 (Vic) ▪ Ministerial Resources (Sustainable Development) (Mineral Industries) Regulations 2019 (Vic) ▪ Preparation of Rehabilitation Plans: Guideline for Mining and Prospecting Projects ▪ Establishment and Management of Rehabilitation Bonds for the Mining and Extractives Industries ▪ VIC Government Latrobe Valley Regional Rehabilitation Strategy ▪ Rehabilitation Bond Policy for the Latrobe Valley Coal Mines ▪ Regulatory Practice Strategy for the Rehabilitation of Earth Resources Sites 	a. Holder of the mining or prospecting licence.	Coal mines - Yes Other mines - Yes	Yes
Planning and Environment Act 1987 (Vic) (P&E Act)	Act	Planning and Environment Regulations 2015 (Vic)	<ul style="list-style-type: none"> ▪ The proponent of a proposed use or development of the land. 	Coal mines - Yes Other mines - Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
			<ul style="list-style-type: none"> The land holder. 		
Environment Protection Act 2017 (Vic) (EP Act)	Act	<ul style="list-style-type: none"> Environment Protection Regulations 2021 (Vic) EPA Publication 1823.1: Mining and quarrying – guide to preventing harm to people and the environment Decommissioning Guidelines for Licences 	<ul style="list-style-type: none"> The proponent of a proposed activity (duty holder). The permission holder. 	Coal mines – Yes Other mines – Yes	Yes
Environment Effects Act 1978 (Vic) (EE Act)	Act	Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act (2023)	The proponent of a proposed use or development of the land.	Coal mines – Yes Other mines – Yes	Yes
Aboriginal Heritage Act 2006 (Vic) (AH Act)	Act	Aboriginal Heritage Regulations 2018 (Vic)	The proponent of a proposed use or development of the land.	Coal mines – Yes Other mines – Yes	Yes
Heritage Act 2017 (Vic) (Heritage Act)	Act	Not applicable.	The proponent of a proposed use or development of the land which will impact European heritage.	Coal mines – Yes Other mines – Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
Water Act 1989 (Vic) (Water Act)	Act	Water (Resource Management) Regulations 2017	The proponent of a proposed use or development of the land which involves the taking and use of water.	Coal mines - Yes Other mines - Yes	Yes
Flora and Fauna Guarantee Act 1988 (Vic) (FFG Act)	Act	Not applicable.	The proponent of a proposed use or development of the land.	Coal mines - Yes Other mines - Yes	Yes
Ministerial Resources (Sustainable Development) (Mineral Industries) Regulations 2019 (Vic) (MRSD (MI) Regulations)	Subordinate legislation	Mineral Resources (Sustainable Development) Act 1990 (Vic)	Holder of the mining or prospecting licence.	Coal mines - Yes Other mines - Yes	No
Planning and Environment Regulations 2015 (Vic) (P&E Regulations)	Subordinate legislation	Planning and Environment Act 1987 (Vic)	The proponent of a proposed use or development of the land.	Coal mines - Yes Other mines - Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
Environment Protection Regulations 2021 (Vic) (EP Regulations)	Subordinate legislation	Environment Protection Act 2017 (Vic)	<ul style="list-style-type: none"> The proponent of a proposed activity (duty holder). The permission holder. 	Coal mines - Yes Other mines - Yes	Yes
Aboriginal Heritage Regulations 2018 (Vic) (AH Regulations)	Subordinate legislation	Aboriginal Heritage Act 2006 (Vic)	The proponent of a proposed use or development of the land.	Coal mines - Yes Other mines - Yes	Yes
Ministerial Guidelines for Assessment of Environmental Effects under the Environment Effects Act (2023) (EES Guidelines)	Subordinate legislation	Environment Effects Act 1978 (Vic)	<ul style="list-style-type: none"> The proponent of a project capable of having a significant effect on the environment. Any decision-maker required by an Act or law to make a decision in respect of a project capable of having a significant effect 	Coal mines - Yes Other mines - Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
			on the environment.		
Water (Resource Management) Regulations 2017 (Water Regulations)	Subordinate legislation	Water Act 1989 (Vic)	The proponent of a proposed use or development of the land which involves the taking and use of water.	Coal mines - Yes Other mines - Yes	Yes
Preparation of Rehabilitation Plans: Guideline for Mining and Prospecting Projects (Rehabilitation Plan Guidelines)	Guidelines	Mineral Resources (Sustainable Development) Act 1990 (Vic)	Holder of the mining or prospecting licence.	Coal mines - Yes Other mines - Yes	No
Establishment and Management of Rehabilitation Bonds for the Mining and Extractives Industries (Bond Guidelines)	Guidelines	Mineral Resources (Sustainable Development) Act 1990 (Vic)	Holder of the mining or prospecting licence.	Coal mines - Yes Other mines - Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
VIC Government Latrobe Valley Regional Rehabilitation Strategy (Latrobe Valley Rehabilitation Strategy)	Policy	Mineral Resources (Sustainable Development) Act 1990 (Vic)	<ul style="list-style-type: none"> ▪ Licensee holders for Hazelwood, Loy Yang and Yallourn ▪ Government ▪ Community Interested stakeholders 	Coal mines - Yes (for the Latrobe Valley mines) Other mines - No	No
Rehabilitation Bond Policy for the Latrobe Valley Coal Mines (Latrobe Valley Bond Policy)	Policy	Mineral Resources (Sustainable Development) Act 1990 (Vic)	Holders of the mining licences for the Latrobe Valley Coal Mines.	Coal mines - Yes (for the Latrobe Valley mines) Other mines - No	No
Regulatory Practice Strategy for the Rehabilitation of Earth Resources Sites	Policy	Mineral Resources (Sustainable Development) Act 1990 (Vic)	Holder of the mining or prospecting licence.	Coal mines - Yes Other mines - Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations	Applicable to mining lands?	Applicable to coal and gas-fired power stations?
EPA Publication 1823.1: Mining and quarrying - guide to preventing harm to people and the environment (Publication 1823.1)	Guidelines	Environment Protection Act 2017 (Vic)	Mine and quarry operators.	Coal mines - Yes Other mines - Yes	No
Decommissioning Guidelines for Licences	Guidelines	Environment Protection Act 2017 (Vic)	EPA issued licence holders	Coal mines - Yes Other mines - Yes	Yes

3.2 Stakeholder consultation & findings

3.2.1 Summary

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none">Flexible rehabilitation frameworks in Victoria allow for a broad array of future uses, such as renewable energy projects, industrial developments, and recreational areas, rather than mandating a return to prior condition which can be limiting to other beneficial uses.First Nations ownership and governance of post-extractive lands can enable community-controlled economic ventures aligned with cultural values, such as bush foods, tourism, and education.Potential reuses for Latrobe Valley mines, including filling mine voids with water for recreational activities, floating solar installations, biodiversity enhancement, and water storage are currently being explored.	<ul style="list-style-type: none">Complex processes and systems for approving redevelopment create challenges, but focusing on unimpacted lands and/or buffer lands presents an opportunity to accelerate development.Historical First Nations exclusion from negotiations and decision-making has led to spiritual, emotional, and ecological trauma, necessitating formal partnership agreements and genuine engagement.Protecting groundwater and underground aquifers and ensuring cultural rights and historical uses are respected in water management, are ongoing challenges.Sequencing of rehabilitation is a critical enabler for land reuse.

Legislative, Regulatory & Policy Hindrances
<ul style="list-style-type: none">Misalignment of processes in rehabilitation plans creates hurdles for timely and efficient site rehabilitation and reuse.Regulatory uncertainty due to evolving rehabilitation frameworks and the transition to new regulatory models leaves operators navigating an uncertain landscape.The closure of Hazelwood and the workforce transition offers significant insights and learnings into challenges of closures, reuse and workforce transition.

3.2.2 Key findings by stakeholder

Anonymous stakeholder

Legislative, Regulatory & Policy Hindrances:

- In Victoria, the declared mine rehabilitation plan presents a detailed process, with companies being asked to define future use for the site, creating timeline challenges due to a misalignment with related regulatory processes for future use of the site. This complexity and misalignment of processes creates hurdles for timely and efficient site rehabilitation and reuse.

Opportunities & Recommendations:

- Some companies are largely looking to reuse lands that haven't been impacted, presenting an opportunity to accelerate development. However, the complex system for approving redevelopment

creates challenges surrounding this. One challenge lies in understanding the pathways to 'sign off' and accelerate redevelopment, ensuring all regulatory bodies are comfortable. By focusing on unimpacted lands, there is potential to streamline the redevelopment process and bring new projects to fruition more quickly.

EnergyAustralia

Legislative, Regulatory & Policy Hindrances:

- **Regulatory uncertainty:** Victoria's rehabilitation framework is still evolving, creating regulatory uncertainty. After the introduction of new regulations in June 2023, the publication of detailed guidelines for preparing mine rehabilitation plans occurred in the same month as the plans were required to be submitted by EnergyAustralia. Additionally, the overhaul of mine and quarry regulation through the Mineral Resources (Sustainable Development) Amendment Act, transitioning to a new duty-based regulatory model by 1 July 2027, adds to the uncertainty. This shift from prescriptive rules to proactive statutory duties aims to strengthen rehabilitation and community engagement but currently leaves operators navigating an uncertain regulatory landscape.

Opportunities & Recommendations:

- **Flexible rehabilitation framework:** Unlike New South Wales, Victoria allows rehabilitation to an agreed future state rather than requiring a return to the prior condition. This provides a higher degree of flexibility in considering a broader array of future uses, such as renewable energy projects, industrial developments, and recreational areas, fostering economic growth and environmental sustainability.

Anonymous Stakeholder

Productive uses:

- **Community-controlled economic ventures:** Aboriginal ownership and legal governance of post-extractive lands via freehold or tenure arrangements can enable community-controlled economic ventures aligned with cultural values, such as bush foods, tourism, and education. Recognition and remuneration for cultural authority, ancestral knowledge, and technical input are essential for these ventures to thrive and benefit the community.

Challenges:

- **Water for cultural and strategic use:** Water is viewed as both a sacred being and a strategic resource. Protecting groundwater and underground aquifers affected by open-cut mining is an ongoing challenge. Water decisions must include cultural rights, access, and seasonal understandings. The reallocation of water from the Latrobe River post-coal is a positive step, but there is a need to ensure that cultural significance and historical uses are respected and integrated into water management strategies.
- **Decommissioning without community consultation:** Some power stations and mining sites were closed with no Aboriginal involvement in planning, leading to sites being fenced off or sold to developers, excluding cultural and community use. Non-Indigenous recreational activities have occurred on sacred sites, with no investment in cultural healing, signage, or protection of intangible values. These decades of exclusion from negotiations and decision-making, with a legacy of 'take and no return', has created spiritual, emotional and ecological trauma.

Opportunities & Recommendations:

- **Formal partnership agreements:** Propose formal Partnership Agreements with industry and government that embed shared principles such as Country-first, equity, and legacy thinking. These agreements should clarify cultural authority and decision-making power, establish joint milestones and long-term deliverables, and create mechanisms for conflict resolution and trust maintenance. Slowing project timelines is essential to allow Aboriginal processes to unfold properly.
- **Genuine engagement:** Communities need funding for Elders to travel and speak, culturally safe spaces for collective decision-making, capacity to assess and interpret technical documents, and paid roles in rehabilitation planning, monitoring, and delivery. Without resourcing, consultation becomes symbolic and extractive in itself.
- An example of best practice engagement was observed throughout the development of offshore wind projects in Victoria. These projects proactively included Traditional Owners from early planning phases, with government support to meet Traditional Owner expectations and broker early discussions. Cultural input has been considered in seabed leasing and environmental approvals, and co-governance and principles-based agreements are seen as crucial steps forward.
- **Cultural and economic assessments:** Cultural and economic assessments should be funded like environmental impact statements. Ensuring meaningful participation requires budgeting for Aboriginal communities to engage fully and effectively in the process.

Anonymous Stakeholder

Productive Uses:

- **Water-based use:** Exploring productive uses for Latrobe Valley mines, including filling mine voids with water for recreational activities, floating solar installations, biodiversity enhancement, and water storage, while also considering flexible uses for the remaining land holdings that are largely unaffected by mining.

Challenges:

- **Timely approval challenges:** Timely approval of rehabilitation plans is a challenge across Australia and internationally due to the transfer of liability to the state, necessitating a thorough approach.

Opportunities & Recommendations:

- **Government role in navigating regulation:** Government can actively guide licensees along efficient regulatory pathways in advance of closure, enabling significant progressive rehabilitation to be completed pre-closure. This is evidenced through the structured energy agreements in place with some major energy retailers.
- State government can play a coordinating role. For instance, the Mine Land Rehabilitation Authority could an important role in coordinating the rehabilitation planning between government, licensees, and the community, ensuring a streamlined and collaborative approach.

Legislative, Regulatory & Policy Hindrances:

Complex regulatory process: The regulatory process for mine rehabilitation and repurposing is complex, with varying requirements at State and Commonwealth levels. For example, eight years post-operation, Engie has not completed all required checks for rehabilitation.

4

New South Wales

4 New South Wales

4.1 NSW regulatory framework analysis

Terminology

Term	Meaning
BC Act	Biodiversity Conservation Act 2016 (NSW)
CLM Act	Contaminated Land Management Act 1997
EIS	Environmental Impact Statement
EPBC Act	Environment Protection and Biodiversity Act 1999 (Cth)
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2021 (NSW)
EPL	Environment protection licence
Mining Act	Mining Act 1992 (NSW)
Mining Regulation	Mining Regulation 2016 (NSW)
NSW Submission	NSW Government Submission to the Legislative Council, Standing Committee on State Development, 'Inquiry into beneficial and productive mining land use' (July 2024)
POEO Act	Protection of the Environment Operations Act 1997
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW)
Resources SEPP	State Environmental Planning Policy (Resources and Energy) 2021 (NSW)
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
Standard Conditions	'Standard conditions of mining leases', pursuant to schedule 1B of the Mining Act

4.1.1 Summary

The development, operations, closure and rehabilitation of mines in New South Wales is principally regulated by the Mining Act. Mining proposals may still require assessment and approvals under other Acts though, like the EP&A Act.

The Mining Act regulates access to the state's minerals through the issue of authorisations, including mining leases. Under the Mining Act, a mining lease will include standard conditions requiring the lease holder to, among other things, rehabilitate disturbed land to achieve its 'final land use'. One such rehabilitation requirement is to prepare a rehabilitation management plan, and annual rehabilitation report. The Mining Act may also require lease holders to pay and maintain a security deposit under the mining lease, in order to secure funding for the fulfilment of lease obligations (including rehabilitation obligations).

The EP&A Act regulates development (including mining activities), requiring planning approvals to carry out development. Under the EP&A Act, a development application must address the rehabilitation and post-mine use of land.

It is also common practice for planning consent to include conditions which require the rehabilitation of mining land.

In preparing a development application for a mine, the application will generally trigger either SSD or designated development provisions. The thresholds for these types of development in the EP&A Act recognise the potential impact of the proposed development and require a greater level of environmental impact assessment and public participation in the planning process. In this regard, SSD and designated development require the preparation of an EIS to accompany the development application and the determination of the development application may also be the subject of third-party objector appeals to the Land and Environment Court. In submitting the development application, a proponent will first be required to obtain SEARs from the Secretary of the Department of Planning, Housing and Infrastructure, which will outline and give guidance as to what technical matters the EIS will be required to address. In relation to a mine, this will typically require (amongst other technical reports) a detailed description of progressive rehabilitation timeframes and commitments for each rehabilitation domain, having regard to:

- Post-mining land use (including an identification and assessment of post-mining land use options, identification and justification of the preferred post-mining land use outcomes, and an identification of how the rehabilitation of the project will relate to the rehabilitation strategies of neighbouring mines in the region);
- Rehabilitation objectives;
- Rehabilitation methodology (including details regarding the rehabilitation methods for disturbed areas and expected timeframes for each stage of the process and mine layout and scheduling, including maximising opportunities for progressive final rehabilitation);
- Conceptual final landform design;
- Monitoring and research plans;
- Post-closure maintenance (including a description of how post-rehabilitation areas will be actively managed and maintained in accordance with the intended land use in order to demonstrate progress towards meeting the rehabilitation objectives and completion criteria in a timely manner; and
- Discussion of the barriers or limitations to effective rehabilitation.

Once an EIS is submitted, the development application process will be governed by whether the development is a SSD or designated development (or neither). However, the general process will be that the EIS is placed on public exhibition for public and government agency comment. As a part of this process, the development application will also be submitted to other government agencies (including the NSW EPA, whose concurrence or other approval is required for the development to proceed). Once submissions are received, the proponent will be required to prepare a Response to Submissions to respond to the issues raised. Once that is complete, the consent authority will then complete its assessment and determine the development application. For a SSD, there may be diversions in this process as the Minister for Planning may either refer, or be required to refer, the development application to the Independent Planning Commission for determination. The Independent Planning Commission will become the relevant consent authority if the local council opposes the development, or the development receives 50 or more submissions in objection during the public exhibition of the EIS.

The development, operations, decommissioning and remediation/rehabilitation of coal- and gas-fired power stations in New South Wales is also principally regulated by the EP&A Act. Like mining proposals, power station proposals may also require assessment and approvals under other Acts, including the POEO Act and CLM Act.

Under the EP&A Act, an application for a power station will generally require an environmental impact assessment. Like with mining lands, a consent for power stations will generally include conditions which require the rehabilitation and remediation of power station land.

The reuse of mining land and decommissioned coal- and gas-fired power stations will be subject to further approvals (such as planning approval), the nature of those approvals dictated by the specifics of the reuse proposal.

SP4 Enterprise

On 26 April 2023, five new employment zones and four supporting zones were introduced into 135 local environment plans (LEPs) across NSW as part of the Employment Zones Reform. The supporting zones intend to accommodate land uses in existing Business (B) or Industrial (IN) zones. DPE state that these employment and supporting zones were developed to:

- maximise productivity while minimising land use conflicts and ensuring they are fit for purpose;
- address current barriers within the planning system that limit the ability of businesses to establish, expand or adapt.

One of these supporting zones, SP4 Enterprise, was raised by a developer stakeholder as being a key enabler in progressing with planning and development, but allowing for flexibility for future land use of the repurposed land. SP4 is designed for 'unique precincts' with an enterprise focus, making it well-suited for former mining land or power stations. It allows councils to craft bespoke land-use tables that reflect the site's economic role.

4.1.2 Overview of the regulatory framework for mining lands

The planning and development of mine sites, including their remediation and rehabilitation, are principally governed by the EP&A Act and the Mining Act.^{lvii}

The EP&A Act regulates 'development' (including mining activities) in NSW and sets out a regime for obtaining planning approvals to carry out that development. The Mining Act, on the other hand, regulates access to the State's minerals through the issuing of authorisations, including mining leases.

At a general level, the framework in place under the EP&A Act and the Mining Act, which respectively regulate the access to, and development and carrying out of, coal mining activities requires the rehabilitation of mine sites as a condition of those approvals. Generally, the relevant development consent for the mine will include a condition of consent authorising rehabilitation works (which are themselves a type of development which requires consent) and the mining lease will require rehabilitation plans, including progressive rehabilitation, to be undertaken.

EP&A Act

Under the EP&A Act, the carrying out of a mining activity (including the development of a mine) is an activity which requires development consent. Under the EP&A Act, there are rigid requirements for what an application for certain development must include and against which it must be assessed by the consent authority.^{lviii} Under this framework, a development application for a coal mine, generally, must address the rehabilitation and post-mine use of the land, noting that:

- In assessing a development application for a coal mine, a consent authority must consider whether or not the consent should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development (see clause 2.23 of the Resources SEPP); and
- The development for a coal mine will generally trigger the threshold for designated or SSD,^{lix} being types of development, whose application must be supported by an EIS, prepared in accordance with the SEARs.

Development applications for Designated Development and State Significant Development must be accompanied by an EIS, which addresses the SEARs. The indicative SEARs for mining projects require an EIS to include a detailed description of progressive rehabilitation timeframes and commitments for each rehabilitation domain, including identifying post-mining land use options.

While there is no specific requirement for a consent authority to impose conditions of consent, which requires the rehabilitation of mining land, nor any prescribed conditions which are imported into the consent, it is common practice to do so, particularly noting that the conditions of the necessary mining lease to be able to mine the minerals require rehabilitation to be undertaken. As rehabilitation works are generally a type of development which itself requires consent, this consent is usually given at the same time as the mining operation.

Mining Act

Under the Mining Act, a proponent must not undertake mining activities under a development consent until such time as it has been granted a mining lease under Part 5 the Mining Act and a mining lease may not be granted unless development consent has been granted under the EPA Act as set out above.^{lx}

By operation of Schedule 1B of the Mining Act, mining leases issued under Part 5 of the Mining Act are subject to the Standard Conditions set out in Schedule 8A, Part 2 of the Mining Regulation.^{lxi}

The Standard Conditions that are prescribed (and therefore imposed) on mining leases require the holder of the lease (the proponent) to:

- rehabilitate land and water in the mining area that is disturbed by mining activities under the mining lease as soon as is reasonably practicable after the disturbance occurs (see Schedule 8A, clause 5 of the Mining Regulation);
- ensure that it obtains necessary planning approval and carries out rehabilitation of the mining area to achieve its 'final land use' (see Schedule 8A, clause 5 of the Mining Regulation); and
- in certain circumstances, prepare a rehabilitation management plan, a rehabilitation outcome document, a forward program (relating to the anticipated mining and progression of rehabilitation) and an annual rehabilitation report, which are required to be submitted to the NSW Resources Regulator and be made publicly available (save for the outcome document) (see Schedule 8A, Part 2, Division 3 of the Mining Regulation).^{lxii}

Additionally to the above requirements, the Mining Act also provides that a decision-maker may impose a condition requiring the proponent to pay and maintain a security deposit to secure funding for the fulfilment of obligations under the mining lease, including relating to rehabilitation works.^{lxiii} Once rehabilitation is completed under these conditions, the NSW Resources Regulator signs off that the obligations under the conditions of the mining lease have been fulfilled.^{lxiv}

For clarity, the above conditions under the Mining Act relate to mining leases for coal mines, which are currently in force and effect. These provisions do not have a retrospective effect on mining leases which were not in effect before the commencement of the provisions (see section 31A(3) of the Mining Regulation).

While the EP&A Act and the Mining Act provide the primary framework for authorising coal mine development and operation, additional legislation also regulates aspects of the operation throughout the lifecycle of the mine. For example:

- an EPL is required under the POEO Act for the purposes of carrying out "coal works" or "mining for coal". The EPL may impose conditions concerning environmental management, including rehabilitation;
- an approval under the EPBC Act may be required in addition to State planning approvals, in the event the relevant coal mine development is assessed as being a controlled action that has or will have a significant impact on the environment;^{lxv}
- the BC Act may require certain offset actions to be taken in circumstances where it is assessed that the activity will have an impact on biodiversity protected under that act;
- the CLM Act regulates the contaminated land in NSW, including by declaring certain land to be significantly contaminated. The EPA, as the regulator, has power to order clean-up action to be undertaken with respect to such contamination. Given the potential for coal mining activities to cause

contamination, the EPA may manage aspects of change in land use from an active coal mine site to a future land use by requiring certain steps to be taken to remediate contamination.

Additionally – and to the extent that development consent is required for the rehabilitation works – that consent would need to be obtained under the EP&A Act. In seeking development consent, an applicant must consider whether any approvals are required under other acts, such as (for example), *the Heritage Act 1977 (NSW)*, *the BC Act*, *the National Parks and Wildlife Act 1974 (NSW)* or *the Local Land Services Act 2013 (NSW)*. We note these examples are not an exhaustive list.

4.1.3 Overview of the hierarchy of instruments for mining lands

Table 9 Overview of the hierarchy of instruments for mining lands

	Primary	Secondary
Acts	<ul style="list-style-type: none"> ▪ Environmental Planning and Assessment Act 1979 (NSW) ▪ Mining Act 1992 (NSW) ▪ Environment Protection and Biodiversity Conservation Act 1999 (Cth) ▪ Protection of the Environment Operations Act 1997 (NSW) 	<ul style="list-style-type: none"> ▪ Biodiversity Conservation Act 2016 (NSW) ▪ Contaminated Land Management Act 1997 (NSW) ▪ Water Management Act 2000 (NSW) ▪ Heritage Act 1977 (NSW) ▪ National Parks and Wildlife Act 1974 (NSW) ▪ Local Land Services Act 2013 (NSW)
Subordinate legislation	<ul style="list-style-type: none"> ▪ Environmental Planning and Assessment Regulation 2021 (NSW) ▪ Mining Regulation 2016 (NSW) ▪ State Environmental Planning Policy (Resources and Energy) 2021 (NSW) ▪ State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW) 	<ul style="list-style-type: none"> ▪ State Environmental Planning Policy (Planning Systems) 2021
Policies/guidelines	<ul style="list-style-type: none"> ▪ Form and Way: Rehabilitation Management Plan (large mines) ▪ Form and Way: Annual Rehabilitation Report and Forward Program (small mines) ▪ Form and Way: Annual Rehabilitation Report and Forward Program (large mines) ▪ Form and Way: Rehabilitation objectives and rehabilitation completion criteria for small mines. ▪ Form and Way: Rehabilitation objectives, rehabilitation completion 	<ul style="list-style-type: none"> ▪ Managing Land Contamination Planning Guidelines ▪ EPA Guidelines for the Assessment and Management of Groundwater Contamination

Primary	Secondary
<p>criteria and final landform and rehabilitation plan for large mines.</p> <ul style="list-style-type: none"> ▪ Exploration Code of Practice: Rehabilitation ▪ Guideline: Achieving rehabilitation completion (sign-off) ▪ Guideline: Rehabilitation risk assessment ▪ Guideline: Rehabilitation records ▪ Guideline: Mine rehabilitation portal ▪ Guideline: Rehabilitation objectives and rehabilitation completion criteria ▪ Practical guide: Post mining land use 	

4.1.4 Overview of the regulatory framework over project life cycle of mining lands

Table 10 Overview of the regulatory framework over the project life cycle of mining lands

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> ▪ Obtainment of SEARs for designated and State significant development. ▪ Preparation of an EIS under the EP&A Act, (if relevant) prepared in accordance with the SEARs. Under the current regulatory regime, the EIS must address rehabilitation timeframes and commitments (i.e. post-mining land use options). ▪ Obtain a development consent under the EP&A Act (application must address rehabilitation and post-mine use of the land). ▪ Obtain an EPL for mining or works under the POEO Act (depending on extraction thresholds). ▪ If the project is a “controlled action” under the EPBC Act, obtainment of approvals under the EPBC Act. ▪ Obtain a mining lease under the Mining Act (may be subject to the granting of a development consent). The mining lease will contain conditions relating to the rehabilitation of the site. ▪ Security deposit (if required) to ensure fulfilment of obligations under the lease under the Mining Act.
Operational Phase	<ul style="list-style-type: none"> ▪ At commencement, prepare rehabilitation documents (i.e. rehabilitation plan, forward plan and rehabilitation report) for approval by NSW Resources Regulator (if required). Rehabilitation report should be provided annually. ▪ Comply with conditions under the mining lease relating to environmental management, protection and rehabilitation throughout the mine’s life, managed under the Mining Regulation.

Phase	Explanation
	<ul style="list-style-type: none"> Comply with conditions of the development consent and any Environment Protection Licence issued under the POEO Act. Progressive rehabilitation as required under mining lease Standard Conditions, and achieved in accordance with the plan, objectives and sign off from the NSW Resources Regulator under the Mining Regulation. If any disturbance occurs, rehabilitate land and water in mining area as soon as reasonably practicable after that disturbance under the Mining Regulation.
Closure Phase	<ul style="list-style-type: none"> Completion of rehabilitation to final land use as determined in approval phase and in accordance with the mining rehabilitation plan under the Mining Act. Surrender of any Environment Protection Licence. Any changes to the rehabilitation plan including intended land use may require modification of, or a new development consent. If the site is declared significantly contaminated, EPA may require remediation of existing contamination through a clean-up notice or management order under the CLM Act. A landowner has an ongoing duty to report contamination of a certain threshold under s 60 of the CLM Act. Note that the site may be regulated at any point by the NSW EPA.
Post-Closure Phase	<ul style="list-style-type: none"> Obtain sign-off from the NSW Resources Regulator to certify completion of the rehabilitation and obtain a return of the full, or partial (i.e. if progressive) return, of the security deposit. Obtain any approvals required for the beneficial reuse of the site.

4.1.5 Overview of the key stakeholders and responsibilities for mining

Table 11 Overview of the key stakeholders and responsibilities for mining

Stakeholder	Responsibility
Minister for Natural Resources	Responsible Minister for administering the Mining Act
Department of Primary Industries and Regional Development	Department responsible for administering the Mining Act
NSW Resources Regulator sitting within NSW Resources	Regulator responsible for administering the Mining Act
Minister for Planning	Minister responsible for administering the EP&A Act and decision maker for State Significant Development and State Significant Infrastructure development applications
Department of Planning, Housing and Infrastructure	Department responsible for administering the EP&A Act
Independent Planning Commission	Decision maker for some state significant development applications under the EP&A Act
NSW Environmental Protection Agency	Regulator responsible for administering the POEO Act

4.1.6 Focus questions for mining lands

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Broadly, the obligations on proponents with respect to remediation, rehabilitation and reuse depend on the conditions imposed under the relevant development consent issued under the EP&A Act and the conditions attached to the relevant mining lease issued under the Mining Act. In NSW, there is likely to be a divergence of obligations depending on the date the relevant approvals were granted.

As set out above, the Mining Regulation (by reference to Schedule 1B of the Mining Act) imposes conditions on a mining lease which require the lease holder (being the proponent) to comply with conditions relating to the environmental management, protection and rehabilitation of a mine throughout the life of the mine.^{lxvi} These conditions include a requirement to rehabilitate the land and water in the mining area to achieve the 'final land use' for the mining area where the 'final land use' is defined as follows.^{lxvii}

Final land use for the mining area means the final landform and land uses to be achieved for the mining area, as set out in the rehabilitation objectives statement and rehabilitation completion criteria statement and, for a large mine, as spatially depicted in the final landform and rehabilitation plan and, if the final land use for the mining area is required by a condition of development consent for activities under the mining lease, as stated in the condition.

There is also an obligation on the lease holder (the proponent) to rehabilitate land and water in the mining area that is disturbed by activities under the mining lease as soon as reasonably practicable after the disturbance occurs.^{lxviii}

In addition to the above requirements which apply to all mining leases currently in force, additional obligations may apply depending on the scale of the mining operation. Those obligations may include the requirement to prepare a mine rehabilitation plan, prepare forward plans and submit annual reports to the NSW Resources Regulator.

For clarity, the above requirements were incorporated into the Mining Regulation with effect in July 2021 and apply to ongoing mining leases.^{lxix} Mines which ceased operating prior to this date will have been subject to different and less stringent requirements. Prior to July 2021, rehabilitation obligations were less prescriptive, with lease conditions typically bespoke, and often required rehabilitation only at the end of mine life, rather than progressively. There was generally no requirement to define a detailed 'final land use'. Forward programs and annual rehabilitation performance reporting were not mandated, resulting in limited regulatory oversight and lower transparency for stakeholders.

Mine operators may also be required to comply with rehabilitation requirements set out in the conditions of consent granted under the EP&A Act, however these conditions will be dependent on the conditions tailored to the specific development and are likely to not be necessarily consistent for all mines.

At what stage of a mining project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

The response to this question is similarly contingent on when the mine was first approved. Under the current framework, the remediation, rehabilitation and reuse of the mining land is required to be considered upfront and as a part of the approval process. This will generally be a requirement both as a part of:

- a. the preparation of an EIS for the purposes of the development application under the EP&A Act; and
- b. the application for a mining lease, where a proponent is required to submit rehabilitation plans and rehabilitation objectives as a part of this application. This requires a proponent to also consider the post mining land use as part of this process.^{lxx}

Relevantly, under the current regime, the Standard Conditions require remediation and rehabilitation of land as soon as practicable.^{lxxi} For proponents, this will generally mean carrying out progressive remediation and

rehabilitation throughout the life of the mine as its various stages are completed. In certain circumstances, this requires the rehabilitation and remediation works to be progressively delivered in accordance with the plan and objectives and sign-off obtained from the NSW Resources Regulator to certify their completion.

Rehabilitation under this regime is required to be carried out to a standard which will achieve the identified 'final land use for the mining area' (as provided for in Schedule 8A of the Mining Regulation). This land use is typically one which is identified at the time the mining lease and development consent is granted.

In circumstances where rehabilitation documents, such as a rehabilitation plan, forward plan and annual report are required to be prepared under the Standard Conditions set out in Schedule 8A of the Mining Regulation, the provisions specify the timing for preparing those documents, which is generally at the commencement or beginning of operations in accordance with the mining lease.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

Generally, the regulatory framework has operated such that mining land is rehabilitated to the condition and/or use that the land had prior to the mining activities being carried out. This generally results in land being rehabilitated for use such as grazing land or native forest.

Guidance has been produced by the NSW Resources Regulator for mining operators to consider alternative, more productive, post-mining land uses and the pathways to achieving these.^{lxvii} However, this is not a formal requirement of the framework.

As the future land use is typically identified at the time that approvals are sought, the potential future demand for the land is generally not considered at this time. The fact that mining operations often have a long lifespan – and the future demand for the land may not be known at the time that the approvals are sought – may contribute to the fact that these matters are not robustly considered.

Outside of the regulatory regime against which coal mining operations are carried out, strategic planning for an area (which is carried out under Part 3 of the EP&A Act, generally by the Department of Planning, Housing and Infrastructure (DPHI)) may identify existing mining land for beneficial reuse and earmark those sites for future use.^{lxviii}

For example, the Hunter Regional Plan 2041 identifies economic needs to diversify the economy as it transitions from fossil fuel uses and identifies mining land as locations for alternative land uses. Such strategic plans inform planning proposals to amend environmental planning instruments to provide for alternative permitted uses at such sites. This does not compel a proponent to carry out any works or rehabilitate the land to this standard.

Additionally, the appropriateness of the proposed land use is also considered as a part of the development application assessment stage. When evaluating a development application, a consent authority must take into account a number of mandatory considerations, which include the social and economic impacts of a development, and the public interest.^{lxix} In a broad sense, this provides scope to consider the benefits of alternative reuse of a site post-closure.

To what extent does the regulatory framework require consultation in relation to a mining project's remediation, rehabilitation and (if applicable) reuse requirements?

Public consultation is a key requirement in both the planning approval and mining lease application process.

EP&A Act

At a general level, a mine is a type of development that requires consent. Development applications are placed on public exhibition and the public has an opportunity to make submissions on the proposal. As the rehabilitation of the mine site will typically be a requirement that the relevant development application has to address, the proposal will be available to the public to comment on.

Similarly, to the extent that the proponent or an incoming third-party developer wishes to amend the rehabilitation plan, including to change the intended land use, that change in land use is a kind of development that is likely to require development consent.

An application to either modify the existing consent for the mine, or for a subsequent development consent, will similarly be placed on public exhibition. The minimum public exhibition period for designated development and State Significant Development is 28 days (or as otherwise specified in a public participation plan).^{lxxv} These are considered by the consent authority in evaluating the application.^{lxxvi}

Mining Act

Applications for mining leases made under Part 5 of the Mining Act must be published. There is also an opportunity for certain persons to make a formal objection to the granting of the mining lease, and there is a process for engaging with such objections.

Under the 'Special Conditions' imposed on mining leases under the Mining Regulation, certain coal mines will require rehabilitation documents to be prepared. Of those documents, the rehabilitation management plan, the forward program and the annual rehabilitation report are to be made publicly available by publishing the documents on the proponent's website within 14 days after the document is made or amended.^{lxxvii}

Beyond public consultation, the Mining Act also provides for consultation between government agencies and the Planning Secretary for assessment of a mining lease that does not require development consent.^{lxxviii}

Mine operators must also consult with relevant stakeholders (e.g. the NSW Resources Regulator, other government agencies, such as Water NSW in drinking catchment areas, landholders, and community consultative committees) when developing rehabilitation management plans for large mines.^{lxxix}

How are remediation and rehabilitation works secured by the regulatory framework?

There are two primary ways in which the regulatory framework seeks to secure the remediation and rehabilitation works:

1. Firstly, through the imposition of conditions, both on the development consent and the mining lease which require those works to be undertaken; and
2. Secondly, through the imposition of a specific condition on the mining lease requiring the payment of a security deposit.

As set out in (1) above, remediation and rehabilitation works are generally imposed as a requirement of the development consent issued under the EP&A Act and the mining lease under the Mining Act. Specifically, the Standard Conditions imposed on a mining lease require progressive remediation and rehabilitation.

Failure to comply with the conditions of consent made under the EP&A Act is an offence under the Act, which can lead to both criminal and civil liability.

Additionally, where there is non-compliance with a condition, the relevant consent authority may issue a development control order directing the proponent to comply with the relevant conditions. Failure to comply with a compliance order is an offence with a penalty of up to \$5 million, plus ongoing daily penalties. The availability of these mechanisms to compel action will turn on the wording of the specific condition.

Under the Mining Act, it is an offence to contravene a condition of a mining lease, giving rise to criminal liability.

In addition to the offence, the Secretary of the Department of Regional NSW may, by written notice, direct the responsible person in relation to the mining lease (the lease holder) to rehabilitate land or water that is or may be affected by the activities carried out under the relevant mining lease. The direction may require a particular outcome to be achieved. If the order is not complied with, the Minister may undertake the rehabilitation works and recover its costs from the lease holder.

Security deposit

The Mining Act generally requires that the lease holder (the proponent) pay a security deposit for the fulfilment of its obligations under the conditions of the mining lease, including with respect to the completion of rehabilitation works.

The Minister administering the Mining Act (being the Minister for Natural Resources) may make a claim on or realise a security deposit provided under a security deposit condition if the mining lease is cancelled or otherwise ceases to have effect and an obligation remains unfulfilled, or the lease holder (the proponent) fails to comply with a Direction that is issued under section 240 of the Mining Act relating to the lease or activities carried out under the lease.

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

Rehabilitation of land and changes in use are types of development (within the meaning of section 1.5 of the EP&A Act), which generally require development consent.

While the conditions requiring rehabilitation to a final landform imposed under a mining lease pursuant to the Mining Act require certain steps to be taken, the proponent must have a suitable development consent which permits that development to be carried out. As such, if the intended remediation/rehabilitation outcomes for a mine site change from what was originally intended, there are potentially two requirements:

1. The development consent may need to be modified under section 4.55 of the EP&A Act to take into account the amended rehabilitation plan and future land use, or a new development consent sought; and
2. The rehabilitation plan (if one is required) under the Mining Act and Mining Regulation will need to be amended.

For clarity, consents issued under the EP&A Act for coal mine sites will generally provide consent to carry out the rehabilitation works to a certain standard. That standard will be set by reference to the intended land use.

However, to the extent that the land is then intended to be further developed, a new development consent will need to be obtained for that subsequent development. In seeking to modify a development consent or seeking a new approval for a different land use, close consideration is required as to measures which may have been required to be taken under the condition of the original consent, including as to whether any portion of the land is the subject of biodiversity offsets under the BC Act.

The Mining Regulation provides a process for amending the rehabilitation documents which are required to be prepared in certain circumstances, including if the development consent has been modified or a hazard has been identified that presents a risk to achieving the final land use.^{lxxx} Rehabilitation outcome documents may also be amended if the Secretary issues a direction to do so or if the holder makes an application to the Secretary to do so.^{lxxxi}

Most mines in NSW are not specifically zoned for mining purposes but take their zoning from the pre-existing land use zoning. For example, RUI Primary Production permits a range of agricultural uses. Broadening the permitted uses beyond this will require a planning proposal to rezone the land for another permitted use.

A planning proposal may be prepared by the local council, the secretary of the Department of Planning or a developer and contains certain information set out in the EP&A Act and the Planning Secretary's requirements.^{lxxxii}

Once the land use zoning is changed, a development application will be required to provide for the proposed use.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The existing regulatory framework for mines with existing mining leases under the Mining Act requires post-closure land uses to be identified at the start of a project.

Given early identification of post-closure land uses, many projects adopt a rehabilitation standard that assumes that the mine site will return to their former land uses (for example an agricultural/grazing use). In circumstances where the mine is coming to the end of its operation, the focus will generally be on meeting minimum requirements to be able to exit the site and relinquish different approvals which have ongoing liabilities.

As decisions as to the rehabilitation standard and post-closure land uses for mine sites are, under the existing regulatory scheme, identified at an early stage in the project, the closure of the mine site (and therefore the use of the land) is often at times decades into the future. With ongoing changes to strategic planning, it is difficult to predict and plan for what may be the most beneficial use of land decades in advance when the mine is closed. There may also be little incentive from a proponent who is exiting the mine site to adapt the rehabilitation standard.

Land is generally zoned according to its permitted uses for mining and, as such, a planning proposal to change that zoning is likely to be required to facilitate the use of the land for another purpose. This planning proposal is in addition to the development consent that is required to develop the land for that purpose. Planning proposals are a complex process and involve multiple layers of Government oversight. The uncertainty of this process, particularly from the perspective of a proponent, can lend itself to delays in post closure re-development.

While the existing regulatory framework has stringent requirements for land rehabilitation, including under different components of the regulatory matrix (including approvals under the EP&A Act, the mining lease under the Mining Act and environment protection licenses under the POEO Act), this has not always been the case. There are therefore legacy, abandoned and/or un-remediated sites where there is ambiguity over who is accountable for rehabilitating these sites.

Stakeholders provided insights into how the current regulatory framework hinders productive reuse of a site post-closure. The hindrances identified by the stakeholders during the consultation sessions included slow, rigid planning and regulatory processes involving multiple agencies and duplicative requirements, which have delayed the repurposing of former mining sites. Misaligned state and federal priorities and split incentives between regulators and operators further compound these challenges, while the complex and protracted process of relinquishing leases – particularly for legacy or abandoned mines with unclear ownership – adds further barriers to remediation and redevelopment.

Another recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended 'care and maintenance' to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern, including in NSW. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

Stakeholders emphasised the importance of recognising cultural knowledge, engaging Traditional Owners in co-design and co-governance, and incorporating Indigenous impact assessments that consider cultural, emotional, and social wellbeing. Positive examples, such as the NSW Government's Site Advisory Groups in the Hunter and Lithgow regions, were highlighted as effective models for streamlining redevelopment through cross-departmental collaboration and coordinated decision-making.

Importantly, the NSW Government's recently released a formal response to recommendations made by the NSW Legislative Council's Standing Committee on State Development. The Committee's Report No. 53 examined how former mining land in NSW could be better rehabilitated and transitioned into beneficial, productive uses after mining ends.^{lxxxiii}

The focus of the original inquiry included aspects such as:

- Reviewing current policies, regulations, and incentives relating to mine closure and post-mining land use.
- Identifying barriers and opportunities to achieving positive outcomes for communities, the environment, and regional economies.
- Considering examples of best practice in repurposing mining land (e.g., renewable energy, agriculture, conservation, recreation).
- Examining community engagement, funding models, and coordination among government agencies and stakeholders.

The response outlines action the Government is taking or will consider, from a series of recommendations, including:^{lxxxiv}

- Undertaking a comprehensive program of review of the post-mining regulatory framework and processes.
- Assessing the potential for these sites to take on alternative future beneficial use.
- Identifying regions across the State to which a post-mining regulatory framework may apply, conducting a land audit of industrial sites, surplus and industrial lands and mapping infrastructure assets in place.
- That the Government investigate the appropriateness of emerging techniques for reducing risks associated with mining activity and management of final voids.

4.1.7 Overview of regulatory framework for coal- and gas-fired power stations

The regulatory framework for the remediation, rehabilitation and beneficial reuse of power station sites is governed principally by:

- the EP&A Act from a planning perspective;
- the POEO Act, which regulates the EPLs required to operate a power station, including EPLs for the scheduled activities or 'electricity generation' and 'coal works'; and
- the CLM Act, which regulates contaminated land and can require actions to be taken to 'clean-up' certain contamination. Contamination from ash is a primary area of concern with respect to the decommissioning of former power stations.

EP&A Act

At a high-level, coal- and gas-fired power plants are likely to fall within the categories of Critical or State Significant Infrastructure (regulated under Part 5 of the EP&A Act), or State Significant Development (regulated under Part 4 of the EP&A Act). As such they are types of development which either require approval under Part 5 of the EP&A Act or which require development consent under Part 4 of the EP&A Act.

Both of these processes require an environmental impact assessment to be prepared as a part of the approval process. While there is certainly scope for the decommissioning of a power station to be considered as a part of the application, there does not appear to be anything specific which mandates the decommissioning or rehabilitation to be addressed as a part of the planning approval for the operation. That is, there is nothing which readily distinguishes a coal- or gas-fired power station from another industrial use.

Unlike with coal mines, there is no equivalent regime to the Mining Act which mandates ongoing rehabilitation or a 'final landform' at the end of the life of a power station. That may be partly because, unlike a coal mine, there is no clear or finite end date for the operation.

Under the existing planning framework governed by the EP&A Act, the decommissioning of a power station and the rehabilitation and subsequent use of that land will typically be the subject of a subsequent development application and consent. It is that application which will consider the conditions that need to be applied to the decommissioning works and the remediation that is required, including from a contaminated land perspective.

The Resilience and Hazards SEPP requires that the contamination status of land be considered as a part of any development consent and provides that certain remediation works require development consent.^{lxxxv} Depending on the nature of the remediation works, including if the works are required under the CLM Act (as discussed below), the remediation works may also trigger the SSD threshold.^{lxxxvi}

While the specific requirements for decommissioning and rehabilitation of a power station (if any) will turn on the conditions of the consent or approval that apply to the existing power plant's operation, at a general level, it would be unlikely that those approvals would have specific conditions relating to the power plant's decommissioning.

POEO Act

Outside of the planning framework, the operation of a coal- and gas-fired power station is a scheduled activity regulated under the POEO Act which requires an EPL. An EPL is an authorisation issued by the appropriate regulatory authority (typically the NSW EPA) and imposes conditions (including operating conditions) intended to mitigate the environmental impact of the activity carried out.

To the extent that an EPL is required for an activity and consent is granted for SSD or approval is granted to SSI (whatever the case may be), an EPL must be granted not inconsistently with the terms of that consent or approval.^{lxxxvii}

When the scheduled activity (for example, electricity generating works and coal works) is no longer intended to be carried out, the holder of the EPL (taken to be the occupier of the relevant premises) will typically make an application to surrender the EPL.

In considering the surrender application, the EPA may consider any existing pollution at the relevant premises caused by the activity. If the surrender is granted, the EPA may impose conditions on the surrender, including requiring the EPL licensee to carry out certain works to remediate any pollution at the site or undertake ongoing monitoring with respect to such pollution.^{lxxxviii} Any such surrender conditions, however, would be imposed on a case-by-case basis.

CLM Act

The CLM Act regulates historic contamination across NSW. The EPA is the relevant regulator who administers the CLM Act.

To the extent that a site is significantly contaminated, the EPA may declare the site to be significantly contaminated and can require the recipient of the notice to take certain actions to remediate the existing contamination (including for example by issuing clean-up notices or otherwise regulating the site through mechanisms such as voluntary management proposals).^{lxxxix}

Any requirement to remediate contamination under the CLM Act will be targeted to remediating the contamination to a particular standard, rather than more broadly rehabilitating or decommissioning the site. To the extent that contamination is required to be remediated under a clean-up notice issued by the EPA, development consent is not required for the carrying out of that action.^{xc}

4.1.8 Overview of the hierarchy of instruments for power stations

Table 12 Overview of the hierarchy of instruments for power stations

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Environmental Planning and Assessment Act 1979 (NSW) Protection of the Environment Operations Act 1997 (NSW) Contaminated Land Management Act 1997 (NSW) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Biodiversity Conservation Act 2016 (NSW) Water Management Act 2000 (NSW) Heritage Act 1977 (NSW) National Parks and Wildlife Act 1974 (NSW)
Subordinate legislation	<ul style="list-style-type: none"> State Environmental Planning Policy (Resilience and Hazards) 2021 (NSW) State Environmental Planning Policy (Resources and Energy) 2021 (NSW) 	<ul style="list-style-type: none"> State Environmental Planning Policy (Planning Systems) 2021 (NSW)
Policies/guidelines	<ul style="list-style-type: none"> Managing Land Contamination Planning Guidelines EPA Guidelines for the Assessment and Management of Groundwater Contamination 	<ul style="list-style-type: none"> Local Environmental Plan Making Guideline 2021

4.1.9 Overview of the regulatory framework over project life cycle of power stations

Table 13 Overview of the regulatory framework over the project life cycle of power stations

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> If applicable, obtain SEARs. If required, preparation of an environmental impact assessment under the EP&A Act as part of development consent or approval. Obtainment of development consent (Part 4) or approval under Part 5 of EP&A Act. Development consent should consider the contamination status of the land. Obtain an EPL if it's a scheduled activity under the POEO Act. EPL will regulate activity with environmental management measures, however, must not be inconsistent with SSD or SSI approval. If project is a "controlled action" under the EPBC Act, obtainment of approvals under EPBC Act.
Operational Phase	<ul style="list-style-type: none"> Comply with conditions of the development consent and any Environment Protection Licence issued under the POEO Act.
Closure Phase	<ul style="list-style-type: none"> If site is declared significantly contaminated, EPA may require remediation of existing contamination through a clean-up notice or management order under the CLM Act. A landowner has an ongoing duty to report

contamination of a certain threshold under s 60 of the CLM Act. Note that the site may be regulated at any point by the NSW EPA.

- Apply for a surrender of the EPL. Surrender may be subject to conditions, such as remediation works or ongoing monitoring.
- The development consent or approval may contain conditions relating to decommissioning; however, this must be assessed on a case-by-case basis.

Post-Closure Phase

- Obtainment of any approvals required for the beneficial reuse of the site.
- Subsequent development applications will require an assessment of the contamination status of the land. If remediation is required, consent may be subject to obtaining an audit statement certifying that the land is suitable for the intended use.

4.1.10 Overview of the key stakeholders and responsibilities for power stations

Table 14 Overview of the key stakeholders and responsibilities for power stations

Stakeholder	Responsibility
Minister for Planning	Minister responsible for administering the EP&A Act and decision maker for State Significant Development and State Significant Infrastructure development applications
Department of Planning, Housing and Infrastructure	Department responsible for administering the EP&A Act
Independent Planning Commission	Decision maker for some state significant development applications

4.1.11 Focus questions for coal- and gas-fired power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

As above, while there is no formal requirement under the EP&A Act for an approval for a coal- or gas-fired power station to specifically require decommissioning works and/or rehabilitation, there is scope within the matters which the approval body must consider in granting the approval which could require such consideration.

Any subsequent application to reuse the site once a coal- or gas-fired power plant is no longer operational will address conditions which must be complied with to ensure that the land is suitable for its intended use, including from a contamination perspective.

Furthermore, the operation of a coal- and gas-fired power plant is an activity regulated under the POEO Act, which requires an EPL. An EPL will include conditions concerning environmental management measures to mitigate the potential environmental impact as a result of the operation. When operations are to be ceased, the operator will generally apply to surrender the EPL. The EPA may impose conditions on the surrender, such as a requirement to carry out remediation works to address pollution caused by the operation, or ongoing monitoring.

In addition to the above, where the activities of the coal- or gas-fired power station have caused significant contamination of the land or groundwater, the EPA may regulate that contamination under the CLM Act, depending on the nature and extent of that contamination. The mechanisms that are available to the EPA to regulate that contamination include, for example:

- Declaring the site to be significantly contaminated (see, section 10 of the CLM Act);
- Issuing a management order directing the recipient, at its expense, to carry out an action in relation to the management of the land (see, section 14 of the CLM Act); or
- Issuing a clean-up notice requiring a person take out actions to remediate contamination on the land (see, section 46 of the CLM Act).

For clarity, the above list is not exhaustive but is by way of example. For completeness, when land has been the subject of a potentially contaminating activity, any subsequent development application for the land will require a report to be prepared by an appropriately qualified consultant to assess the contamination status of the land. To the extent that remediation works are required, a condition of consent may be that the proponent obtain a site audit statement certifying the land is suitable for an intended use. In order to obtain certification, remediation work may be required first to make the site suitable for the intended use.

At what stage of a power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Unlike the regulatory framework for coal mines under the Mining Act, there is generally no requirement in a coal- or gas-fired power plant's life cycle to consider or plan for the remediation, rehabilitation or reuse of land post use as a power station. We note that under the EP&A Act, if approval for a new coal- or gas-fired power station was sought under the current scheme, there is, however, scope for such matters to be considered.

Outside of the planning approval framework, the EPA may issue a clean-up notice under either the CLM Act or the POEO Act to the extent that there is a pollution incident, or the relevant land is declared to be significantly contaminated.

The corollary of the above is that the remediation, rehabilitation and reuse of the land used by the coal- or gas-fired power station may only be considered once the operator chooses to decommission the site.

That reuse, and the steps required (including any necessary remediation) will be considered as a part of:

- the surrender of the relevant EPL under which the power plant was operating; and
- the planning approval process for the proposed land use. The decision maker will be required to consider if the land is suitable for the proposed reuse or if it requires further remediation or rehabilitation in order for it to be used in the proposed way. As such, the remediation and rehabilitation will generally form part of this separate process, rather than as a part of the lifecycle of the power plant.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

Subject to our comments above, consideration of the land use post power station operations is typically undertaken when a subsequent development application is made for the site. This is because, unlike the regime for coal mines, there is not a similar regime requiring progressive rehabilitation or site decommissioning. As noted above, there is potentially scope in the EP&A Act framework for such conditions to be imposed.

Following closure of the coal- and gas-fired power station, the suitability of any proposed use of the land will be considered when a development application is made for the subsequent use of that land. While the consent authority assessing that development application does not carry out an assessment as to whether that use is the highest and best use of the land, it does consider the appropriateness of the development for the land.

The permissibility of land uses in NSW is governed by environmental planning instruments and other strategic planning instruments made under Part 3 of the EP&A Act.^{xcv} The beneficial use of land is generally first considered at this strategic level and is then filtered down to the more specific planning controls.

For example, the Hunter Regional Plan 2041 identifies economic needs to diversify the economy as it transitions from fossil fuel uses and identifies power station sites as locations for alternative land uses.^{xcvii} Such strategic plans inform planning proposals to amend environmental planning instruments to provide for alternative permitted uses at such sites.

To what extent does the regulatory framework require consultation in relation to a power station project's remediation, rehabilitation and (if applicable) reuse requirements?

Generally, the regulatory framework does not impose specific consultation requirements beyond those normally required for development applications and planning proposals.

Whether consultation is required for remediation and rehabilitation works to occur will depend on whether the work requires development consent. Some types of remediation work do not require development consent and may be undertaken without any consultation. Other types of remediation works will require consent. Works to reuse the land for a new purpose will generally require development consent. For development that requires development consent, the application will need to be placed on public exhibition to allow the public to make submissions.^{xcviii} These are considered by the decision maker in evaluating the application.^{xcix} Planning proposals to change the permitted use of land are also placed on public exhibition.^{xcv}

For state significant development applications or planning proposals that have been referred to the Independent Planning Commission, further consultation may take place in the form of a public hearing.^{xcvi}

How are remediation and rehabilitation works secured by the regulatory framework?

When the use of the land as a power station ceases, the EPL which regulates that activity under the POEO Act is typically surrendered. In surrendering an EPL, the EPA may impose conditions on the surrender, including carrying out certain remediation works and requiring monitoring to be undertaken to measure certain pollutants emitted by the carrying out of the scheduled activity. These conditions would generally only relate to the pollution caused by the activity, rather than broader rehabilitation works.

Given the likely contamination caused by power stations, the process for remediating and rehabilitating the land, particularly from a contamination perspective, is complex. As the regulator of EPLs required for the carrying out of the relevant power plant activity, and as the regulator of the POEO Act and the CLM Act, the EPA is heavily involved in the process for remediating and rehabilitating coal- and gas-fired power station sites.

In the absence of any condition of consent for the coal- or gas-fired power station specifying particular decommissioning works, the subsequent land use will likely require a new development consent under the EP&A Act.

In submitting this development application, the consent authority must be satisfied that the land, from a contamination perspective, is suitable for the intended use.^{xcvii} If development goes ahead without the proposed remediation, the developer may be subject to a development control order, for example to stop work or to demolish works.^{xcviii}

Similarly, to the extent that the power plant has caused significant contamination, the EPA could issue various regulatory notices under either the POEO Act or the CLM Act (depending on the circumstances) requiring action to be taken to remediate the contamination to a particular standard.

Where a requirement to undertake remediation work is imposed by an order under the CLM Act, failure to comply with the order is punishable by penalties of up to \$250,000 for an individual and \$1,000,000 for a corporation plus ongoing daily penalties.^{xcix}

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

This process will be governed by the specific conditions imposed on the consent or approval for the coal- or gas-fired power plant. To the extent that the existing consent or approval does not impose remediation/rehabilitation outcomes for the closure stage, those works will be governed by a new development consent. This would require a new development application to be made.

With respect to the actual intended land uses, based on our review of the existing power stations in NSW, most of the relevant sites in NSW are zoned SP2 – Infrastructure. This zoning generally permits a limited range of uses beyond use for the purpose of a power station. Broadening the permitted uses of land will require a change in zoning through the planning proposal. This could relate to a specific power plant site, all sites within a local government area, or be state-wide.

A planning proposal may be prepared by the local council, the secretary of the Department of Planning or a developer and contain certain information set out in the EP&A Act and the Planning Secretary's requirements.^c Generally, a planning proposal will need to demonstrate that it is consistent with or gives effect to strategic planning objectives for the land.^{ci}

Once the land use zoning is changed, a development application will be required to provide for the new-proposed use.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

Unlike the requirements under the Mining Act for mine sites, rehabilitation plans for a particular land use after the decommissioning of a power plant is not necessarily a mandatory requirement under the regulatory framework. The potential for power stations to cause contamination is a key consideration in the post-closure use of power station sites.

While there is a stringent regulatory framework which considers and can regulate the contamination status of power station sites, including under both the CLM Act and the POEO Act, the management of the contamination status of the site post-closure is often a separate and distinct process from the planning approval process for subsequent use of the land. The significance of any such contamination, and the remediation that may be required, is a factor that weighs into the subsequent use of the land.

Depending on the scale of the remediation, certain remediation activities may also require development consent, which incorporates a further layer of complexity into the beneficial reuse of the land. Significantly contaminated land can be more expensive to develop than other brownfield sites. Typically, the land on which a power station is located is zoned as 'special infrastructure'. Any subsequent land use is likely to require a planning proposal to rezone the land to accommodate that use, as well as a development application for consent to carry out that use. Coupled with the potential ongoing management of the land from a contamination perspective, there are multiple layers of Government oversight across different agencies which form part of the post-closure process.

Stakeholders raised concerns about the current planning and regulatory framework being often slow, rigid, and fragmented, with multiple agencies and duplicative processes that delay effective land repurposing. Stakeholders also noted challenges that are compounded by split incentives between regulators and operators, as well as misaligned state and federal priorities, which slow coordination and decision-making. Under the Mining Act, leaseholders face ongoing liabilities and a complex, protracted process for relinquishing leases, while legacy and abandoned mines with unclear ownership further complicate remediation and redevelopment efforts. Stakeholders, which included operators, developers and First Nations, recommended that future policy reform should streamline processes, clarify responsibilities, and recognise the value of cultural knowledge by involving Traditional Owners in co-designing and co-governing post-mining land uses.

4.1.12 Overview of regulatory framework for mining lands and power stations

Table 15 List of New South Wales key Acts, regulations, or non-enforceable policies/guidelines

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Mining Act 1992 (Mining Act)	Act	Mining Regulation 2016	Holders of authorisations including exploration licences, assessment leases or mining leases.	Yes	No
Environmental Planning and Assessment Act 1979 (EP&A Act)	Act	Environmental Planning and Assessment Regulation 2021 State Environmental Planning Policy (Resources and Energy) 2021	Any person proposing to undertake development or undertaking development.	Yes	Yes
Protection of the Environment Operations Act 1997 (POEO Act)	Act	Protection of the Environment Operations (General) Regulation 2022 Protection of the Environment Operations (Clean Air) Regulation 2022 Protection of the Environment Operations (Waste) Regulation 2014	Any person undertaking polluting activities or generating, transporting or disposing of waste.	Yes	Yes
Contaminated Land Management Act 1997 (CLM Act)	Act	Contaminated Land Management Regulation 2022	Any person that has caused contamination or an owner or occupier of contaminated land.	Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Water Management Act 2000 (WM Act)	Act	Water Management (General) Regulation 2018	Any person taking water in an area governed by a water sharing plan or water management plan.	Yes	Yes
Heritage Act 1977 (Heritage Act)	Act	Heritage Regulation 2012	An owner or occupier of a state heritage listed item, or person interacting with a state heritage listed item.	Yes	Yes
National Parks and Wildlife Act 1974 (NPW Act)	Act	National Parks and Wildlife Regulation 2019	A person interacting with an Aboriginal object or place.	Yes	Yes
Biodiversity Conservation Act 2016 (BC Act)	Act	Biodiversity Conservation Regulation 2017	Any person proposing to undertake development or undertaking development.	Yes	Yes
Mining Regulation 2016	Subordinate legislation	Mining Act 1992	Holders of authorisations including exploration licences, assessment leases or mining leases.	Yes	No
State Environmental Planning Policy (Resources and Energy) 2021	Environmental Planning Instrument	Environmental Planning and Assessment Act 1979	Any person proposing to undertake development or undertaking development.	Yes	Yes
State Environmental Planning Policy (Resilience and Hazards) 2021	Environmental Planning Instrument	Environmental Planning and Assessment Act 1979	Any person proposing to undertake development or undertaking development.	Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Form and Way: Rehabilitation Management Plan (large mines)	Policy	Mining Regulation 2016	A holder of a mining lease over a mine which requires an Environmental Protection Licence.	Yes	No
Form and Way: Annual Rehabilitation Report and Forward Program (small mines)	Policy	Mining Regulation 2016	A holder of a mining lease over a mine which does not require an Environmental Protection Licence.	Yes	No
Form and Way: Annual Rehabilitation Report and Forward Program (large mines)	Policy	Mining Regulation 2016	A holder of a mining lease over a mine which requires an Environmental Protection Licence.	Yes	No
Form and Way: Rehabilitation objectives and rehabilitation completion criteria for small mines	Policy	Mining Regulation 2016	A holder of a mining lease over a mine which does not require an Environmental Protection Licence.	Yes	No
Form and Way: Rehabilitation objectives, rehabilitation completion criteria and final landform and rehabilitation plan for large mines	Policy	Mining Regulation 2016	A holder of a mining lease over a mine which requires an Environmental Protection Licence.	Yes	No
Exploration Code of Practice: Rehabilitation Resources Regulator publication	Policy	Mining Act 1992 Environmental Planning and Assessment Act 1979	Where the code is applied as a condition on prospecting titles or as a term of an activity approval.	Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Guideline: Achieving rehabilitation completion (sign-off)	Policy	Mining Act 1992 Environmental Planning and Assessment Act 1979	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No
Guideline: Rehabilitation risk assessment	Policy	Mining Act 1992	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No
Guideline: Rehabilitation records	Policy	Mining Act 1992	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No
Guideline: Rehabilitation controls	Policy	Mining Act 1992	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No
Guideline: Mine rehabilitation portal	Policy	Mining Act 1992	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Guideline: Rehabilitation objectives and rehabilitation completion criteria	Policy	Mining Act 1992	A landowner that is required to achieve a final land use under the condition of consent granted to a mine.	Yes	No
EPA Guidelines for the Assessment and Management of Groundwater Contamination	Policy	Contaminated Land Management Act 1997	No obligations - guidance only.	Yes	Yes
Managing Land Contamination Planning Guidelines	Policy	Protection of the Environment Operations Act 1997 State Environmental Planning Policy (Resilience and Hazards) 2021	No obligations - guidance only.	Yes	Yes
Practical guide Post mining land use	Policy	Mining Act 1992	No obligations - guidance only.	Yes	No

4.2 Stakeholder consultation & findings

4.2.1 Summary

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none">▪ There is strong potential to develop reuses that support high-value jobs and economic growth, including, industrial, commercial, residential, agricultural and biodiversity outcomes.▪ The suitability and potential success of the new beneficial reuses is heavily dependent on the specific place/site/region's context.▪ Transitioning to clean energy projects, such as hydrogen production and battery installations, and fostering circular economy models, can drive sustainable practices and act as catalysts for new industries in the surrounds.▪ First Nations ownership and governance of rehabilitated lands can enable community-led economic ventures, promoting cultural values and long-term economic stability.	<ul style="list-style-type: none">▪ The current outdated, slow and complex regulatory frameworks are creating uncertainty and discouraging investment.▪ Long-term planning and consistent regulatory frameworks are needed to build investor confidence and support the transition to new uses.▪ Addressing skills shortages and ensuring effective workforce transition strategies are crucial for economic diversification and growth.▪ Mapping these skills gaps and aligning training with emerging industry needs are essential steps.▪ Genuine engagement with communities, including Traditional Owners, is vital for building social licence and ensuring that rehabilitation efforts align with cultural values and create real opportunities.

Legislative, Regulatory & Policy Hindrances
<ul style="list-style-type: none">▪ The existing planning and regulatory processes are slow, rigid, and involve multiple agencies with duplicative processes. This complexity hinders the timely and effective repurposing of former mining sites.▪ Split incentives between regulators and operators, as well as misaligned state and federal priorities, compound the complexity and slow the pace of land repurposing.▪ The Mining Act imposes ongoing liabilities on leaseholders, and relinquishing leases remains complex and protracted. Additionally, legacy mines with unclear ownership and responsibility, and abandoned mines, complicate the remediation and redevelopment process.▪ Policy should recognise the value of cultural knowledge and involve Traditional Owners in co-designing and co-governing projects. Indigenous impact assessments focused on cultural, emotional, and social wellbeing are necessary.▪ Site Advisory Groups setup by the NSW Government with cross departmental leads have been instrumental in streamlining key redevelopment projects in Hunter and Lithgow.

4.2.2 Key findings by stakeholder

Dantia – The Lake Macquarie Economic Development Company

Productive Uses:

- **Industrial, commercial & residential land uses:** Former mining land has significant capacity to deliver benefits across different stages of redevelopment, helping local communities, businesses, and the wider economy. On top of NSW's housing shortage, Atlas Economics has pointed to a 'silent crisis' of an acute scarcity of industrial land supply. Sydney, for example, has less than a year of serviced industrial sites available, while Melbourne has over ten years' worth. Lake Macquarie is experiencing a similar shortage of development-ready industrial land.
- These post-mining areas present a practical opportunity to address the gap. With their large scale and established infrastructure which can include roads, utilities, and rail corridors, they are well placed to support high-value jobs and a mix of commercial and residential development. The Northwest Growth Area, in particular, is close to major transport routes and urban centres, positioning it to become a leading precinct for redevelopment if supported by long-term plans and investment in infrastructure.
- **Clean energy hubs:** Lake Macquarie continues to play a leading role in energy, as part of the Hunter and Central Coast Renewable Energy Zone. Its skilled workforce in engineering and advanced manufacturing is supporting the transition to clean energy and driving the emergence of new industries in battery production and defence. Projects such as Origin's large-scale battery installation at the Eraring power station and 3ME Technology's development of modular lithium-ion battery systems for electric mining and military vehicles highlight this shift.
- Meanwhile, the Hunter is emerging as a key location for hydrogen, building on decades of industrial hydrogen production. The Hunter Hydrogen Roadmap identifies the area as a cluster combining skills, technology, and investment to drive the hydrogen sector. Lake Macquarie's strategic position on the National Highway, its mining assets, and the Eraring power station's infrastructure give it an important role in this effort. The Northwest Growth Area's access to the M1 motorway creates potential for a green hydrogen refuelling station and an EV service centre in Morisset. Eraring has also been flagged as a potential site for an EV battery facility.
- **Circular economy:** The region is also making progress in circular economy innovation. The Dantia-led Circular Economy Living Lab is piloting new road materials and assessing the feasibility of a dedicated Circular Economy Precinct to create more economic activity on former mining land.
- **BlackRock Motor Resort case study:** One strong example is the BlackRock Motor Resort, now under construction on the site of the former Rhondda Colliery. This \$95 million development will feature a racetrack, driver training centre, accommodation, and hospitality facilities. It is expected to create over 450 jobs during construction and more than 200 permanent positions once operational in 2027.
- However, the process to move from mining lease to redevelopment was slow and complex, taking seven years under current legislation. Dantia has stressed that a more efficient regulatory process is essential to speed up transitions and unlock new uses much faster.

Challenges:

- **Long-term certainty:** There is strong potential to convert former mining land into productive commercial developments. Yet, it can take as long as 20 years after closure before new uses are established. Industry cannot afford waiting decades to secure a return on investment.
- To build investor confidence, a clear and consistent regulatory framework is needed, which should guide assessment, manage risks, and supports the transition to new uses. Other projects with firm timelines, such as the Northwest Catalyst Area, and BlackRock Motor Park, demonstrate how prioritising anchor developments can deliver multiple economic benefits and set positive examples for the market.
- **Implications of Eraring closure:** Looking ahead, the current closure of Eraring Power Station in 2027 will have significant flow-on effects for surrounding mines and the broader Lake Macquarie economy,

including the supply chain that supports this major employer. Although these sites have extensive infrastructure that could support a range of high-value employment uses, current planning and rehabilitation rules often block such outcomes. Rehabilitation still focuses mainly on restoring approved landforms through demolition, stabilisation and revegetation rather than necessarily enabling future commercial or industrial use.

- **Limited success in post-mining transition:** Examples of successful mine site closure, relinquishment, and transition to new uses remain rare, despite mining operations being widespread and increasing globally.

Opportunities & Recommendations:

- **Aligning rehabilitation with future uses:** Any reform should recognise that rehabilitation practices must be planned around an agreed post-mining land use, so sites can be repurposed more quickly to benefit local communities and the economy. Streamlined government regulation will be essential to help mining operators meet rehabilitation requirements while also delivering economic, social, and environmental outcomes after closure.
- **Leverage existing infrastructure to inform uses:** With established roads, power, water, and rail infrastructure already in place, removing these assets without fully exploring reuse options is short-sighted. Redeveloping post-mining land is a more sustainable approach than expanding into undisturbed greenfield areas. Given Lake Macquarie's strong mining legacy, there is a clear opportunity for government leadership to pilot reforms that enable productive, long-term reuse of these sites.

Legislative, Regulatory & Policy Hindrances:

- **Outdated, slow and complex planning process:** In NSW, the existing process for transitioning mining land is outdated, complicated and slow-moving. This lack of clarity creates uncertainty and discourages investment. A defined, streamlined pathway for assessing and approving post-mining redevelopment is critical if these sites are to reach their potential and drive economic growth.
- The Mining Act imposes ongoing liability on leaseholders until rehabilitation is approved, and even after, relinquishing leases remains complex and protracted. Rezoning and development approvals are slow and rigid, often taking years and involving multiple agencies with duplicative processes. Additionally, Government agencies can amend consents, creating regulatory uncertainty that discourages changes in long-term planning away from the traditional rehabilitation to trees and grass.
- **Establish a regulatory pathway:** Dantia recognises that rehabilitation happens both during mining operations and once the lease finishes. The Government should consider changes to the Mining State Environmental Planning Policy (SEPP) to help with planning for how sites will be used in the future.
- Dantia is calling for government to streamline approvals for productive reuse of mining areas, to create new job opportunities and support communities shifting away from mining, making it easier to act on potential projects quickly.¹

¹ Dantia, Submission No 27 to the Legislative Council Standing Committee on State Development, *Inquiry into Beneficial and Productive Post-Mining Land Use* (25 June 2024).

Newcastle Institute for Energy & Resources (NIER)

Productive Uses:

- **Taking a precinct-level approach:** NIER is working with one of the Hunter region's key players to develop a whole of precinct plan to manage ongoing environmental and safety risks and liabilities associated with post-mining rehabilitation. Innovative rehabilitation techniques, such as blending tailings with biomass to increase soil carbon content, are being explored to improve land productivity.
- **Manufacturing land use:** The Hunter has significant potential to accommodate manufacturing-based post-mining land uses. The delivery of enabling infrastructure and regulatory clarity is required to signal to the market and ignite the potential to attract investment in areas, including green steel and sustainable aviation fuel production.

Challenges:

- **Skills shortage:** The region faces a significant skills shortage, which poses a challenge to economic diversification and growth. As the mining sector evolves and some operations wind down, there is an urgent need to develop other industries to sustain the local economy. Key sectors with potential for growth include vineyards, equine, and eco-tourism.
- **Infrastructure & rehabilitation:** Addressing the infrastructure and rehabilitation challenges in Muswellbrook is essential for unlocking the region's economic potential. The lack of industrial land due to buffer zones can be mitigated by strategic adjustments, allowing for new industrial developments that drive economic growth.

Additionally, managing water licences and upgrading road and rail infrastructure are crucial for the effective reuse of post-mining land, with effective landform design being critical for sustainable regrowth and water flow management. Furthermore, tackling the issues associated with legacy mines, such as voids, dust, and poor post-mining productivity, requires comprehensive rehabilitation solutions to restore land productivity and community safety.

Opportunities & Recommendations:

- **Investment potential:** The region's port access, grid infrastructure and water availability give the region significant potential to attract global investment in green steel, sustainable aviation fuel and offshore wind. Realising this opportunity depends on delivering enabling infrastructure and providing regulatory clarity.

Legislative, Regulatory & Policy Hindrances:

- **NSW regulatory framework:** NSW enforces extensive guidelines governing land use and water rescaling, imposing significant restrictions on mining operators. A clear and consistent regulatory framework is needed to guide assessment, manage risks and better support the transition to new uses.
- **State and national planning:** Misaligned state priorities and a lack of coordinated national planning hinder effective strategic land use. Regional voices are often misrepresented or overlooked in state and federal decision-making, impacting the effectiveness of land use policies.
- **State-level competition:** Strategic land use is a state-level issue, with states competing for talent and funding. Government intervention is needed to attract big manufacturers and support regional prosperity.

Anonymous Stakeholder

Productive Uses:

- **Reuse and resource recovery:** Currently, there is limited innovation in reuse and resource recovery because many activities do not fit neatly into existing frameworks. Energy from waste activities is seen as a potential innovative use, but current policies and multiple licence requirements create regulatory roadblocks. This organisation recognises that reform may be needed to enable more innovative or circular economy models, which could drive significant advancements in resource recovery and sustainable practices.

Challenges:

- **Contaminated land:** Contaminated land presents significant challenges, including contaminants, landform stability, drainage, and residual impacts. Older and/or abandoned mines often lack topsoil and have different standards compared to current regulatory expectations. Contamination can include PFAS or other persistent pollutants that are complex and costly to remediate. While remediation to enable new land uses is possible in almost every case, it often becomes a question of cost.
- **Hydrology, water and noise:** Redevelopment assessments must consider impacts on groundwater and drainage. Additionally, decommissioned sites may have existing agreements relating to noise (e.g., coal mines), but these agreements often lapse and cannot be relied upon for new uses.
- **Navigating rehabilitation of legacy mines:** In legacy mines where companies no longer exist, ownership and responsibility can become unclear. This ambiguity complicates the process of determining who is accountable for remediation and redevelopment. Councils may also be involved in determining the suitability of reuse proposals or redevelopment plans, adding another layer of complexity to the process.

Legislative, Regulatory & Policy Hindrances:

- **Differentiating site requirements:** It is difficult to apply a blanket approach to site rehabilitation and reuse due to the differing requirements of legacy sites, abandoned sites, and new sites. Legacy sites often have little or no rehabilitation obligations, abandoned sites have state-assumed responsibility but face challenging remediation, and new sites are subject to stricter modern standards and sometimes more complex contamination profiles. These variations necessitate tailored approaches to address the unique challenges of each site type.
- **Site-specific added complexities:** Regulatory complexity increases when multiple licence holders are involved, and there are conflicting objectives between councils, this organisation, and proponents. Additionally, issues such as noise or hazard facilities (e.g., old refineries) add further complications. These complexities can lead to delays and increased costs, making it difficult to achieve timely and effective site rehabilitation and reuse.

Opportunities & Recommendations:

- **Quality reporting:** Poor-quality reports submitted by proponents can slow approval processes and create issues, such as inadequate assessment of noise conditions. It is recommended that high-quality reports be commissioned to support what proponents are planning to accomplish for a particular development. Ensuring thorough and accurate reporting can streamline approvals and provide a clearer understanding of the project's impacts and benefits.
- **Incentivising rehabilitation:** The right level of investment and evidence can unlock redevelopment potential, but cost remains a critical factor. Contamination can be mitigated, but it often becomes a question of cost. Economic levers vary by region and can be influenced by market forces. For instance, a particular piece of land could become highly desired, creating the right incentives for investment. To encourage rehabilitation, there must be incentives rather than solely penalties. Providing financial

and regulatory incentives can motivate stakeholders to invest in and undertake rehabilitation projects, leading to more successful and sustainable outcomes.

Anonymous Stakeholder

Opportunities & Recommendations:

- **Site activation advisory group:** The process of site redevelopment is complex due to the involvement of multiple agencies. One particular site benefits from a bespoke solution implemented by the NSW Department of Economic Development, a Site Activation Advisory Group, which includes senior representatives from various government departments and agencies to resolve barriers and accelerate progress.
- This group has benefits, serving as a forum for agencies to appreciate the broader vision and impacts of the project, enabling accelerated discussions around concerns, and resulting in quicker rezoning outcomes. Expanding this arrangement to other sites could facilitate similar benefits, improve coordination and speed up redevelopment processes.

Legislative, Regulatory & Policy Hindrances:

- **Existing zoning and planning regulations:** The existing zoning and planning regulations are insufficient to support a transition from energy generation and mining lands to new land uses.

This forces some operators to prioritise specific zones applications as has been seen in one particular site, where prioritisation has been given to a subset of the site (Local Council was extremely motivated and found a pathway for amendment of permitted use within zoning), before considering the broader site land area (10,000 hectares).

Minerals & Resources Division, Department of Industry, Science and Resources (DISR)

Opportunities & Recommendations:

- **Hunter region potential:** The Hunter presents clear opportunities for redevelopment due to its interconnected infrastructure. This region is well-positioned to leverage existing networks for productive uses, as opposed to other regions that face significant geographical challenges.

Department of Planning, Housing and Infrastructure (DPHI)

Productive Uses:

- **Agriculture and biodiversity outcomes:** Opportunities exist for agriculture and biodiversity outcomes, utilising mine infrastructure areas for other commercial operations. Infrastructure can be retained if future use and resource regulators agree it does not need to be decommissioned. There is an opportunity to assess potential future uses of current site infrastructure and how this infrastructure fits into future post-mining use options.
- **Renewable energy projects:** Renewable energy projects are attractive due to existing supporting amenities and infrastructure, making them viable options for repurposing former mining sites.

Challenges:

- **Timing of land release:** The timing of land release is a significant issue, as it can take up to 10 years post-mining for land to be fully released. Understanding the risks and managing the progressive release of land, such as in Muswellbrook, is a key challenge in the transition process.
- **Complexity and lack of serviced land:** While policy can be adapted quickly through rezoning or updates, the real challenge lies in the complexity and constraints of repurposing mining sites for industrial use. There is often a lack of serviced land and insufficient forward planning by Councils to service and prepare for applications. This "just in time" approach hampers the ability to meet demand and effectively utilise these sites for new industrial purposes.

Opportunities & Recommendations:

- **Utilising existing buffers for heavy industry:** Mining lands offer significant advantages, such as large buffers around sites with few receptors. This makes them ideal for industries that require such buffers, like heavy industry. For example, the Kurri Kurri aluminium smelter site has explored industrial uses, light industry, commercial, and residential developments further away, demonstrating the potential for diverse and strategic land use.
- **Incentive mechanisms and demonstration projects:** Planned incentive mechanisms, such as the future Jobs and Investment Authority being set up in NSW, present opportunities for site-specific redevelopment based on individual characteristics like buffer land and proximity to population centres.

There is a willingness to work on demonstration projects with Councils, which can showcase the potential of these sites and attract further investment. Public pilot projects are expected soon, highlighting the proactive approach to leveraging these opportunities.

Legislative, Regulatory & Policy Hindrances:

- **Planning assessment and consents:** A key challenge in repurposing former mining sites is the requirement for new planning assessments and consents for significant changes. For example, while Mount Arthur could facilitate pumped hydro, it would need a new planning assessment and consent, limiting how far development can proceed without undergoing the entire approval process.
- Modification applications allow for changes within the original impact boundaries set by the mine application. However, significant new uses, like pumped hydro not considered in the original application, require a new application. This creates hurdles, as seen with Mount Arthur's modification to extend mine life, which did not include an assessment for pumped hydro.

Anonymous Stakeholder

Productive Uses:

- **Decarbonisation:** Approaches to post-mining land use are increasingly focusing on decarbonisation initiatives. Examples include the development of hydrogen production and export capabilities, such as Port Kembla's Hydrogen Hub and the hydrogen-ready Tallawarra A and B power stations. Network blending projects like Hydrogen Park Murray Valley on the Victoria–NSW border and BlueScope's efforts to lower emissions in steelmaking also highlight the potential for former mining sites to contribute to Australia's decarbonisation goals.
- **Agricultural and industrial:** There is growing interest in leveraging water availability from former mining sites for new agricultural and industrial ventures. Some mines hold substantial water entitlements, which can be repurposed to support these new uses, addressing local supply challenges and creating new economic opportunities. Additionally, the deployment of innovative technologies, such as underground compressed-air energy storage, can further enhance the productive use of these sites.

Challenges:

- **Land-use conflicts and lack of incentives:** Land-use conflicts are emerging in fast-growing areas like Wollongong, where urban growth competes with industrial uses. Additionally, there is a lack of urgency from some mine owners to identify productive uses for former mining sites, impacting small communities or councils that rely heavily on mining royalties.

Without incentives for mining operators to propose or drive productive uses, the potential for positive economic impacts across local communities and economies remains underutilised.

- **Balancing environmental rehabilitation with economic needs:** There is a need to balance environmental rehabilitation with the region's immediate economic needs. While mines often have significant infrastructure that could be leveraged for new industries, mine licence holders are primarily motivated to satisfy regulatory requirements rather than drive long-term economic development for the region. Freeing up land and licenses to enable productive uses remains a key challenge.
- **Workforce transition:** Workforce transition is a recurring concern, requiring a holistic approach to avoid large-scale economic disruption. Training workers for roles that may not exist or lack certainty in the region should be avoided. Instead, strategies should focus on supplementing skills to enable workers to pivot into realistic job opportunities. Many regions lack other established industries that offer equivalent high-paying employment, making this a critical challenge to address.

Opportunities & Recommendations:

- **Enabling infrastructure:** The role of enabling infrastructure, such as power stations, is central to building investor confidence and sending strong signals to the market. Leveraging existing infrastructure can attract investment and facilitate the development of new industries on former mining sites, driving economic growth and innovation.
- **Attracting businesses from high-rent metro areas:** There is an opportunity to identify local demand-driven sectors and market drivers that do not solely depend on local supply chains. Some mining sites, located in close proximity to Sydney, offer lower costs and the potential to attract businesses from high-rent metro areas, fostering economic diversification and growth.

Legislative, Regulatory & Policy Hindrances:

- **Regulatory frameworks & contamination:** Regulatory frameworks, particularly around water use and licensing, are not well developed to support alternative uses for former mining sites. Additionally, many sites face legacy contamination issues, which complicate investment and hinder the transition to new, productive uses.

Anonymous Stakeholder

Proactive Uses:

- **Prioritising economic diversification (commercial and industrial):** Focus on leveraging significant infrastructure and endowments at the site and surrounding areas to underpin local economic diversification. With a high-risk appetite, the objective is to transition and diversify the local economy by prioritising industrial and commercial uses that provide full-time employment and economic growth. Tourism and residential uses can then be developed as supporting elements to further enhance regional development.
- **Case-by-case identification of productive uses:** Productive and beneficial reuse depends on the market depth of individual sectors. A sector-by-sector analysis is necessary to understand the demands and depth of each industry at each site, ensuring that redevelopment efforts are tailored to the specific opportunities and needs of each location.

Challenges:

- **Uncertainty around records of remediation and demolition:** Uncertainty around records of remediation and demolition, including asbestos concerns, poses significant challenges. Ensuring accurate records and addressing potential health risks are critical for safe and effective site redevelopment.
- **Community engagement and social licence:** Strong emotional attachment within the community necessitates effective engagement and communication to build social licence. Gaining community support is essential for the success of redevelopment projects.

Opportunities & Recommendations:

- **Collaboration across government and private sector:** Emphasis on the critical importance of genuine collaboration across all levels of government and the private sector. NSW is becoming a key stakeholder, recognising the importance of these sites in the transition. Effective collaboration ensures that all parties are aligned and working towards common goals.
- **Site activation advisory group:** The site activation advisory group, consisting of state and local representatives and driven by the state, has proven to be efficient and beneficial. This momentum is providing this investor with confidence in the project's progress, highlighting the value of collaborative and well-coordinated efforts in site redevelopment.
- **Consensus on development scale and risk-sharing:** Need for consensus on the scale of development and future uses, with risk-sharing with the government. Government understanding of the urgency is crucial, as seen in similar areas like Collie. A unified approach will help streamline processes and accelerate development.
- **Long-term perspective and innovative demolition:** The ownership group benefits from very patient capital, allowing for a long-term perspective. They have adopted an innovative approach to demolition, including contractual arrangements to monetise scrap metal, and focus on innovation in decommissioning and demolition processes.
- **Early activation opportunities:** Seeking early activation opportunities, such as grid-scale batteries, can enable early commercial activation. Their nimble business model allows for effective risk management, with each approach to risk and liability being unique and tailored to specific circumstances.
- **Future opportunities for repurpose investors:** Future opportunities include partnering with mine owners to bring expertise, capital, and risk-sharing. Early government involvement is crucial to share risk and drive outcomes. This repurpose investor is interested in genuine joint venture models that benefit both investors and communities, fostering collaborative and mutually beneficial projects.
- **Investment attraction and incentives:** To encourage the uptake of productive uses, the government needs to introduce investment incentives and tax breaks. These initiatives are crucial to support reuse efforts and attract investment, driving economic growth and redevelopment of former mining sites.

Legislative, Regulatory & Policy Hindrances:

- **Understanding the economic and social context:** Locations often rely on mining or power stations as core economic drivers. It is critical to understand the local economic and social context, including gross regional product, backbone industries, and unemployment statistics. This understanding is essential when looking to invest significant capital where there is no natural economic demand.
- **Policy alignment:** This investor engaged with the Net Zero Economy taskforce in early 2023 to align with public sector priorities. This investor aligns its strategy with public sector commitments to regional development, recognising this as the most significant consideration for successful project implementation.
- **Zoning and planning:** Sites have been quarantined for specific uses, and transitioning away from coal/gas-fired generation requires extensive rezoning processes. This investor is investing time and

money to navigate these processes, ensuring that the necessary zoning changes are achieved to support new, productive uses.

Mining and Energy Union (MEU)

Challenges:

- **Inconsistent support:** New South Wales has seen inconsistent support, minimal planning, and late engagement in transitioning from mining operations. This lack of coordinated effort complicates the transition process and delays the implementation of productive reuse strategies for former mining sites.

Anonymous Stakeholder

Challenges:

- **Aligning closure to regional planning:** While there are no significant regulatory challenges precluding planning, the gap lies in regional planning. This stakeholder is only responsible for its own asset planning, not regional planning. More guidance on regional needs and better coordination between various levels of government and economic stakeholders would facilitate improved planning and help establish a hierarchy for the best economic use of sites.

Opportunities & Recommendations:

- **Engagement with Traditional Owners:** Engagement on cultural heritage with Traditional Owners ensures that sites are restored appropriately. For example, using native seeds in NSW nurseries helps preserve cultural heritage and promotes ecological sustainability, ensuring that rehabilitation efforts align with the values and knowledge of Traditional Owners.

Legislative, Regulatory & Policy Hindrances:

- **Timeframe to achieve rehabilitation:** The timeframe to demonstrate achievement of relinquishment can be 15–20 years or more, with factors like extreme weather events creating new costs. The process is prolonged due to strict regulatory expectations, including community engagement and weed species management. Regulators' risk-averse nature impacts smaller operators who may face cost blowouts if not accounted for upfront, as legislation is generally built for larger operators.
- **State and federal alignment:** There is a need for better alignment between state and federal legislation, particularly in areas like water legislation. State legislation does not currently support alternative uses for mining land, and changes at the federal level are necessary to facilitate more cohesive and effective land repurposing strategies.

Wonnarua Nation Aboriginal Corporation

Productive Uses:

- **Community-led economic infrastructure:** Success is defined as full ownership of rehabilitated land by Traditional Owners, through legal title and governance structures that enable long-term control and benefit. Community-led economic infrastructure on these sites could include native nurseries to propagate traditional plants, small-scale Aboriginal-run farms for cultural practices and food sovereignty, and cultural tourism ventures tied to Wonnarua knowledge systems. This approach aims to create intergenerational employment, economic stability, and cultural empowerment, rather than simply returning the land.

Challenges:

- **Lack of genuine relationship with Traditional Owners:** The mining industry is often seen as "tick-the-box" and extractive, providing short-term sponsorships or superficial gestures with no lasting benefits. Aboriginal participation is frequently limited to optics or compliance, lacking genuine engagement and meaningful outcomes.
- **Lack of input in rehabilitation:** Past rehabilitation efforts have lacked creativity, ambition, and collaboration, often resulting in lands being simply covered with grass or filled with water without Aboriginal involvement. This missed opportunity to co-design landscapes that align with cultural values and create real opportunities is compounded by new mining projects starting before others are fully rehabilitated.

Opportunities & Recommendations:

- **Transition and economic risk:** Mine closures risk leaving Aboriginal communities economically stranded while non-Aboriginal workforces relocate. The extractive economic structure provides no safety net or legacy investment for Wonnarua people. Integrating sustainable, community-owned enterprises in renewable energy and rehabilitation projects is essential to prevent economic decline and further disadvantage.

Legislative, Regulatory & Policy Hindrances:

- **Need for co-design and co-governance:** Aboriginal people must not only be consulted but must also co-design and co-govern projects. Policy should recognise the value of cultural knowledge and the lived expertise of Traditional Owners, not just technical or environmental data.
- **Indigenous impact assessments:** There is a need for Indigenous impact assessments focused on cultural, emotional, and social wellbeing, not just environmental or development metrics. This approach ensures that the full spectrum of impacts is considered and addressed.

5

Queensland

5 Queensland

5.1 Queensland regulatory framework analysis

Terminology

Term	Meaning
ACH Act	<i>Aboriginal Cultural Heritage Act 2003 (Qld)</i>
Authority	Net Zero Economy Authority
CHMP	Cultural heritage management plan
EIS	Environmental impact statement
EEOs	Environmental enforcement orders
EP Act	<i>Environmental Protection Act 1994 (Qld)</i>
EP Regulation	<i>Environmental Protection Regulation 2019 (Qld)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EPOLA Act	Environmental Protection and Other Legislation Amendment Act 2023 (Qld)
ERA	Environmentally relevant activity
ERC	Estimated rehabilitation cost
Explanatory Notes	Environmental Protection (Powers and Penalties) and Other Legislation Amendment Bill 2024 Explanatory Notes
Land Court	The Land Court of Queensland
MERFP Act	<i>Mineral and Energy Resources (Financial Provisioning) Act 2018 (Qld)</i>
MRA	<i>Mineral Resources Act 1989 (Qld)</i>
NUMA	Non-use management area
Planning Act	<i>Planning Act 2016 (Qld)</i>
PMLU	Post-mining land use
PRCP	Progressive rehabilitation and closure plans
PRC plan	A progressive rehabilitation and closure plan for the land that consists of the rehabilitation planning part of the plan and the PRCP schedule for the plan, including any conditions imposed on the schedule
QH Act	<i>Queensland Heritage Act 1992 (Qld)</i>
Scheme Manager	As defined under Part 2 of <i>Mineral and Energy Resources (Financial Provisioning) Act 2018 (Qld)</i>
Water Act	<i>Water Act 2000 (Qld)</i>

5.1.1 Summary

The development, operations, closure and rehabilitation of mines in Queensland is principally regulated by the MRA and EP Act. Mining proposals may still require assessment and approvals under other Acts such as the EP Act.

Under the MRA, the Minister may grant to an eligible person or persons, a mining lease for all or any of the following purposes:

- to mine the mineral or minerals specified in the lease and for all purposes necessary to effectually carry on that mining;
- such purposes, other than mining, as are specified in the mining lease and that are associated with, arising from, or promoting the activity of mining. The MRA requires mine operators to enter into a mining lease.

Under a mining lease, a lease holder of the lease must remove any building or structure, and all mining equipment, erected under the authority of the lease (i.e. decommission and remove all the plant and infrastructure). A mining lease may also include conditions regarding improvement restoration of the land, to repair any damage caused by an activity under a mineral tenement. However, 'damage' does not include damage to which a requirement to rehabilitate or remediate under the EP Act applies.

A mining activity will also require an environmental authority under the EP Act, which may include specific conditions relating to matters or remediation, rehabilitation and reuse of land. PRCP schedules replace the rehabilitation requirements in an environmental authority. It is a condition of an environmental authority for a mining activity (or any other resource activity) that the holder must not carry out, or allow the carrying out of, a resource activity under the environmental authority unless (among other things) the holder has paid a contribution to the scheme fund or given a surety for the authority under the MERFP Act.

The development, operations, decommissioning and remediation/rehabilitation of coal- and gas-fired power stations in Queensland is principally regulated by the Planning Act and the EP Act. Like mining proposals, power station proposals may also require assessment and approvals under other Acts.

An environmental authority will be required for a power station approval, and it may include conditions relating to rehabilitating or remediating environmental harm, and conditions requiring the payment of financial assurance.

The reuse of mining land and decommissioned coal- and gas-fired power stations will be subject to further approvals, the nature of those approvals dictated by the specifics of the reuse proposal.

5.1.2 Overview of the regulatory framework for mining lands

The EP Act protects Queensland's environment while allowing for ecologically sustainable development. It is the key legislation in Queensland which regulates the rehabilitation, remediation and reuse of mining lands.

The EP Act is to be administered having regard to certain principles, including the 'polluter pays' principle. 'Polluter pays' means that those who generate pollution and waste should bear the cost of containment, avoidance or abatement.

This general principle is given legislative effect in the EP Act through the following:

- general environmental duty;
- duty to restore the environment;
- duty to notify; and
- various compliance and enforcement tools that are available to secure compliance with the EP Act, including EEOs.

The EPBC Act also applies at the Federal level.

Mining tenements

Mining tenements, including mining leases, are regulated under the MRA. However, unlike in other states, mining legislation does not have an important role to play in regulating rehabilitation, remediation and reuse of mining lands in Queensland.

Each mining lease in Queensland is subject to a condition that the holder, prior to the termination of the mining lease for whatever cause, shall remove any building or structure purported to be erected under the authority of the mining lease and all mining equipment and plant, on or in the area of the mining lease unless otherwise approved by the Minister.^{cii}

It may also be subject to a condition that the holder must carry out improvement restoration for the mining lease.^{ciii} To carry out improvement restoration, for a mining tenement, means to repair any damage caused by an activity under the tenement to all pre-existing improvements on, or attached to, the area of the tenement by restoring them to the same, or substantially the same, condition they were in before the damage happened or replacing them with another improvement. However, 'damage' does not include damage to which a requirement to rehabilitate or remediate under the EP Act applies.^{civ}

A tenement condition must not be determined, imposed or prescribed on a mining lease under the MRA if it is the same, or substantially the same, or inconsistent with, a relevant environmental condition for the mining lease.^{cv}

Mining activities carried out on a mining lease are typically not subject to the Planning Act.^{cvi}

Environmental authorities

In Queensland, a type of permit known as an environmental authority statutory permit issued by DESI is required to carry out an environmentally relevant activity (ERA), which includes a resource activity.^{cvii} A resource activity includes a mining activity, which is an activity that is an authorised activity for a mining tenement under the MRA or another activity that is authorised under an approval under the MRA that grants rights over land.^{cviii} Environmental authorities for site-specific applications may be approved subject to conditions.^{cix} It is an offence to contravene a condition of the authority.^{cx}

5.1.3 Other legislation

While the MRA and EP Act provide the primary framework for the authorisation and ongoing regulation of mining activities on mining leases in Queensland, the following additional legislation may be relevant to the approval, operation, rehabilitation and post-closure of a mine:

- **Water:** Mining projects are often water intensive, as are measures to remediate and rehabilitate mining land. The holder of a mining lease may take or interfere with 'associated' underground water in the area of the lease subject to the holder complying with the underground water obligations in Chapter 3 of the Water Act. The requirement for an authorisation (i.e. allocation, licence or permit) to take non-associated underground water, surface water or overland flow water will depend on the water plan that applies. Watercourse diversions, however, are typically authorised by an environmental authority.
- **Aboriginal cultural heritage:** The ACH Act applies as a general duty, rather than including specific provisions for mining lands. The ACH Act (and equivalent Torres Strait Islander Cultural Heritage Act) imposes the 'cultural heritage duty of care', requiring a person carrying out an activity to take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage.
- The duty of care in relation to the remediation, rehabilitation and beneficial reuse of mining lands can principally be met in compliance with the gazetted Cultural Heritage Duty of Care Guidelines, which identify reasonable and practicable measures for ensuring activities are managed to avoid or minimise harm to Aboriginal cultural heritage, and an approved CHMP.
- A CHMP will be required if an EIS is required. An EIS is typically required for mining proposals in Queensland. Where required, CHMPs must be prepared prior to the use or development of land

commencing. A CHMP is an agreement between the proponent and the Aboriginal party, and it outlines how land use activities must be managed and undertaken to avoid or minimise harm to Aboriginal cultural heritage in the area.

- Under the ACH Act, the court may order costs of rehabilitation or restoration towards the repair or restoration of any, or anything associated with, Aboriginal cultural heritage where a person is convicted for an offence involving the unlawful harming or possessing of Aboriginal cultural heritage. Where there are reasonable grounds to conclude that an activity is being, or about to be, carried out which is harming or will harm Aboriginal cultural heritage or have a significant adverse impact on the cultural heritage value, the Minister has the power to issue stop orders. The Minister also has the power to cause structures to be erected, and other steps to be taken, that are necessary or desirable to preserve the Aboriginal cultural heritage.
- **European heritage:** Any development involving a place which is listed on the Queensland Heritage Register is considered assessable development that generally requires approval under the Planning Act.
- The Planning Act applies to development on a Queensland heritage place under the Heritage Act even if development of the place is authorised under the MRA (such as for mining activities on a mining lease). More information about the QH Act is provided below (in relation to power station lands).

5.1.4 Summary of the rehabilitation and reuse framework in Queensland

PRCP schedules (Progressive Rehabilitation and Closure Plan) replace the rehabilitation requirements in an environmental authority,^{cxii} and provide for how land will be progressively rehabilitated throughout the life of the mine.^{cxii}

The holder of an environmental authority permit issued for a site-specific application for mining activities relating to a mining lease must not carry out, or allow the carrying out of, an environmentally relevant activity under the authority unless there is an approved PRCP schedule for the activity.

The requirements for PRC plans and PRCP schedules in the EP Act were introduced by the MERFP Act (*Mineral and Energy Resources (Financial Provisioning) Act 2018*) as part of a suite of reforms aimed at improving the rehabilitation performance of resource companies during the life of a mine, and limiting the amount of public funds needed to undertake environmental management or rehabilitation works when resource companies fail to meet their obligations.

The MERFP Act also amended the EP Act to replace the financial assurance arrangements for resource companies with a financial provisioning scheme, including a scheme fund, surety arrangements and the appointment of the Scheme Manager to manage the scheme. The amount of the required contribution or surety is calculated by reference to the estimated rehabilitation cost for the activities permitted under an environmental authority.

The EPOLA Act (*Environmental Protection and Other Legislation Amendment Act*) in 2020 established the residual risk fund. A holder of an environmental authority may be required to make a residual risk payment prior to surrendering an authority. The payment is to cover any future costs associated with the ongoing management or remediation of the site, given that conditions requiring remediation and rehabilitation may cease to have effect with the surrender of the environmental authority.^{cxiii}

The EPOLA Act also established the independent, statutory position of the Queensland Mine Rehabilitation Commissioner, who is tasked with providing advice on rehabilitation or best practice management of land and facilitating better public reporting on rehabilitation. The Commissioner's advice must be considered by the administering authority when making a decision about a proposed PRC schedule. The first Commissioner, James Purtill, took office on 11 October 2021. He is accountable to the Minister for Environment, Tourism, Science and Innovation and is supported by the Office of the Queensland Mine Rehabilitation Commissioner.

5.1.5 Overview of the hierarchy of instruments for mining lands

Table 16 Overview of the hierarchy of instruments for mining lands

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Environmental Protection Act 1994 (Qld) Mineral Resources Act 1989 (Qld) Mineral and Energy Resources (Financial Provisioning) Act 2018 (Qld) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Water Act 2000 (QLD) Aboriginal Cultural Heritage Act 2003 (QLD) Queensland Heritage Act 1992 (WA) State Development and Public Works Organisation Act 1971 (Qld)
Subordinate legislation	<ul style="list-style-type: none"> Environmental Protection Regulation 2019 (Qld) Mineral Resources Regulation 2013 (Qld) 	
Policies / Guidelines	<ul style="list-style-type: none"> Statutory guideline - Progressive rehabilitation and closure plan 	

5.1.6 Overview of the key stakeholders and responsibilities for mining lands

Table 17 Overview of the key stakeholders and responsibilities for mining lands

Stakeholder	Responsibility
Department of Environment, Tourism, Science and Innovation	Department responsible for administering the EP Act
Department of Natural Resources and Mines, Manufacturing and Regional and Rural Development	Department responsible for administering the MRA Act
Queensland Treasury	Department responsible for administering the MERFP

5.1.7 Overview of the regulatory framework over project life cycle of mining lands

Table 18 Overview of the regulatory framework over the project life cycle of mining lands

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> ▪ Obtainment of a mining lease. Lease may include conditions regarding land restoration or repair under MRA, not to level of rehabilitation. ▪ Preparation of EIS (if required). ▪ Obtainment of environmental authority under EP Act. ▪ Approval of a proposed PRC Plan under EP Act, which may include conditions imposed on the schedule regarding rehabilitation or management. ▪ Obtainment of other relevant approvals (if required) including authorisation under Water Act, CHMP under ACH Act. ▪ ERC decision must be in effect; and payment of contribution to scheme fund or surety for authority under MERFP Act.
Operational Phase	<ul style="list-style-type: none"> ▪ Progressive rehabilitation following timing and milestones as required under PRC Plan. Rehabilitated areas may be progressively certified. ▪ Management of certified areas under conditions of environmental authority or milestones under PRCP schedule. ▪ Any application for amendment to PRCP schedule must be accompanied by an amended rehabilitation planning part of PRC plan and be approved through administering authority. Potential changes to PRCP schedule may require a concurrent amendment to environmental authority.
Closure Phase	<ul style="list-style-type: none"> ▪ Completion of rehabilitation to PMLU or NUMA (if relevant).
Post-Closure Phase	<ul style="list-style-type: none"> ▪ Submission of a surrender application, post-surrender management report, a compliance statement for the environmental authority and, if a PRCP schedule applies, a compliance statement for the PRCP schedule for surrender of environmental authority. ▪ Payment of residual risk requirement (if required). ▪ Obtainment of any approvals required for the beneficial reuse of the site.

5.1.8 Focus questions for mining lands

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Progressive rehabilitation and closure plans

The holder of an environmental authority issued for a site-specific application for mining activities relating to a mining lease must not carry out, or allow the carrying out of, an environmentally relevant activity under the authority unless there is a PRCP schedule for the activity. The PRCP schedule will state the PMLU for the land, or otherwise state that the land is to be a NUMA.

ERCs and the financial provisioning scheme

It is a condition of an environmental authority for a resource activity that the holder must not carry out, or allow the carrying out of, a resource activity under the authority unless:

- an 'ERC decision' is in effect for the resource activity when the activity is carried out;

- the holder has paid a contribution to the scheme fund or given a surety for the authority under the MERFP Act; and
- the holder has complied with the requirements under the MERFP Act for paying a contribution to the scheme fund, or giving a surety for the authority, as required from time to time.^{cxiv}

‘ERC decision’ means a decision of the administering authority under section 300 of the EP Act about the estimated rehabilitation cost for a resource activity.^{cxv}

Residual risk payments

The holder of an environmental authority may apply to the administering authority to surrender their environmental authority.^{cxvi}

A surrender application for a resource activity must be accompanied by a post-surrender management report, a compliance statement for the environmental authority and, if a PRCP schedule applies for the relevant activity, a compliance statement for the PRCP schedule and the conditions imposed on the schedule.^{cxvii}

A post-surrender management report for land, which is the subject of a surrender application, must (among other things) include a risk assessment of the land that complies with the residual risk assessment guideline.

If the administering authority is satisfied that it is justified to do so, the administering authority may impose a ‘residual risk requirement’ in relation to a surrender application for an environmental authority for a resource activity. The administering authority decides the amount and form of any payment required, but it must have regard to the residual risk assessment guideline in deciding the amount of the payment.

The administering authority will have regard to the following factors when deciding whether a residual risk requirement is justified:

1. the degree of risk of environmental harm likely to happen if the land the subject of the application is managed under the relevant requirements of the EP Act and instruments made under it;
2. the likelihood of action being needed to:
 - reinstate rehabilitation that fails to establish a safe, stable and self-sustaining ecosystem;
 - maintain environmental management processes needed to protect the environment; or
 - restore the environment because of environmental harm resulting from relevant resource activities for the environmental authority; and
3. the cost of likely action in comparison with the cost of best practice environmental management of the similar use of the land that has not previously been affected by the activities.

If a ‘progressive certification’ has previously been given for a relevant tenure for the environmental authority, the administering authority must, in deciding to require the residual risk payment, confirm that the area of the relevant tenure still meets the criteria for progressive certification under section 318ZI of the EP Act against which it was certified.

On approval of an environmental authority surrender application, the PRCP schedule ceases to have effect.

Progressive certification

The administering authority may certify that a particular area within a relevant tenure for a resource project has been rehabilitated under all relevant requirements.

The holder of the environmental authority to which the relevant tenure relates must maintain the certified area for the relevant tenure under the conditions of the authority, or rehabilitation milestones or management milestones under a PRCP schedule, in force when the certification was given, until either the surrender of the underlying tenure, the end of the authority or PRCP schedule, or compliance with a relevant condition, whichever is later.

At what stage of a mining project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Rehabilitation and closure planning must be considered at the application stage for any new environmental authority, however, transitional provisions in the EP Act also set out certain obligations on existing authority holders. A site-specific application for an environmental authority for a mining activity relating to a mining lease must be accompanied by a proposed 'PRC plan'.

A PRC plan, for land the subject of a mining lease, means a progressive rehabilitation and closure plan for the land that consists of the rehabilitation planning part of the plan and the PRCP schedule for the plan, including any conditions imposed on the schedule.

The main purposes of a PRC plan are to:

1. require the holder of an environmental authority issued for a site-specific application for a mining activity relating to a mining lease to plan for how and where environmentally relevant activities will be carried out on land in a way that maximises the progressive rehabilitation of the land to a stable condition; and
2. provide for the condition to which the holder must rehabilitate the land before the authority may be surrendered.^{cxviii}

A proposed PRC plan must (among other things):

- describe the relevant activities to which the application relates, and their likely duration;
- include a PRCP schedule (which is discussed further below); and
- for each proposed PMLU for land, state the applicant's proposed methods or techniques for rehabilitating the land to a 'stable condition in a way that supports the rehabilitation milestones under the proposed PRCP schedule.'^{cxix}

Land is in a 'stable condition' if the land is safe and structurally stable, there is no environmental harm being caused by anything on or in the land and the land can sustain a PMLU.^{cxx}

A proposed PRCP schedule must, for the area of each resource tenure described in the PRC plan, state the proposed PMLU for the land or otherwise state that the applicant considers the land to be a NUMA. PMLUs have rehabilitation milestones and timing, and NUMAs have management milestones and timing.^{cxxi} A void situated wholly or partly in a flood plain cannot be a NUMA.^{cxvii}

The PRCP schedule may state that land is a NUMA only if carrying out rehabilitation of the land would cause a greater risk of environmental harm than not carrying out the rehabilitation, or both of the following apply:

- the risk of environmental harm as a result of not carrying out rehabilitation of the land is confined to the area of the relevant resource tenure; and
- the applicant considers, having regard to each public interest consideration, that it is in the public interest for the land not to be rehabilitated to a stable condition.^{cxviii}

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

The regulatory framework in Queensland does not typically prioritise the most productive or beneficial use of a site post-closure. Rather, PMLU (Post Mining Land Use) criteria apply.

Policy overview

A post-mining land use (PMLU) for land subject to a PRCP refers to the intended purpose of the land following completion of all relevant activities outlined in the PRC.²⁹³ The Mined Land Rehabilitation Policy (Department of Environment and Heritage Protection, Department of Natural Resources and Mines and Queensland Treasury) states:

When preparing a PRCP, the mining company will identify suitable post-mining land uses having regard to the surrounding landscape, community views and the objectives of any local and regional planning strategies.^{cxxiv}

The Statutory guideline – Progressive rehabilitation and closure plans (PRC plans) – ESR2019/4964 – Volume 3.01 (Department of Environment, Science and Innovation, Last reviewed 16 September 2024) states:

Selecting and justifying appropriate PMLUs is fundamental to the PRC plan framework and underpins the statutory obligations in the PRCP schedule.

The statutory guideline provides examples of PMLUs, but it does not provide a hierarchy of PMLUs.^{cxxv}

Post Mining Land Use (PMLU) criteria

For a proposed PMLU to be accepted, the PRCP schedule must demonstrate that the land can be rehabilitated to a stable condition.^{cxxvi}

The EP Regulation provides for the PRCP schedule performance outcomes, which include that each PMLU:

- is viable, having regard to the use of land in the surrounding region; and
- satisfies at least one of the following:
 - the use is consistent with how the land was used before a mining activity was carried out on the land;
 - the use is consistent with a development approval relating to the land;
 - the use is consistent with a use of the land, other than a use that is mining, permitted under a State or Commonwealth Act, including, for example, a planning instrument under the Planning Act;
 - the use will deliver, or is aimed at delivering, a beneficial environmental outcome.^{cxxvii}

Further, in accordance with section 126C(1)(j) of the EP Act, the administering authority has prepared a list of matters it considers necessary to be informed of in deciding whether to approve a PRCP schedule for the plan, including, in summary:

- consideration of PMLU options having relevant regard to regulatory and land use constraints;
- available rehabilitation methods and their costs;
- potential economic, environmental and social benefits;
- compatibility with surrounding land uses;
- the land use before the mining activity commenced; and
- options for retaining/transitioning infrastructure and utilities.^{cxxviii}

To what extent does the regulatory framework require consultation in relation to a mining project's remediation, rehabilitation and (if applicable) reuse requirements?

The EP Act includes public notification processes for environmental authority amendment applications and environmental impact statements. A properly made submission gives a submitter the right to object to the administering authority's decision, and objections are referred to the Land Court for an objections hearing.^{cxxix}

In addition to the objections hearing process, a proposed PRC plan must also include details of the consultation undertaken by the applicant in developing the proposed PRC plan. It must also include details of how the applicant will undertake ongoing consultation in relation to the rehabilitation to be carried out under the plan.^{cxxx}

To comply with section 126C(1)(c) of the EP Act, the rehabilitation planning part must include a community consultation register identifying the consultation carried out in developing the PRC plan, and a community consultation plan detailing how ongoing consultation will be carried out in relation to the rehabilitation to be carried out under the PRC plan.^{cxxxi}

Further, it must state the extent to which each proposed PMLU for land or NUMA identified in the proposed PRCP schedule for the plan is consistent with the outcome of consultation with the community in developing the plan and any strategies or plans for the land of a local government, the State or the Commonwealth.^{cxxxii}

The community consultation process should be used to inform the outcomes stated in the PRC plan.^{cxxxiii} The statutory guidelines state as follows:

- In developing the proposed PRC plan, the community should at least be engaged on the plan for the mine, PMLUs or NUMAs, areas of disturbance, rehabilitation and management methods, progressive rehabilitation and closure timeframes. Ongoing community consultation should continue throughout the stages of the mine life so that progressive rehabilitation and the socio-economic and environmental impacts related to mine closure can be discussed with the community.^{cxxxiv}
- It is the responsibility of the applicant to identify, notify and engage the community regarding the rehabilitation and closure of the site and provide them with the opportunity to comment.^{cxxxv}
- To be included in this consultation stage, members of the community must have a genuine interest in the land where the activity will occur, the land adjacent to where the activity will occur and/or the land or amenities surrounding where the activity will occur that are likely to be impacted by the activity.^{cxxxvi}
- If the administering authority is not satisfied that the applicant has attempted to consult with all community members with a genuine interest in the rehabilitation and closure of the project, it may request further information from the applicant.^{cxxxvii}

How are remediation and rehabilitation works secured by the regulatory framework?

It is a condition of an environmental authority for a resource activity that the holder must not carry out, or allow the carrying out of, a resource activity under the authority unless:

1. an ERC decision is in effect for the resource activity when the activity is carried out;
2. the holder has paid a contribution to the scheme fund or given a surety for the authority under the MERFP Act; and
3. the holder has complied with the requirements under the MERFP Act for paying a contribution to the scheme fund, or giving a surety for the authority, as required from time to time.^{cxxxviii}

‘ERC decision’ is a decision of the administering authority about the estimated rehabilitation cost for a resource activity.^{cxxxix}

An application for an ERC decision must state the amount that the holder considers to be an estimate of the total cost for rehabilitating the land on which the resource activity is carried out and preventing or minimising environmental harm, or rehabilitating or restoring the environment, in relation to the resource activity.^{cxli}

If a PRCP schedule applies for the resource activities, the application must also include a compliance statement that the stated amount is consistent with the schedule.^{cxlii}

The State's financial risk in carrying out rehabilitation requirements for resource projects is managed and mitigated by the MERFP Act. The MERFP Act provides for holders of authorities to pay a contribution to a scheme fund, or give a surety, for the authorities.^{cxliii}

The Scheme Manager will require:

1. small scale mining tenures and holders of environmental authorities with an estimated rehabilitation cost below \$100,000 to provide surety equal to the estimated rehabilitation cost for that authority;^{cxliiii} and
2. environmental authorities with at least \$100,000 in estimated rehabilitation costs will undergo an annual risk category allocation assessment process.
3. Rehabilitation costs will undergo an annual risk category allocation assessment process. The assessment process will determine whether the holder will be required to provide a contribution to the

Scheme's financial provisioning fund and/or to provide surety to the Scheme Manager for that authority.^{cxliv}

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post closure use?

The holder of a PRCP schedule may, at any time, apply to the administering authority to amend the PRCP schedule.^{cxlv} The amendment application must be accompanied by an amended rehabilitation planning part for the holder's PRC plan which complies with section 126C of the EP Act.^{cxlvi}

In accordance with section 226AA of the EP Act, due to the dependencies between an environmental authority and the PRCP schedule, an applicant must consider whether a proposed amendment to the PRCP schedule requires a concurrent amendment to the environmental authority to ensure consistency between both instruments.^{cxlvii}

An amendment application may be a 'minor amendment (PRCP threshold)' as defined under section 223 of the EP Act. If it is not a minor amendment, then it will be a major amendment.^{cxlviii} Major amendments are subject to mandatory public notification processes, and third-party submitters have the right to object in the Land Court.^{cxlix}

Once a PRCP schedule has been amended, the applicant must review the rehabilitation planning part of the PRC plan and make any necessary or appropriate changes. The applicant must provide the administering authority with a copy of the amended PRC plan within 10 business days of receiving a copy of the amended PRCP schedule (or longer period agreed by the administering authority). Failure to do so is an offence under section 316H of the EP Act.^{cl}

The updated PRC plan, including the amended PRCP schedule, will be included on the public register.^{cli}

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework in Queensland does not require a site to be used for its most productive or beneficial purpose following closure. Rather it is primarily focussed on achieving environmental stability and public safety by ensuring environmental remediation, rehabilitation, and the management of residual risks, rather than actively promoting the most productive or beneficial use of land after mining activities have ceased.

The legislation, particularly through the PRC plan requirements, obliges mining operators to plan for and progressively rehabilitate land to a stable condition. The main purposes of the PRC plan are to require the holder of an EA to plan for how, where and when activities will be carried out on land in a way that maximises the progressive rehabilitation of the land to a stable condition; and provide for the condition to which the holder must rehabilitate the land before the EA may be surrendered.

While the framework does require that all mined land be proposed for rehabilitation to either a PMLU or a NUMA (Non-Use Management Area), it is important to note that the criteria and process for designating land as a NUMA is restrictive. A NUMA can only be nominated if all PMLU options have been assessed and found unviable, and only under specific circumstances where rehabilitation would cause greater environmental harm or where it is in the public interest not to rehabilitate the land to a stable condition. Consequently, the relative infrequency with which NUMAs are proposed reflects the framework's strong preference for achieving a PMLU wherever possible, ensuring that the majority of mined land is rehabilitated to a condition that supports a PMLU.

Nevertheless, it remains the case that the regulatory framework tends to support outcomes that prioritise environmental protection and risk management over the pursuit of the highest and best use of the land. On one view, this can hinder the realisation of more productive or innovative post-mining land uses, as the legislative intent is not explicitly aligned with maximising beneficial reuse.

Any approvals required for the beneficial reuse of the site will not typically be obtained until after such time as the mine has ceased operations and rehabilitation activities have commenced. In practice, the applications for such approvals may not be prepared and submitted by the miner who has conducted operations; rather they may be prepared by a subsequent developer of the site in the rehabilitation and closure phase. In these circumstances, the miner is not necessarily incentivised to prioritise the most productive or beneficial use of a site post closure. However, if rehabilitation is not designed with specific beneficial reuse objectives in mind, the resulting landform, soil quality, and infrastructure is unlikely to be suitable for the most desirable or productive post-mining uses and can limit the range of feasible reuse options and reduce the overall value and utility of the site.

However, there are challenges in potentially involving all relevant stakeholders from an early stage and aligning regulatory processes to support seamless transitions from closure to productive post-mining land uses. The economic context, market demand and community support for specific land uses can shift significantly over decades. For example, land that might initially be envisioned for agricultural use could later be more valuable for renewable energy projects. Regulatory requirements and policy priorities are likely to change over the long rehabilitation timeline. New environmental standards, land use planning frameworks, or community needs or expectations may emerge, potentially creating compliance challenges or necessitating additional approvals.

This regulatory uncertainty can deter investment in beneficial reuse projects and complicate the project planning process. The extended timeline of site rehabilitation and reuse introduces layers of complexity that make it difficult to anticipate and plan for optimal outcomes.

These challenges highlight the importance of adaptive management approaches which ensure the continuous monitoring of progress and adjusting actions as conditions change, robust stakeholder engagement, and flexible regulatory frameworks that can accommodate changing conditions and priorities over time.

Stakeholders provided insights into how the current regulatory framework hinders productive reuse of a site post-closure. The hindrances identified by stakeholders during the consultation sessions included unclear regulatory pathways that make approval processes confusing and slow, and a lack of incentives within regulation to accommodate or trial innovative post-mining land uses. Complex and difficult-to-navigate tenure arrangements were seen as a major obstacle to site rehabilitation and reuse, while health and safety requirements, though critical, add significant compliance burden and increase the perceived risk of exploring alternative uses. Stakeholders also highlighted that current reporting processes rarely address social, cultural, and intergenerational impacts. Developing and funding Indigenous Impact Assessments to evaluate spiritual and cultural implications, social cohesion, community wellbeing, and long-term economic equity was considered essential to achieving fair and sustainable outcomes.

A recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended 'care and maintenance' to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern, including in Queensland. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

5.1.9 Overview of regulatory framework for power stations

The EP Act is the key legislation in Queensland which regulates the rehabilitation, remediation and reuse of coal-fired and gas-fired power stations and associated lands.

Environmental authority

A person must not carry out an ERA unless the person holds, or is acting under, an environmental authority for the activity. It is an offence to contravene this provision.^{clii}

An ERA includes an activity prescribed under section 19 of the EP Act as an environmentally relevant activity.^{cliii} This is a prescribed ERA.^{cliv} Electricity generation is a prescribed ERA.

Conditions may be imposed on an environmental authority, including conditions relating to rehabilitating or remediating environmental harm, and conditions requiring the payment of financial assurance.

Contaminated land

A person has certain duties under the EP Act including:

- the general environmental duty;
- the duty to restore; and
- the duty to notify.

To have the land removed from a register, a contaminated land investigation document such as a draft site management plan must be submitted to demonstrate no ongoing notifiable activity is being carried out on the land, the land is not contaminated land, and it is suitable for any land use. A contaminated land investigation document can also amend the listing.

A site management plan, for relevant land, is a plan for managing the environmental harm that may be caused by the hazardous contaminant contaminating the land by applying conditions to the use or development of, or activities carried out on, the land.

Triggers requiring the amendment of a site management plan include a change in land use or site development. They may also be amended on application by a person, by agreement with the administering authority, or where the administering authority considers it to be necessary or desirable to do so.

Planning Act

The Planning Act does not have an important role to play in regulating the rehabilitation, remediation and reuse of power station lands in Queensland. The purpose of the Planning Act is to establish an efficient, effective, transparent, integrated, coordinated, and accountable system of land use planning, development assessment and related matters that facilitates the achievement of ecological sustainability.^{civ}

5.1.10 Other legislation

While the Planning Act and EP Act provide the primary framework for the authorisation and ongoing regulation of power station lands in Queensland, the following additional legislation may be relevant to the approval, operation, rehabilitation and post-closure of a power station (among other things):

- **Water:** The requirement for an authorisation (i.e. allocation, licence or permit) to take underground water, surface water or overland flow water will depend on the water plan that applies. Works such as bores may also need a development approval under the Planning Act. Watercourse diversions for power station lands are typically authorised by a water licence under the Water Act and possibly also a development approval under the Planning Act. A riverine protection permit may be required for excavating or placing fill in watercourses, lakes and springs. However, interference with overland flow water is generally authorised under section 94 of the Water Act.
- **Aboriginal cultural heritage:** As discussed above in relation to mining lands, the ACH Act imposes a general duty of care, rather than specific obligations regarding power station lands. The ACH Act (and equivalent Torres Strait Islander Cultural Heritage Act) imposes the cultural heritage duty of care, requiring a person carrying out an activity to take all reasonable and practicable measures to ensure the activity does not harm Aboriginal cultural heritage. The duty of care can principally be met in compliance with the gazetted Cultural Heritage Duty of Care Guidelines and/or an approved CHMP. Where required, CHMPs must be prepared prior to the use or development of land commencing.
- Further, under the ACH Act, the court may order costs of rehabilitation or restoration towards the repair or restoration of any, or anything associated with, Aboriginal cultural heritage where a person is convicted for an offence involving the unlawful harming or possessing of Aboriginal cultural heritage. Where there are reasonable grounds to conclude that an activity is being, or about to be, carried out which is harming or will harm Aboriginal cultural heritage or have a significant adverse impact on the cultural heritage value, the Minister has the power to issue stop orders. The Minister also has the power

to cause structures to be erected, and other steps to be taken, that are necessary or desirable to preserve the Aboriginal cultural heritage.

- **European heritage:** As discussed above in relation to mining lands, any development involving a place which is listed on the Queensland Heritage Register is considered assessable development that generally requires approval under the Planning Act.
- The QH Act applies as a general duty, rather than one with specific provisions for coal- and gas-fired power stations. The QH Act principally protects places or objects of cultural heritage significance (not including Aboriginal cultural heritage) through the Queensland Heritage Register, maintained by the Queensland Heritage Council. The Queensland Heritage Register provides a list of places, trees, natural formations and buildings which have been deemed to be of cultural heritage significance in Queensland.

The QH Act principally prohibits any:

- development being carried out without approval, which affects any place on the Register;
- a designated landscape area being entered without permission; and
- an item of Queensland heritage from being interfered with, taken, destroyed, damaged, defaced, excavated, exposed, or concealed.

Under the QH Act, the Queensland Heritage Council provides strategic advice to the Minister about cultural heritage matters and considers applications for, and makes recommendations to the Minister about, the proposed development of State-owned heritage places.

The QH Act provides for heritage agreements, which outline allowed provisions for future work, conservation action or use of a heritage place.

A heritage agreement will specify the agreed range of activities which can be undertaken, including permitted development work, use, public access, and maintenance, as well as any conservation work standards that can be carried out without requiring ongoing approval. The QH Act requires notice to be given about the discovery of (or where it ought to be reasonably known of) any archaeological artefact which is an important source of information about an aspect of Queensland's history. Where notice has been given, it is an offence to interfere with the archaeological artefact until at least 20 business days after the giving of the notice.

It is an offence to enter or interfere with the areas protected under the QH Act without a valid permit from the chief executive, or a reasonable excuse.

The QH Act can require the cessation of, or prohibit the commencement of, a stated work or an activity in a place:

- where there are reasonable grounds to conclude that the place is likely to satisfy one or more of the cultural heritage criteria; or
- where work or activity would destroy or substantially reduce the cultural heritage significance of the place.
- Where a person is convicted of an offence under the QH Act, the court may order costs of restoration for any cultural heritage damage, or prohibit the development on the place for the period of not more than 10 years.

5.1.11 Overview of the hierarchy of instruments for power stations

Table 19 Overview of the hierarchy of instruments for power stations

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Environmental Protection Act 1994 (Qld) Planning Act 2016 (Qld) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Water Act 2000 (Qld) Aboriginal Cultural Heritage Act 2003 (Qld) Queensland Heritage Act 1992 (WA) State Development and Public Works Organisation Act 1971 (Qld)
Subordinate legislation	<ul style="list-style-type: none"> Environmental Protection Regulation 2019 (Qld) Planning Regulation 2017 (Qld) 	
Policies / Guidelines		<ul style="list-style-type: none"> Draft site management plan – Guideline – ESR/2025/7047

5.1.12 Overview of the key stakeholders and responsibilities for power stations

Table 20 Overview of the key stakeholders and responsibilities for power stations

Stakeholder	Responsibility
Department of Environment, Tourism, Science and Innovation	Department responsible for administering the EP Act
Department of State Development, Infrastructure and Planning	Department responsible for administering the Planning Act

5.1.13 Overview of the regulatory framework over the project life cycle of power stations

Table 21 Overview of the regulatory framework over the project life cycle of power stations

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> Obtainment of land use approval under planning legislation. Preparation of EIS (if required). Obtainment of environmental authority under EP Act. Authority may contain conditions regarding rehabilitation or requirement for financial assurance. Provision of financial assurance (if required). Obtainment of other relevant approvals (if required), including authorisation under the Water Act, and CHMP under the ACH Act.
Operational Phase	<ul style="list-style-type: none"> Compliance with environmental authority requirements.

- Site may be recorded under environmental land register or contaminated land register under EP Act by administering authority.

Closure Phase

- Comply with any environmental authority conditions requiring rehabilitation.
- Removal from register under EP Act (if relevant) and/or apply for a draft site management plan (if required).
- Submission of surrender application accompanied by a final rehabilitation report for the environmental authority if it contains conditions about rehabilitation, and a compliance statement for the environmental authority.

Post-Closure Phase

- Obtainment of any approvals required for the beneficial reuse of the site. Any approval must not contravene a site management plan if recorded on the land register. Change in land use or site development requires amendment to any site management plan.

5.1.14 Focus questions for power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Environmental authority conditions

Under the EP Act, a person must not carry out an environmentally relevant activity unless the person holds, or is acting under, an environmental authority for the activity.^{clvi}

The administering authority may impose a condition on an environmental authority if it considers that the condition is necessary or desirable.^{clvii} A condition may relate to rehabilitating or remediating environmental harm because of a relevant activity.^{clviii}

Common conditions for prescribed ERAs include the following:

- Before applying to surrender the environmental authority, the site must be rehabilitated to achieve a safe, stable, non-polluting landform and the relevant final land use;^{clix}
- The holder must not carry out, or allow the carrying out of, a relevant activity under the authority unless the holder has paid a financial assurance to the administering authority.
- It is an offence to contravene a condition of an environmental authority.^{clx}

Surrender of an environmental authority

The holder of an environmental authority may apply to the administering authority to surrender their environmental authority.^{clxi}

A surrender application must be accompanied by a final rehabilitation report for the authority, if it contains conditions about rehabilitation.^{clxii}

The report must include enough information to allow the administering authority to decide whether the conditions of the environmental authority have been complied with and the land on which each relevant activity for the environmental authority has been carried out has been satisfactorily rehabilitated. For power station land, it must describe any ongoing environmental management needs for the land.^{clxiii}

The surrender application must also include a compliance statement for the environmental authority.^{clxiv} In deciding a surrender application, the administering authority must consider both the final rehabilitation report and compliance statement.^{clxv}

If the environmental authority relates to land for which particulars are or were recorded in the environmental management register, the administering authority must also consider whether the land has been removed from the register, or the land has a site management plan approved for it.^{clxvi}

The administering authority may only approve a surrender application if it is satisfied that the conditions of the environmental authority have been complied with and, if the environmental authority is subject to conditions requiring rehabilitation, it is satisfied that the land on which each relevant activity for the environmental authority has been carried out has been satisfactorily rehabilitated.^{clxvii}

Contaminated land

There are two relevant land registers under the EP Act:

- environmental management register; and
- contaminated land register.

The administering authority may record particulars of land in the environmental management register at any time if the authority is satisfied a notifiable activity has been, or is being, carried out on the land or it is satisfied or suspects, on reasonable grounds, the land is contaminated land.^{clxviii}

If particulars of the land are recorded in the environmental management register, then the administering authority may record particulars of the land in the contaminated land register at any time if the authority is satisfied the land is contaminated land and it is necessary to take action to remediate the land to prevent serious environmental harm.^{clxix}

In this case, the owner of the contaminated land must notify any current or future occupants or purchasers.

To have the land removed from a register, a contaminated land investigation document such as a draft site management plan must be submitted to demonstrate no ongoing notifiable activity is being carried out on the land, the land is not contaminated land, and it is suitable for any land use. A contaminated land investigation document can also amend the listing.^{clxx}

An example of a condition for a draft site management plan includes, in relation to site suitability, the following:

The conditions of this SMP must be complied with to ensure that the site remains suitable for the following land uses [...].^{clxxi}

Where a site is contaminated land, then various permits, approvals, licences or authorisations may be required to carry out development on the land or to remove contaminated soil.^{clxxii}

At what stage of a power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Remediation, rehabilitation and reuse must be variously considered throughout the lifecycle of a power station project in Queensland, including at times during the application, assessment, approval, operations, decommissioning, remediation, rehabilitation and surrender stages.

When applying for an environmental authority for a power station, the applicant must provide information about how the land will be rehabilitated after the activity ceases. The administering authority will consider that information when assessing and deciding the application.

The administering authority may decide to impose conditions on the environmental authority which relate to decommissioning, remediation and rehabilitation matters. There are also general obligations under the EP Act which may require the investigation or remediation of any contamination that occurs at any stage of the power station's lifecycle if it is not authorised by the environmental authority or another relevant approval.

When applying to surrender an environmental authority for a power station, the holder must provide a final rehabilitation report for the authority, which includes information about whether the conditions of the environmental authority have been complied with, how the land has been rehabilitated, and any ongoing environmental management needs for the land, noting that it is possible that the land may remain on the environmental management register subject to a site management plan, which restricts the development or

use of the land. The administering authority may only approve a surrender application if it is satisfied that the conditions of the environmental authority have been complied with and, if the environmental authority is subject to conditions requiring rehabilitation, it is satisfied that the land on which each relevant activity for the environmental authority has been carried out has been satisfactorily rehabilitated.^{clxxiii}

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

The most productive or beneficial use of a site post-closure is not a key consideration in the rehabilitation, remediation and reuse of power station sites in Queensland.

Any proposed re-purposing of a decommissioned power station site will require all necessary approvals, permits, licences and authorisations to be obtained for the proposed land use. The type of approvals required will depend on the type of activity that is proposed, its location and any impacts.

Importantly, a local government must not, under an approval or other authority granted under the Planning Act or any other Act, allow the use or development of, or an activity to be carried out on, land in a way that contravenes a site management plan for the land – the details of which are recorded in a relevant land register.^{clxxiv}

To what extent does the regulatory framework require consultation in relation to a power station project's remediation, rehabilitation and (if applicable) reuse requirements?

The EP Act includes public notification processes for environmental authority amendment applications and environmental impact statements (if any). A properly made submission gives a submitter the right to make an objection to the administering authority's decision, and objections are referred to the Land Court for an objections hearing.

How are remediation and rehabilitation works secured by the regulatory framework?

The administering authority may impose a condition on an environmental authority that the holder must not carry out, or allow the carrying out of, a relevant activity under the authority unless the holder has paid a financial assurance to the administering authority.

The condition may require the financial assurance to be given as security for compliance with the environmental authority.

However, the administering authority may impose the condition only if it is satisfied the condition is justified having regard to:

- the degree of risk of environmental harm being caused, or that might reasonably be expected to be caused, by the relevant activity;
- the likelihood of action being required to rehabilitate or restore and protect the environment because of environmental harm being caused by the activity; and
- the environmental record of the holder.

Common conditions for prescribed ERAs include that the activity must not be carried out until the holder has given financial assurance to the administering authority.

The administering authority may require a financial assurance to remain in force until it is satisfied no claim is likely to be made on the assurance.

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

A site management plan, for relevant land, is a plan for managing the environmental harm that may be caused by the hazardous contaminant contaminating the land by applying conditions to the use or development of, or activities carried out on, the land.

Triggers requiring the amendment of a site management plan include a change in land use or site development. If a person wants to amend a site management plan, all the provisions of the EP Act that apply to an initial draft site management plan also apply to the draft amended site management plan.

Further, the administering authority may, at any time, amend a site management plan for relevant land with the written agreement of the land's owner and if the owner is not the occupier of the land, the occupier of the land. If the administering authority considers it necessary or desirable, the administering authority may also prepare an amendment of a site management plan or require a draft amendment of a site management plan to be prepared.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework in Queensland does not prioritise the most productive or beneficial use of a power station site post-closure and can hinder the achievement of this outcome.

While there is a comprehensive regulatory regime for mining land in Queensland that specifically addresses rehabilitation and post-closure land use, the situation for power station sites is notably different. There is no dedicated or detailed regulatory regime governing the closure, rehabilitation, or reuse of power station sites. Instead, these sites are regulated under their EAs, and environmental and planning law generally.

As a result, the regulatory framework does not actively support the objective of achieving the most productive or beneficial use of a site post-closure, as it is not a central consideration within the existing regulatory approach. There are no specific requirements or mechanisms in place to ensure that post-closure land use is optimised or even considered in a structured way. There is a real risk that aging, existing, sites do not have comprehensive rehabilitation requirements imposed under their respective EAs. While the regulatory framework for mining land at least requires consideration of future land use, the framework for power station sites is largely silent on the matter. For power station sites, the regulatory regime does not prioritise or support the beneficial post-closure use of sites – creating a regulatory gap where the future use of such sites is not systematically planned or encouraged, and this is an opportunity for legislative reform.

As detailed above, any proposed re-purposing of a decommissioned power station site will require all necessary approvals, permits, licences and authorisations to be obtained for the proposed land use. A local government must not, under an approval or other authority granted under the Planning Act or any other Act, allow the use or development of, or an activity to be carried out on, land in a way that contravenes a site management plan for the land, the details of which are recorded in a relevant land register.

A site management plan may apply conditions to the use or development of, or activities carried out on, the land. This illustrates that the strict legal and regulatory requirements that must be satisfied before a decommissioned power station site can be repurposed present significant challenges. On one view, site management plans have the potential to facilitate redevelopment by giving certainty to prospective developers about the uses to which the land may be put. On the other hand, the need to obtain multiple approvals and to comply with potentially restrictive site management plans can create significant obstacles to repurposing. The processes may be time-consuming, costly, and complex. This may deter investment and delay, or even prevent, the beneficial reuse of the site. The inflexibility of these requirements can, in our experience, act as a barrier to innovative or productive reuse.

5.1.15 Overview of regulatory framework for mining lands and power stations

Table 22 List of Queensland's key Acts, regulations or non-enforceable policy/guidelines

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Environmental Protection Act 1994 (Qld) (EP Act)	Act	Environmental Protection Regulation 2019 (Qld)	All persons	Yes	Yes
Mineral Resources Act 1989 (Qld) (MRA)	Act	Mineral Resources Regulation 2013	Mining lease holders and applicants	Yes	No
Mineral and Energy Resources (Financial Provisioning) Act 2018 (Qld) (MERFP Act)	Act	Mineral and Energy Resources (Financial Provisioning) Regulation 2019	Environmental authority holders for resource activities	Yes	No
Planning Act 2016 (Qld) (Planning Act)	Act	Planning Regulation 2017	All persons	No	Yes
					Mining activities carried out on a mining lease are typically not subject to the Planning Act.

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
State Development and Public Works Organisation Act 1971 (Qld)	Act	State Development and Public Works Organisation Regulation 2020 (Qld)	Coordinated project applicant	Yes	Yes
Water Act 2000 (Water Act)	Act	Water Regulation 2016 (QLD)	The proponent of a proposed use or development of the land.	Yes	Yes
Aboriginal Cultural Heritage Act 2003 (ACH Act)	Act	Duty of Care Guidelines	The proponent of a proposed use or development of the land.	Yes	Yes
Queensland Heritage Act 1992 (Qld) (QH Act)	Act	Queensland Heritage Regulation 2015	The proponent of a proposed use or development of the land.	Yes	Yes
Environmental Protection Regulation 2019 (Qld) (EP Regulation)	Subordinate legislation	Environmental Protection Act 1994 (Qld)	Environmental authority holders, relevantly for resource activities	Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligation	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Mineral Resources Regulation 2013 (MRR)	Subordinate legislation	Mineral Resources Act 1989 (Qld)	Mining lease holders and applicants	Yes	No
Planning Regulation 2017 (QLD) (Planning Regulation)	Subordinate legislation	Planning Act 2016 (Qld)	All persons	No Mining activities carried out on a mining lease are typically not subject to the Planning Act.	Yes
Statutory guideline - Progressive rehabilitation and closure plan (PRC plans)	Guideline	Environmental Protection Act 1994 (Qld)	Mining lease holders and applicants	Yes	No

5.2 Stakeholder consultation & findings

5.2.1 Summary

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none"> ▪ A number of former mining lands in Queensland have significant potential for agricultural activities. ▪ There is potential for government-owned sites to support the state's needs around energy systems security, for instance by leveraging synchronous condensers to provide support to grid services. ▪ Mining sites co-located with power stations can be repurposed into energy hubs, leveraging existing transmission infrastructure and proximity to demand. ▪ First Nations ownership and governance of rehabilitated lands can enable community-led economic ventures, such as eco-tourism, community-run facilities, and renewable energy infrastructure, promoting cultural values and long-term economic stability. ▪ Integrating renewables into post-mining lands supports supply chains and maintains economic activity, fostering a sustainable and diversified local economy. 	<ul style="list-style-type: none"> ▪ The current regulatory framework is fragmented, inconsistent, and unclear, creating uncertainty and discouraging investment. ▪ Energy or mine operators often lack the financial capacity to take on all risk and liabilities associated with site rehabilitation and reuse. ▪ Mechanisms for underwriting residual risk could change incentives to increase the feasibility for operators to engage in productive reuse projects – shifting the mindset to view risk as a driver of opportunity and innovation. ▪ Productive uses are highly dependent on location, with remote sites facing challenges in attracting investment and developing infrastructure. ▪ Genuine and early engagement with communities, including Traditional Owners, is vital for building social licence and ensuring that rehabilitation efforts align with cultural values and create real opportunities. ▪ The legislation updates in 2019 have increased the progressive rehabilitation approach and act as an enabler for reuse.

Legislative, Regulatory & Policy Hindrances
<ul style="list-style-type: none"> ▪ Projects face unclear regulatory pathways, making the approval process confusing and slow. ▪ A lack of incentives in regulation to accommodate or experiment with new innovative uses. ▪ Complex and difficult-to-navigate tenure arrangements pose significant obstacles to site rehabilitation and reuse. ▪ Health and safety requirements add further complexity, consuming significant time and attention from mining operators and making innovation and exploration of other uses riskier. ▪ Current reporting processes rarely address social, cultural, and intergenerational impacts. ▪ Developing and funding Indigenous Impact Assessments to evaluate spiritual and cultural implications, social cohesion, community wellbeing, and long-term economic equity is essential.

5.2.2 Key findings by stakeholder

Queensland Mine Rehabilitation Commissioner (QMRC)

Productive Uses:

- **Agricultural land:** Some sites sit on productive agricultural land, which can be repurposed for agricultural activities. However, the suitability of this use depends on the site's location and condition. Sites that are extremely remote may face challenges in being repurposed for agriculture, significantly affecting their potential uses.
- **Energy hubs:** Where mining and power stations are co-located, there is potential to repurpose existing infrastructure into energy hubs. This opportunity leverages the existing transmission infrastructure and proximity to demand centres, making it a viable option for new energy projects and enhancing the efficiency of energy distribution. Renewables on disturbed areas are seen as opportunities, though they do not create equivalent long-term employment. However, they can support supply chains (e.g., aluminium) and provide some economic continuity.
- **Kidston Pumped Hydro Project:** Kidston is often cited as a positive example of innovative reuse, being a pumped hydro project in Queensland. Although it required significant government grants to proceed, it demonstrates the potential for creative and productive reuses of mining sites.

Challenges:

- **Risk and liability:** It is unlikely that all operators will have balance sheets strong enough to take on all liability associated with site rehabilitation and reuse. Currently, there is no mechanism for underwriting residual risk, but such reforms could help change incentives and models, making it more feasible for operators to engage in productive reuse projects.
- **Location specific challenges:** Productive uses are highly dependent on location. In Queensland, for example, mining sites are spread out across the state, which significantly affects potential uses. Remote locations may face challenges in attracting investment and developing infrastructure, while sites closer to demand centres may have more opportunities for productive reuse. This dependency on location necessitates tailored approaches to address the unique challenges and opportunities of each site.
- **Timing of community engagement:** The current Queensland framework mandates early engagement with stakeholders, with Social Impact Assessment requirements obliging proponents to enter into binding community agreements before applications. However, the long-term nature (~50 years) of the site rehabilitation and reuse carries challenges around anticipating the end site conditions outcome, which is near impossible. Additionally, all stakeholders treated equally carries difficulties around apportioning responsibility or influence.

Opportunities & Recommendations:

- **Supporting the supply chain in renewables:** Renewables on post-mining land areas are seen as opportunities, though they do not create equivalent long-term employment. However, they can support supply chains (e.g., aluminium) and provide some economic continuity. By integrating renewable energy projects into disturbed areas, regions can maintain economic activity and support related industries, contributing to a more sustainable and diversified local economy.

Legislative, Regulatory & Policy Hindrances:

- **Unclear regulatory pathways:** Sustainable minerals projects face regulatory pathways that are unclear, making the mapping out of approvals highly confusing. The current system is described as

fragmented and inconsistent, with government departments themselves frustrated by the lack of a clear process, further adding to the complexity and delays in project approvals.

- **Tenure arrangements:** One of the largest obstacles is tenure arrangements, which are complex and difficult to navigate. Multiple limitations exist, with different groups encountering different barriers. This complexity makes it challenging for stakeholders to understand and comply with the necessary requirements for site rehabilitation and reuse.
- **Safety and compliance:** Health and safety requirements add further complexity as mining operators need to comply with various pieces of regulation. It is very difficult for mining companies to break from business-as-usual because safety compliance consumes significant time and attention, making innovation and exploration of other uses riskier.

Anonymous Stakeholder

Productive Uses:

- **Uses providing jobs:** Government-owned assets present significant potential for productive reuse, supported by Government initiatives. Unlike the private sector, which requires market creation, Government-backed entities can leverage Government backing to fill market gaps. This support is crucial for incentivising other industries to replace coal assets, ensuring regional workforce stability through exploring key opportunities in recycling, solar, wind farm support hubs, and regional services.

Challenges:

- **Energy transition uncovering challenges:** The transition to renewable energy in Queensland is revealing new challenges, such as systems security, as more thermal plants shut down. The Government is exploring solutions like synchronous condensers or batteries through its Government-owned energy operators to address these emerging issues and ensure a reliable energy supply.

Opportunities & Recommendations:

- **Building full-time equivalent (FTE) industry:** There is a pressing need to incentivise industries that can replace coal assets, as jobs in renewable energy do not offer the same FTE positions as those in coal-fired power stations. Ensuring the creation of other opportunities is critical to maintaining the regional workforce and supporting economic stability.
- **Bridging regional economic transition:** Projects like the Brigalow Peaking Power Plant near Kogan Creek are essential for regional sub-development and workforce transition. These initiatives can stimulate economic activity in power station areas, providing opportunities for upskilling and reskilling engineers and electricians, thereby bridging the economic transition as coal assets are decommissioned.

Legislative, Regulatory & Policy Hindrances:

- **Renewable energy zones:** Renewable energy zones were established to facilitate the transition to clean energy, but progress has slowed under the new Government. The pace of development is now heavily influenced by the state's intentions, creating uncertainty and potential delays in achieving emissions targets set by the Productivity Commission.
- **Local vs state governments:** Legislative amendments have heightened approval benchmarks, giving local councils more influence over infrastructure projects required for the energy transition. Developers now need to gain social licence through community development plans, making the approval process

for wind and solar farms more specific and potentially more time-consuming.

Anonymous Stakeholder

Opportunities and recommendations

- **Sequential land use and topsoil management:** Queensland's reforms on sequential land use and topsoil management present a proactive approach that could be considered for national implementation. These reforms can enhance land rehabilitation efforts and ensure more sustainable land use practices. Additionally, while the use of landfill to fill voids is generally viewed as contentious, it can be a viable solution if managed appropriately, mitigating environmental risks and supporting effective site rehabilitation.

Minerals Council of Australia (MCA)

Opportunities & Recommendations:

- **Relinquishing risk:** Queensland is leading in addressing residual risk, enabling companies to move on and pass land to government or investors for beneficial use. Regional-based approaches in Queensland have proven effective, facilitating smoother transitions and promoting productive land reuse.

Mining and Energy Union (MEU)

Challenges:

- **Inconsistent support:** Queensland has faced inconsistent support, minimal planning, and late engagement in transitioning from mining operations. These issues hinder effective redevelopment and create uncertainty for communities and workers affected by mine closures.

Anonymous Stakeholder

Productive Uses:

- **Agricultural use:** In Queensland, the preferred use for this stakeholder's mining assets is to revert them back to agricultural lands due to their location and surrounding context. Some areas, surrounded by other coal mines, are less suitable for alternative uses. Their agricultural potential and existing infrastructure make them ideal for rehabilitation and productive reuse in farming, supporting the existing local economy.

Challenges:

- **Aligning closure to regional planning:** While there are no significant regulatory challenges precluding planning, the gap lies in regional planning. This stakeholder is only responsible for its own asset planning, not regional planning. More guidance on regional needs and better coordination between various levels of government and economic stakeholders would facilitate improved planning and help establish a hierarchy for the best economic use of sites.

Opportunities & Recommendations:

- **Progressive rehabilitation:** Changes to the Progressive Rehabilitation and Closure Plan for Mining Lands post-2019 in Queensland have provided good guidance, ensuring mined lands are not left idle. This approach has brought regional benefits and certainty, despite initial knowledge gaps in the industry regarding rehabilitation. It presents an opportunity to continue improving and implementing effective rehabilitation practices (ca. 50 of 207 mining operators have signed).
- **Engagement with community and Traditional Owners:** Engagement with Traditional Owners is a standard part of environmental forums. In Queensland, this stakeholder has demonstrated the benefits of working closely with local Indigenous communities, helping to build skills and capacity for ongoing rehabilitation efforts. This approach can be expanded to ensure meaningful involvement and collaboration with Traditional Owners in rehabilitation projects.

Legislative, Regulatory & Policy Hindrances:

- **Timeframe to achieve rehabilitation:** The timeframe to demonstrate achievement of relinquishment can be 15–20 years or more, with factors like extreme weather events creating new costs. The process is prolonged due to strict regulatory expectations, including community engagement and weed species management. Regulators' risk-averse nature impacts smaller operators who may face cost blowouts if not accounted for upfront, as legislation is generally built for larger operators.
- **State and federal alignment:** There is a need for better alignment between state and federal legislation, particularly in areas like water legislation. State legislation does not currently support alternative uses for mining land, and changes at the federal level are necessary to facilitate more cohesive and effective land repurposing strategies.

Kabi Kabi Peoples Aboriginal Corporation

Productive Uses:

- **Traditional Owner's legacy opportunities:** Ownership of land, water, and future use must remain under the control of Traditional Owners. Aboriginal communities should define what rehabilitation success looks like. Legacy opportunities include eco-tourism developments, community-run facilities, and renewable energy infrastructure with Aboriginal ownership. Support for long-term financial planning is essential to build revenue streams from rehabilitated sites.

Challenges:

- **Challenges in meaningful rehabilitation:** Ensuring meaningful rehabilitation is challenging due to the need for a comprehensive assessment of water impacts, safeguards for groundwater and rivers, and ongoing monitoring with Aboriginal-led participation. Open-cut mines disrupt subterranean ecosystems, threatening downstream water access and long-term community health, making these measures essential but difficult to implement effectively.
- **Challenges in engagement with government:** Engaging with government is challenging as Aboriginal participation is often framed in terms of deficit, incapacity, or risk. Shifting to a strengths-based engagement that recognises cultural knowledge systems, stewardship, and community aspirations for enterprise, growth, and legacy is necessary. Projects should be seen as opportunities for nation-building and cultural resurgence, not merely extracting consent, which requires a significant change in approach.

Opportunities & Recommendations:

- **Procurement and employment opportunities for Aboriginal people:** There is an opportunity to involve Aboriginal people in tangible procurement and employment opportunities across the life of a project. This includes participation during initial site development, jobs and procurement in decommissioning and rehabilitation, and shared equity or business partnerships in post-closure land use. Long-term, generational investment models should be prioritised over one-off payments or symbolic gestures.
- **Skills and education pathways:** Accessible, government-funded education and information pathways are essential for Aboriginal organisations to understand how these sites operate, what rehabilitation involves technically, and the opportunities and risks tied to reuse planning. Providing this base knowledge ensures that communities are not excluded from technical conversations and can engage meaningfully in the process.
- **Genuine consultation:** Genuine consultation should occur at an early stage, before planning or design is finalised, and be culturally paced to allow time for internal community dialogue and decision-making. It should be inclusive, involving not just land title holders but also long-term residents, Elders, and knowledge holders across families. Aboriginal-led forums and spaces to speak directly to government are crucial to ensure that consultation is not rushed and that key voices, particularly those with cultural authority, are included.

Legislative, Regulatory & Policy Hindrances:

- **Impact Assessments:** Current reporting processes, including environmental assessments, water studies, and technical rehabilitation plans, rarely address social, cultural, and intergenerational impacts. Developing and funding Indigenous Impact Assessments to evaluate spiritual and cultural implications, social cohesion, community wellbeing, and long-term economic equity is essential. Aboriginal organisations should be funded to design and deliver these assessments independently, rather than just reviewing government or corporate reports.

Anonymous Stakeholder

Productive Uses:

- **Community benefit spaces:** Involve capturing community input and incorporating it into site planning, including the development of public spaces and amenities. This includes creating spaces such as picnic areas, nature-based play zones, and landscaping led by First Nations communities. These initiatives aim to enhance the social and cultural value of the area, ensuring that the development meets the needs and aspirations of the local community.
- **Fast-charging infrastructure:** Being explored for installation to support heavy transport, leveraging Swanbank's strategic location along key transport routes. This initiative aims to support the transition to electric heavy vehicles, reduce emissions, and improve the efficiency of freight and logistics operations.
- **Battery storage:** Development includes creating a Battery Energy Storage System (BESS) and piloting smaller-scale or alternative battery technologies.
- **Hydrogen:** Project potential is being assessed, though these remain at an early exploratory stage.

Opportunities & Recommendations:

- **Shifting the perception of risk:** Presents an opportunity to reframe the decision-making process to view risk as an opportunity driver, especially when exploring innovative solutions such as circular economy approaches. For example, repurposing fly ash from former coal operations can be seen as a valuable resource rather than a waste product.

- **Integrating lessons learnt:** From previous transitions, such as the Swanbank ownership changes, is crucial. This stakeholder sees value in better planning around workforce retention and knowledge transfer to prevent knowledge loss during future transitions. This approach ensures that valuable expertise is preserved and utilised effectively.
- **Preserving heritage value:** Recognising and preserving the value of the site is another important opportunity; however, it requires an additional layer of engagement to identify and acknowledge the heritage value of different assets. There have been examples where heritage assets (such as former miners' washrooms) have been preserved in response to community requests, as these assets form an important part of the community's history.

Although this is a significant opportunity and value creator for community, preserving these heritage assets carries long-term resourcing constraints, which have posed challenges in capitalising on this opportunity.

Legislative, Regulatory & Policy Hindrances:

Lack of incentives for innovation: Identified by the company within current regulatory frameworks. The stakeholder noted that innovation often involves uncertainty, but it is essential for driving the transformation required for the energy transition. The absence of adequate incentives can hinder creativity and slow down the adoption of new technologies and practices that are crucial for achieving sustainable energy goals.

Centre for Mined Land Rehabilitation

The Centre for Mined Land Rehabilitation (CMLR) (present name: Centre for Environmental Responsibility in Mining), established in 1993, was one of the first research centres to address early focus on mined land rehabilitation. Initially, it concentrated on helping the industry in knowledge and knowhow through the mining boom of the early 2000s. Over time, the Centre has evolved to provide technical and regulatory guidance to industry and government.

CMLR operates through a range of research working groups and key focus areas including:

- **Rehabilitation science:** Establishing environmental and ecological knowledge (e.g., baselines, indicators and criteria), developing technologies to measure outcomes, and advancing ecological restoration/rehabilitation practices.
- **Environmental externalities & waste:** developing nature-based knowledge and technologies to manage solid and toxic waste such as bauxite residues ("red mud"), through accelerating mineralogical changes and soil forming processes. Significant progress has been made in eco-engineering red mud into usable soil, an important advancement given the environmental and economic challenges alumina refineries in Australia and overseas face. Conventional rehabilitation methods for red mud are costly and often unsustainable.²

² Sustainable Minerals Institute, *The Development of New Technology for Red Mud Rehabilitation Receives Major Funding Boost* (Web Page, 8 June 2020) <<https://smi.uq.edu.au/article/2020/06/development-new-technology-red-mud-rehabilitation-receives-major-funding-boost#:~:text=%E2%80%9CCurrently%2C%20billions%20of%20tonnes%20of,of%20Agriculture%20and%20Food%20Science.>>.

- **Ecosystem Recovery:** Examining impacts before and after mining, with a focus on creating/restoring ecological structure and functions, re-establishing landforms and native vegetation.

Key Learnings & Challenges

- **Site-specific considerations:** Although there are common frameworks of theory and principles underscoring ecosystem structure and functions, their application to create and restore mined landscapes and rehabilitation outcomes are highly dependent on site-specific conditions such as climate, economic pressures, and carbon value considerations.
- **Regulatory framework:** CMLR has a high-level understanding of the regulatory environment but notes that rehabilitation responsibilities typically fall to leaseholders. As such, the adoption of new technologies, such as those that remove contaminants and enable key post-productive uses such as agriculture, is complex, which is subject to competing priorities and interests of the multiple stakeholders involved in the process and socio-economic conditions.
- **Mining downturns:** Economic cycles heavily influence operators' ability and willingness to invest in innovative rehabilitation methodologies and post-mining uses and technologies that mitigate environmental externalities. The enablement of innovative uses or post-mining technologies requires long-term commitment from mining operators and such commitment should not be negatively impacted by such economic cycles. This is consistent with the principle that mining is only a snap-shot of land use in the long history of land development.
- **Company scale:** Larger operators are more likely to maintain commitments due to social licence pressures, while smaller companies often struggle to fund or deliver rehabilitation outcomes to required standards.
- **Delays in rehabilitation:** Deferring rehabilitation significantly increases long-term costs and risks, as mining induced negative impacts confound and compound over time. In some cases, liabilities revert to government. Certain types of mining, such as coal, create lasting externalities (e.g. fly ash) requiring ongoing monitoring, highlighting the need for cost-effective remediation technologies.
- **Post-use planning:** There are opportunities to better align rehabilitation outcomes with community needs, socio-economic development, and ecological value.
- **Environmental management and monitoring:** Long-term monitoring for ecosystem or land management is essential for mine waste rehabilitation. Base-metal tailings (e.g. copper, lead, zinc) can release pollutants, and the global cost of maintaining tailings facilities remains high, with current remediation methods considered prohibitively expensive, with low sustainability.

Opportunities:

- **Realistic post-mining uses:** Governments and stakeholders need to set realistic goals for post-mining uses that balance environmental, socio-economic, and community needs. For example, post-mining uses like agriculture require careful consideration of factors such as water availability, infrastructure, and accessibility to market and workforce. Post-mining planning should not be a "tick-the-box" exercise but approached holistically and realistically.
- **Balancing views:** Establishing a transparent system that allows stakeholders to assess rehabilitation options. Relying solely on passive approaches or compliance-driven "tick-the-box" methods risks missing the sustainability outcomes for local communities. Government could act as a broker to align objectives and ensure that there is community and First Nations input into the selection of post-mining land uses.
- **Assess existing infrastructure:** Repurposing existing infrastructure, such as transmission lines, roads, water-pipes, to support renewable energy generation as an economic post-mining use to leverage ongoing ecological and environmental rehabilitation for sustainable outcomes.

- **Long-term planning and collaboration:** Encouraging operators to shift decision making from a mining-engineering based mentality into ecological and environmental risk-based planning and management decisions, as well as the adoption of nature-based and field-feasible rehabilitation options. For instance, the implementation of innovative approaches and technologies such as rehabilitation can take many years, requiring time for testing and evaluation. This has been the experience of CMLR where partnerships with mining operators demand time and resources.

Case Studies

- **Rio Tinto, Native Plant Rehabilitation (Gove):** Since 2020, Rio Tinto has rehabilitated more than 300 hectares using native plants and innovative methods such as topsoil substitutes (organic matter, hydro mulch, and fertilisers). Over 90% of plants have survived and thrived without irrigation, erosion control, or heavy weed management. This approach is being expanded across the site, with potential national and global applications.³
- **Rio Tinto & Queensland Alumina Ltd., Red Mud Conversion:** In collaboration with the University of Queensland, Rio Tinto the partnership developed an eco-engineering method to convert alkaline bauxite residue (“red mud”) into soil-like material capable of supporting plant life within two to three years. Four large field trials have been established in two countries and three climatic zones (the dry tropics, subtropics, and Mediterranean).
- Trials show that pioneer plants can establish and support the return of native species, enabling local ecosystems to recover. This in-situ method avoids disturbing other sites for topsoil, reduces environmental impacts, and offers potential replication at alumina refineries globally.⁴

³ Rio Tinto, *Re-planting an Ecosystem without Topsoil: Researching New Techniques to Rehabilitate Land* (Web Page, 22 February 2022) <<https://www.riotinto.com/en/news/stories/replanting-an-ecosystem>>.

⁴ Rio Tinto, *Rehabilitating Red Mud: Renewing Bauxite Residue While Reducing Our Environmental Impact* (Web Page, 1 April 2025) <<https://www.riotinto.com/en/news/stories/rehabilitating-red-mud>>.

6

South Australia

6 South Australia

6.1 SA regulatory framework analysis

Terminology

Term	Meaning
AH Act	Aboriginal Heritage Act 1988 (SA)
Department	Department of Energy and Mining (as the Responsible Department for administering the Mining Act)
EP Act	Environment Protection Act 1993 (SA)
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cth)
EP Regulations	Environment Protection Regulations 2023 (SA)
Heritage Act	Heritage Places Act 1992 (SA)
Landscape Act	Landscape South Australia Act 2019 (SA)
Landscape Regulations	Landscape South Australia (Water Register) Regulations 2020 (SA)
Mining Act	Mining Act 1971 (SA)
Mining Regulations	Mining Regulations 2020 (SA)
MLUF	Multiple Land Use Framework
Opal Mining Act	Opal Mining Act 1995 (SA)
Opal Mining Regulations	Opal Mining Regulations 2012 (SA)
PDI Act	Planning, Development and Infrastructure Act 2016 (SA)
PDI Regulations	Planning, Development and Infrastructure (General) Regulations 2017 (SA)
PEPR	Program for environment protection and rehabilitation, pursuant to the Mining Act

6.1.1 Summary

The development, operations, closure and rehabilitation of mines in South Australia are principally regulated by the Mining Act and, in relation to precious stone mining, the Opal Mining Act. Mining proposals may still require assessment and approvals under other Acts though, like the PDI Act.

The Mining Act requires mine operators to rehabilitate mining land in accordance with the mine's approved PEPR (Program for Environment Protection and Rehabilitation). A PEPR must detail how the mining land will be rehabilitated and include a description of the site once operations have been completed, including potential land use options and landforms. The Opal Mining Act doesn't require the preparation of plans detailing rehabilitation outcomes; it does however empower authorised officers to direct a mine operator to rehabilitate mining lands to a satisfactory standard. Under both Acts, the rehabilitation of mining land is secured via a rehabilitation bond.

The development, operations, decommissioning and remediation/rehabilitation of coal- and gas-fired power stations in South Australia are principally regulated by the EP Act and PDI Act. Like mining proposals, power station proposals may also require assessment and approvals under other Acts.

A licence issued under the EP Act and pertaining to a power station will typically contain a condition requiring the licensee to prepare and implement closure and post-closure plans for the cessation of the power station. Closure and post-closure plans set out the process that will apply during the cessation of an activity on the land, and once activities cease.

Closure and post-closure requirements include activities such as decommissioning, removing wastes and contaminated materials, ongoing environmental monitoring and maintenance of land. While the remediation and rehabilitation requirements within a closure or post-closure plan will directly impact upon any potential reuse of the land, there is no explicit requirement for the closure or post-closure plans to propose, plan for or accommodate an intended land use, once operations cease.

The reuse of mining land and decommissioned coal- and gas-fired power stations will be subject to further approvals – the nature of those approvals dictated by the specifics of the reuse proposal.

South Australia operates a state-wide MLUF that is supported by multiple regional land use frameworks. These regional land use frameworks are then focused on the unique needs and priorities of different regions and parts of the state – providing detailed direction for land use coordination and conflict management at the localised scale.

In stakeholder consultation, it was noted that South Australia's Department for Energy and Mining (DEM) is considering financial mechanisms aligned with models used by other states such as Western Australia.

6.1.2 Overview of the regulatory framework for mining lands

The regulatory framework for mining operations in South Australia is primarily underpinned by the Mining Act, the Opal Mining Act and the PDI Act.

The Mining Act and Opal Mining Act establish the framework for the approval of mining operations in South Australia, including extractive industries and precious stones mining. The Mining Act and Opal Mining Act establish a system by which mine operators (and prospectors) are licenced to carry out their operations. The PDI Act establishes a system for regulating the use and development of land in South Australia, whereby planning consent will ordinarily be required to operate a mine or prospect for minerals.

With respect to rehabilitation, each of the Mining Act, Opal Mining Act and PDI Act impose obligations on mine operators to rehabilitate land to a certain standard. The Mining Act requires mine operators to prepare and implement a mine operations plan and program for environment protection and rehabilitation, which set out the manner in which mining land will be rehabilitated.

The Opal Mining Act, where required, empowers authorised officers to direct a mine operator to rehabilitate mining lands to a satisfactory standard. Additionally, under the PDI Act, planning consent will often require a mine operator to prepare a rehabilitation plan which must be approved and implemented throughout the life cycle of a mine.^{clxxv}

Mining Act

The Mining Act and Mining Regulations govern mining operations in South Australia (except opal and precious stones mining) and establish a system by which mining operations are licensed. The licence that a mining operator is granted is determined by the proposed activities (for example, an exploration licence or miscellaneous purpose licence), but licensees/mineral tenement holders are subject to a number of uniform obligations which determine how respective mining operations are able to be undertaken.

One such obligation is the requirement to prepare and implement a mine operations plan, which must be approved by the Department.^{clxxvi} Mine operations plans must include a range of prescribed information which, at a high level, details how the mine will be operated on a day-to-day basis, and includes closure

plans and planned rehabilitation outcomes.^{clxxvii} In addition to a mine operations plan, mine operators are also required to prepare a PEPR.^{clxxviii} PEPRs provide information about the management of adverse environmental impacts from mining operations, and detail how land will be properly rehabilitated to eliminate, as far as possible, significant long-term harm.

Mine operations plans and PEPRs are required prior to the commencement of mining operations and will dictate the rehabilitation outcomes for the site thereby indirectly impacting reuse opportunities for the mining land post-closure.

Mining Act Review

The Department for Energy and Mining (DEM) is currently reviewing and consulting on potential reforms to the Mining Act 1971 to ensure it remains fit for purpose. South Australia's substantial mineral resources are expected to attract significant exploration and investment in support of the global energy transition.

The Act and its regulations were last updated in 2020, and ongoing feedback from industry and community stakeholders has identified opportunities to enhance the state's regulatory framework. Proposed areas for amendment include:

- Extending exploration tenure in certain circumstances.
- Reducing the maximum size of exploration licence areas to encourage land turnover and reduce land banking.
- Introducing new mechanisms for releasing exploration areas to stimulate investment and increase the likelihood of mineral discovery.
- Aligning the Mining Act with other resources-focused legislation to provide a consistent, 'one window to government' regulatory approach.^{clxxix}

Consultation closed on 28 May 2025, with recommendations to be made to the Minister for Energy and Mining on potential reforms.

Opal Mining Act

The Opal Mining Act and Opal Mining Regulations govern the prospecting and mining of precious stones and opals in South Australia. The Opal Mining Act and Opal Mining Regulations establish a system by which precious stones miners are authorised to undertake such activities, either under a precious stones prospecting permit or precious stones tenement.^{clxxx} The scope of these instruments is much more confined than the Mining Act, given that they only apply to mining activities relevant to precious stones, which is defined to include opals and other minerals declared by the Opal Mining Regulations.^{clxxxi}

The Opal Mining Act and Opal Mining Regulations primarily ensure the rehabilitation and remediation of mining lands through the making of rehabilitation directions and through bonds. These instruments enable authorised persons to direct tenement holders to rehabilitate mining lands to a satisfactory condition.^{clxxxii} The Opal Mining Act and Opal Mining Regulations also require tenement holders to enter into a bond which, among other things, secures performance of the rehabilitation of the mining land.^{clxxxiii}

Notwithstanding the above, when compared to the Mining Act, the Opal Mining Act and Opal Mining Regulations do not as prescriptively deal with matters relevant to the rehabilitation, remediation and reuse of precious stone mining lands. For example, the Opal Mining Act does not impose requirements for the preparation of plans governing the rehabilitation of mining lands.

PDI Act

The PDI Act and PDI Regulations establish a framework for the management of the use and development of land in South Australia. Planning approvals are a key approval that mining operators will often require in advance of commencing mining operations.

Planning consent under the PDI Act and PDI Regulations will determine what development is able to be conducted on the land, and what the land may be used for. Often, consent will be required for the

development aspect of a project (for example, constructing the infrastructure necessary to conduct mining activities) and for the use of the land (for example, using the land to extract minerals).

Planning consents ordinarily include notes or conditions which further elaborate on what a consent authorises, and what a consent holder is required to do. Planning consents will often impose obligations for the life of the use and development, and once operations cease. For example, a planning consent for the use and development of land for mining may require the preparation of a rehabilitation plan, which (once approved) must be complied with. While a rehabilitation plan in respect of a site will exist in addition to a PEPR and operations plan under the Mining Act, in practice, the requirements contained within these instruments will be consistent to ensure there is a single set of uniform rehabilitation requirements. In this way, planning consents can determine or influence rehabilitation outcomes of mining land.

6.1.3 Other relevant legislation

While the Mining Act, Opal Mining Act and PDI Act provide the primary framework for the authorisation and ongoing regulation of mining operations in South Australia, the Acts listed below may, depending on the specifics of the mining proposal, be relevant to the approval, operation, rehabilitation and post-closure of a mine. Each of these instruments has a different remit, broadly divided according to the following matters: protection of the environment and human health, Aboriginal heritage, and water usage.

- The EP Act and EP Regulations establish a framework for the protection of the environment, and in doing so establish a system by which projects which may adversely impact upon the environment are approved and licensed. A mining operation may require a works approval under the EP Act (to enable the construction of a building or structure on the land).^{clxxxiv} Proposed mining operations may also require a licence under the EP Act to undertake the project.^{clxxxv} Licences for mining land may stipulate conditions relevant to the decommissioning and rehabilitation of mining lands.
- A mining proposal may also require authorisation or a local heritage agreement under the AH Act. Authorisation under the AH Act is required if a proposal will involve damage, disturbance or interference with an Aboriginal site; or damage, disturbance, interference or removal of an Aboriginal object or remains.^{clxxxvi} Alternatively, a land use proponent may enter into a local heritage agreement with a Recognised Aboriginal Representative Body, dealing with how the heritage on the land will be managed.
- A mining proposal may require a permit under the Heritage Act. A permit under the Heritage Act is broadly required if a proposal will involve disturbance with European heritage, including excavating or disturbing a heritage place, or damaging or destroying a heritage object.^{clxxxvii}
- Generally, water users who wish to take and use water resources (beyond the ordinary daily use of water) are required to obtain rights to do so. Given that mining operations are inherently water intensive, a mining proposal will often also require authorisation to take and use water. The Landscape Act and Landscape Regulations establish a legal framework for, among other things, managing water resources in South Australia. Water resources are managed through a system of conferring water rights on water users. One relevant type of water right is a water licence, which provides the licence holder with an ongoing right to take water from a particular water resource.^{clxxxviii} The volume of water that a licence holder is able to take from the pool of water is called a water access entitlement.
- An approval under the EPBC Act may also be required, in the event the relevant mining proposal is assessed as being a controlled action that has or will have a significant impact on the environment.

6.1.4 Interactions within the regulatory framework

There are numerous interactions between the various instruments which comprise the South Australian regulatory framework for mining, principally to provide for integration and to minimise duplication of

processes. The Mining Act and Mining Regulations facilitate consistency between the relevant approvals and plans required under these instruments, and other environmental approvals/instruments.

For example, the Mining Act enables the conditions of a mining lease or licence to be amended so as to ensure consistency with conditions attached to an EPBC approval in respect of the relevant project.^{cxviii} Further, in order for a mine operations plan to comply with the Mining Act, it must be consistent with any environment improvement programme or environment protection policy under the EP Act.

The Mining Act also requires Aboriginal sites or objects under the AH Act to be considered, when determining the terms and conditions to apply under a mining lease or licence.^{cxix} The same matters are also required to be considered when amending the terms and conditions of a mineral tenement.

Additionally, the EP Act explicitly provides for the avoidance of unnecessary duplications between approvals under the EP Act, and approval under the EPBC Act.^{cxci} Under the EP Act, documents or procedures undertaken pursuant to the EPBC Act are taken to comply with the requirements of the EP Act, so as to ensure such documents and procedures do not need to be duplicated in respect of these separate approvals processes. We also note in this respect that the Commonwealth had entered into a bilateral agreement with South Australia to enable the EPBC assessment of a proposal to be carried out by the South Australian government.

The previous South Australia bilateral agreement is, however, no longer operable and the government is in the process of preparing a new bilateral agreement. The EP Act does not require a project operator to obtain a works approval in respect of a project, where a development authorisation is required under the PDI Act for the same project.

6.1.5 Overview of the hierarchy of instruments for mining lands

Table 23 Overview of the hierarchy of instruments for mining lands

	Primary	Secondary
Acts	<ul style="list-style-type: none"> ▪ Mining Act 1971 (SA) ▪ Opal Mining Act 1995 (SA) ▪ Planning, Development and Infrastructure Act 2016 (SA) ▪ Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> ▪ Environment Protection Act 1993 (SA) ▪ Aboriginal Heritage Act 1988 (SA) ▪ Heritage Places Act 1992 (SA) ▪ Landscape South Australia Act 2019 (SA)
Subordinate legislation	<ul style="list-style-type: none"> ▪ Mining Regulations 2020 (SA) ▪ Opal Mining Regulations 2012 (SA) ▪ Planning, Development and Infrastructure (General) Regulations 2017 (SA) 	<ul style="list-style-type: none"> ▪ Environment Protection Regulations 2023 (SA) ▪ Landscape South Australia (Water Register) Regulations 2020 (SA)
Policies/guidelines	<ul style="list-style-type: none"> ▪ Determination (Terms of Reference 005 Metallic and industrial mineral PEPRs) ▪ Bonds – Mineral Policy ▪ Developing outcomes for quarrying and mining – Mineral Regulatory Guideline 	<ul style="list-style-type: none"> ▪ EPA Publication 1088/16: Preparation and implementation of closure and post-closure plans

- Mineral exploration OEPRs and compliance – Mineral Regulatory Guideline
- Mine operations plans – Mineral Regulatory Guideline
- Opal prospecting and mining – Mineral Regulatory Guideline (Opal Mining Guideline)

6.1.6 Overview of the key stakeholders and responsibilities for mining lands

Table 24 Overview of the key stakeholders and responsibilities for mining lands

Stakeholder	Responsibility
Minister for Energy and Mining	Minister responsible for administering the Mining Act and Opal Mining Act
Department of Energy and Mining	Department responsible for administering the Mining Act and Opal Mining Act
Minister for Planning	Minister responsible for administering the PDI Act, decision maker for certain developments
State Planning Commission	Body responsible to support the Minister for Planning in administering the PDI Act, decision maker for certain developments
Assessment Manager	Individual appointed by a Council to perform certain assessment functions in relation to planning and land division consents under the PDI Act
Assessment Panel	Panel established by a Council to perform certain assessment functions in relation to planning and building consents under the PDI Act
Council	Limited decision-making powers, given the establishment of Assessment Managers and Assessment Panels

6.1.7 Overview of the regulatory framework over the project life cycle of mining lands

Table 25 Overview of the regulatory framework over the project life cycle of mining lands

Phase	Explanation (Opal Mining Act)	Explanation (all other scenarios)
Approval Phase	<ul style="list-style-type: none"> ▪ Obtainment of a precious stones prospecting permit or precious stones tenement under the Opal Mining Act. ▪ Obtainment of planning consent under the PDI Act which may require the preparation of a rehabilitation plan. ▪ Obtainment of licence under the EP Act (if required). Licences may contain conditions relating to decommissioning and rehabilitation of mining lands. ▪ Obtainment of other relevant approvals (if required) including works approval under the EP Act, authorisation or a local heritage agreement under the AH Act, permit under the Heritage Act, water licence under the Landscape Act. ▪ If project is a “controlled action” under the EPBC Act, obtainment of approvals under the EPBC Act. ▪ Agreement into bond securing rehabilitation performance under the Opal Mining Act (if required). 	<ul style="list-style-type: none"> ▪ Obtainment of a Mining Licence under the Mining Act. Conditions relate to the preparation of a mine operations plan and PEPR. ▪ Planning consent under the PDI Act, which may require the preparation of a rehabilitation plan. ▪ Obtainment of a licence under the EP Act (if required). Licence may contain conditions relating to the decommissioning and rehabilitation of mining lands. ▪ Obtainment of other relevant approvals (if required), including works approval under the EP Act, authorisation or a local heritage agreement under the AH Act, permit under the Heritage Act, water licence under the Landscape Act. ▪ If project is a “controlled action” under the EPBC Act, obtainment of approvals under the EPBC Act. ▪ Agreement into bond securing performance of rehabilitation under the Mining Act (if required).
Operational Phase	<ul style="list-style-type: none"> ▪ Rehabilitation of land in accordance with rehabilitation direction under the Opal Mining Act ▪ Compliance with rehabilitation plan/planning consent under the PDI Act (if applicable). ▪ Compliance with works approval and licence under the EP Act (if applicable). 	<ul style="list-style-type: none"> ▪ Rehabilitation of land in accordance with PEPR and mine operations plan under the Mining Act. ▪ Compliance with rehabilitation plan/planning consent under the PDI Act (if applicable). ▪ Compliance with works approval and licence under the EP Act (if applicable).
Closure Phase	<ul style="list-style-type: none"> ▪ Completion of remediation and rehabilitation in accordance with applicable approvals (including 	<ul style="list-style-type: none"> ▪ Completion of remediation and rehabilitation in accordance with applicable approvals and

Phase	Explanation (Opal Mining Act)	Explanation (all other scenarios)
	<p>bond terms, planning consent, EP Act licence or authorisation).</p> <ul style="list-style-type: none"> ▪ If rehabilitation has not occurred progressively, (potential) direction to complete rehabilitation in a specified time or alternatively before surrendering mineral tenement under the Opal Mining Act. ▪ Any changes to rehabilitation outcomes or to use or development of the land requires an amendment to planning consent under the PDI Act. 	<p>considering post closure land uses (including PEPR, mine operations plan, bond terms, planning consent, EP Act licence or authorisation).</p> <ul style="list-style-type: none"> ▪ Any changes to mine operations plans (i.e. changes to proposed post-closure use) must be approved through an application under the Mining Act. ▪ Any changes to PEPR must be given to the Minister. ▪ Any changes to rehabilitation outcomes or to use or development of the land requires an amendment to planning consent under the PDI Act. ▪ Any changes to authorisations or licences such as remediation outcomes must be approved through an application under the EP Act.
Post-Closure Phase	<ul style="list-style-type: none"> ▪ Obtainment of any approvals required for the beneficial reuse of the site. ▪ Return of bond securing performance of rehabilitation under the Opal Mining Act once land has been rehabilitated to an acceptable level and has not breached term of the bond. 	<ul style="list-style-type: none"> ▪ Obtain any approvals required for the beneficial reuse of the site. ▪ Return of the bond securing performance of rehabilitation under the Mining Act once land has been rehabilitated to an acceptable level and has not breached a term of the bond.

6.1.8 Focus questions for mining lands

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

The Mining Act and Opal Mining Act impose rehabilitation obligations on mine operators. The holder of a mineral tenement under the Mining Act is generally responsible for rehabilitating land disturbed by mining operations. Land must be rehabilitated in accordance with the mine’s approved mine operations plan and PEPR.^{cxcii} For example, a PEPR must, among other things, set out the measures to manage, limit or remedy environmental impacts from the mine.^{cxci}

Mine operators must also rehabilitate the mining land in accordance with the mine’s PEPR, which sets out the specific rehabilitation obligations on the mine operator, including:

- A description of the site once operations have been completed, including potential land use options and landforms, and locations of rehabilitation areas;
- Mechanisms for ongoing residual liability;^{cxciiv} and
- The environmental outcomes of the project, including control and management strategies and measurement criteria.

Precious stones tenement holders under the Opal Mining Act may also be directed to rehabilitate mining lands, to the satisfaction of the authorised person providing the rehabilitation direction.^{cxcv} Such directions may specify the actions required to be taken by the tenement holder, and the timeframe within which such actions must be undertaken.^{cxcvi}

In addition to their obligations under the Mining Act and/or the Opal Mining Act, a mine operator may also be required to rehabilitate land in accordance with the conditions of the mine's planning consent under the PDI Act, and works approval and licence under the EP Act, where applicable.

At what stage of a mining/project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

In relation to the Mining Act, rehabilitation matters are required to be considered when submitting mine operations plans and PEPRs, which are required to be approved before mining operations can commence. Accordingly, consideration of rehabilitation matters is required at the outset of a project.

Authorisation or heritage agreements under the AH Act also require rehabilitation matters to be considered at the outset, so that any adverse impacts on Aboriginal heritage can be identified and appropriately managed. Likewise, permits under the Heritage Act require consideration of such matters at the outset, to ensure any impacts on European heritage can be managed.

Approvals under the PDI Act and EP Act may also require compliance with conditions relevant to rehabilitation obligations, meaning that such matters may be considered at the outset of a project or, depending on the wording of the condition, prior to closure.

Timing of the delivery of rehabilitation outcomes for mining land governed under the Mining Act will largely be project specific and governed by the sequencing plan for progressive and final rehabilitation contained in the PEPR.^{cxcvii} Nevertheless, it is noted that the Minister for Energy and Mining may at any time (including after a mineral tenement has expired or been cancelled or surrendered) direct a mineral tenement holder (or previous holder in the case of an expired, cancelled or surrendered tenement) to rehabilitate land in accordance with the mine's PEPR.

Under the Opal Mining Act, where rehabilitation and remediation obligations are not undertaken progressively, a mine operator may be directed to undertake such actions in a specified time, or in any case prior to surrendering their mineral tenement.

Other regulatory approvals relevant to mining, such as a planning consent issued under the PDI Act and a licence under the EP Act, may contain conditions addressing the rehabilitation of the mining land and the timing of such obligations.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

Generally, the regulatory framework does not require mine operators to consider the most productive or beneficial uses of mining land post-closure. In most circumstances, post-closure uses are considered only in the context of determining appropriate rehabilitation requirements. For example, the Mining Act requires mine operators to consider post-closure land uses, so as to inform any rehabilitation and remediation activities in the mine operations plans and PEPRs. Whilst mine operators must, therefore, consider the post-mining land uses for the mining land they are not required to ensure that the post-closure land uses they consider are the most productive or beneficial use of the mining land post-closure.

Consideration of the suitability of a reuse proposal will typically be assessed at the time that the relevant development proposal application is submitted (assuming planning consent is required). It is important to note that the relevant authority will assess the development proposal on its merits and against the Planning and Design Code. The relevant authority is not required to consider whether the development proposal is the most productive or beneficial use the site could be put to.

To what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements?

The various instruments which comprise the regulatory framework for mining operations in South Australia require different levels of consultation in relation to a project's remediation, rehabilitation and reuse requirements. Often, consultation in relation to such requirements will take the form of public consultation when a mine operator is preparing certain documents, such as plans and programs, which govern the manner in which the mine is operated.

Mining Act

In relation to mining operations, the Mining Act and Mining Regulations impose a range of requirements for public consultation. Firstly, prospective mine operators are required to set out the results of public consultation undertaken when applying for a mining lease or licence. Further, mine operations plans must also be released for public consultation, enabling interested parties to make submissions as to the manner in which the mine is operated. Additionally, any changes to a mine's operations may necessitate consultation, if the Minister thinks fit.^{cxviii}

The Opal Mining Act and Regulations do not impose consultation requirements on tenement holders, although the Opal Mining Act does make provision for the Opal Mining Regulations to impose consultation requirements on tenement holders (though presently no such requirements exist).^{cxix}

PDI Act

Authorisations under the PDI Act and PDI Regulations also require notice to be given to certain parties, including the owners and occupiers of adjacent land, and members of the public more broadly (by placing notice on the land).^{cc} Upon receiving notice of the development proposal, a party may make representations in relation to the proposal (akin to an objection to the proposal). The proponent of the development may respond to such representations and may seek to amend the development having regard to representations received.

EP Act

The EP Act imposes certain requirements on project operators to undertake public consultation with respect to the remediation and rehabilitation of land. For example, in the course of preparing an environment improvement program (which may be conditioned as part of an environmental authorisation), the EPA may require the authorisation holder to undertake public consultation.^{cci}

How are remediation and rehabilitation works secured by the regulatory framework?

The rehabilitation of mining land is secured via a rehabilitation bond under the Mining Act or Opal Mining Act.^{ccii} Mine operators may be required to enter into a bond to secure civil, statutory and rehabilitation obligations under the Mining Act.^{cciii}

The value of the bond is set after an assessment of the mine operator's risk and assessment of the rehabilitation liability estimate. Such bonds ultimately are used to satisfy any unperformed rehabilitation obligations and therefore will depend on the level of rehabilitation required. Certain end land uses may require a greater level of rehabilitation, and therefore attract a higher bond.

Similarly, under the Opal Mining Act a precious stones tenement holder may be required to enter into a bond. Among other things, this bond will be determined taking into account any present or future obligations that the tenement holder may incur for the rehabilitation of the mining land.^{cciv} Where a tenement holder fails to rehabilitate land within a tenement, amounting to a breach of a term of the bond, some or all of the bond may be forfeited and applied towards the rehabilitation of the land.^{ccv}

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

Amendments to mining operations are regulated by the Mining Act and associated instruments. Varying the proposed post-closure use for a mine may necessitate variations to the mine's rehabilitation outcomes. This will require an application to amend the mine operations plan or PEPR. Alterations to mine operations plans under the Mining Act must be submitted in accordance with the Mining Act and Mining Regulations. A tenement holder is entitled to review their PEPR at any time, but a revised PEPR is required to be furnished to the Minister, along with the prescribed fee and information prescribed by the regulations (including information on all consultation undertaken in relation to the revised PEPR).^{ccvi}

Where the proponent of a project intends to amend the use or development of mining land, an amendment to planning consent under the PDI Act will be required. This will also apply where amendments to the rehabilitation outcomes of land are sought. Section 128 of the PDI Act regulates the variation of authorisations (which includes planning consents and permissions), including variation of a condition imposed under an authorisation. Generally, variations to authorisations under the PDI Act will be approved where the relevant authority considers the variation is minor in nature and does not need to be treated as a new application. If a proposed variation is a major variation, a fresh application for authorisation will be required.

Under the AH Act, local heritage agreements can be varied or terminated by mutual consent between the parties, in the event that the use of development of the mining land changes once the agreement is entered into.^{ccvii} This may be particularly relevant where rehabilitation activities are amended. Where authorisations under the AH Act apply to a project, any change to the agreed operations of the project will warrant a new authorisation.

Water entitlements under the Landscape Act and Landscape Regulations may be amended on application by the relevant entitlement holder. Amendments to entitlements may be relevant where operations are proposed to change, which may have impacts on the volume of water required to be taken and used. A variation to a water licence may be made by the licence holder via an application in an approved form and accompanied by the prescribed fee.^{ccviii} The holder of a water allocation may also apply to vary the water allocation, provided this is done so in the approved form and accompanied by the prescribed fee.

Additionally, any changes to an authorisation under the EP Act are required to be requested by the proponent, via an application made to the EPA. Upon application from the licence or authorisation holder, the EPA may impose, vary or revoke a condition of an authorisation. Changes to rehabilitation outcomes may require amendments to conditions attached to an authorisation, for example to update any plans that have been prepared and approved pursuant to an authorisation.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework in South Australia does not mandate that mining lands ought to be returned to their prior condition, post-closure. This allows for mining licence holders to propose a broad array of future uses when determining appropriate rehabilitation requirements. Nevertheless, the regulatory framework does contain certain hindrances to achieving a productive or beneficial use of a site post-closure. These are addressed below.

The remediation and rehabilitation obligations of a mine are primarily provided in a tenement pursuant to the Mining Act and/or Opal Mining Act but may also be contained within the mine's planning consent under the PDI Act, and works approval and licence under the EP Act, where applicable. As post-closure land uses and landforms are identified early in the mine's lifecycle, many projects adopt a rehabilitation standard that assumes that the mine site will return to its former land uses, such as agricultural use.

Changes to the rehabilitation and remediation requirements for a mine in order to facilitate an alternative land use will often necessitate changes to a number of approvals such as the mine operations plan or PEPR under the Mining Act, planning consent under the PDI Act and potentially any authorisations under the EP Act. Such amendments applications can ultimately be quite complex and time consuming, given that they can require considerable background work and supporting documentation. The complexity of this process operates as a significant hindrance to amending approved end landforms in order to facilitate beneficial or innovative uses of a site that are not compatible with the approved end landform.

As with other jurisdictions, namely Victoria, the imposition of a rehabilitation bond under the Mining Act or Opal Mining Act can also operate as a disincentive to proposing a post-closure landform that supports a "higher" end land use once mining operations have ceased on a site.

The value of the bond is set after an assessment of the mine operator's risk and assessment of the rehabilitation liability estimate. Such bonds are ultimately used to satisfy any unperformed rehabilitation obligations and will therefore depend on the level of rehabilitation required. Certain end uses may require a greater level of rehabilitation and therefore attract a higher bond. Proposed landforms that are cheaper to deliver can be more suited to a less productive end use, such as open space. In practice, this means that the regulatory framework can disincentivise mining operators from proposing a post-closure landform that supports a higher end land use but may be more costly to deliver.

Stakeholders provided insights into how the current regulatory framework hinders productive reuse of a site post-closure. The hindrances identified by stakeholders during the consultation sessions included challenges in navigating the outdated Mining Act, particularly when seeking approvals for multiple or alternative land uses. Stakeholders noted that the current review of the Mining Act presents an opportunity to modernise the legislation to address these challenges and support more effective post-mining land management. In addition, South Australia is exploring financial mechanisms similar to Western Australia's model, which may provide a more robust framework for managing liabilities, and funding site rehabilitation and closure activities.

A recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended 'care and maintenance' to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern, including in South Australia. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

6.1.9 Overview of regulatory framework for coal- and gas-fired power stations

The regulatory framework for the remediation, rehabilitation and beneficial reuse power stations in South Australia is primarily governed by the PDI Act and EP Act.

The PDI Act establishes a framework for the use and development of land in South Australia. Under the PDI Act, a planning consent will generally be required to use and develop land as a power station, and any proposed reuse of a decommissioned and rehabilitated power station site is also likely to require planning consent. The EP Act establishes a framework for the protection of the environment, and in doing so establishes a system by which projects which may adversely impact upon the environment are approved and licensed. Fuel burning, coal handling and storage, and certain prescribed industrial activities relevant to power stations require works approval and/or a licence under the EP Act.

PDI Act

As noted above, the PDI Act and PDI Regulations establish a framework for management of the use and development of land in South Australia. Planning consents are one type of approval that power stations will often require in advance of commencing operations.

Planning consent under the PDI Act and PDI Regulations will determine what development is able to be conducted on the land, and what the land may be used for. Often, consent will be required both for the development aspect of a project (for example, constructing the infrastructure necessary to operate the power station) and for the use of the land (for example, generation of power).

Planning consents ordinarily include notes or conditions which further elaborate on what a consent authorises, and what a consent holder is required to do. Planning consents will often impose obligations for the life of the use and development, and indeed once operations cease. For example, a planning consent may require the preparation of a decommissioning and rehabilitation plan, which (once approved) must be complied with.

EP Act

As noted above, the EP Act and EP Regulations establish a framework for the protection of the environment, and in doing so establish a system by which projects which may adversely impact upon the environment are approved and licensed.

A licence will be required if the project involves undertaking a “prescribed activity of environmental significance”.^{ccix} A works approval will also be required if the project involves: the construction or alteration of a building or structure for use for a “prescribed activity of environmental significance”; or the installation or alteration of any plant or equipment for use for a “prescribed activity of environmental significance”.^{ccx}

“Prescribed activity of environmental significance” is defined broadly in Schedule 1 of the EP Act to include a range of works and activities relevant to power stations, including coal handling and storage, fuel burning, and prescribed industrial activities (*which include activities authorised under the Petroleum and Geothermal Energy Act 2000*).

A power station operation may therefore require a works approval under the EP Act (to enable the construction of a building or structure on the land). Proposed power station operations may also require a licence under the EP Act to operate the power station. A licence pertaining to a power station will typically contain a condition requiring the licensee to prepare and implement closure and post-closure plans for the cessation of the power station.

6.1.10 Other relevant legislation

While the PDI Act and EP Act provide the primary framework for the authorisation and ongoing regulation of power stations in South Australia, the following additional legislation may be relevant to the approval, operation, decommissioning, remediation and post-closure of a power station:

- A power station proposal may require authorisation or a local heritage agreement under the AH Act.^{ccxi} Authorisation under the AH Act is required if a power station proposal will involve damage, disturbance or interference with an Aboriginal site; or damage, disturbance, interference or removal of an Aboriginal object or remains. Alternatively, a power station proponent may enter into a local heritage agreement with a Recognised Aboriginal Representative Body, dealing with how the heritage on the relevant land will be managed.
- A power station proposal may require a permit under the Heritage Act. A permit under the Heritage Act is broadly required if a proposal will involve disturbance with European heritage, including excavating or disturbing a heritage place, or damaging or destroying a heritage object.^{ccxii}
- Given that power station operations are inherently water intensive, a power station proposal will often also require authorisation to take and use water. The Landscape Act and Landscape Regulations

establish a legal framework for, among other things, managing water resources in South Australia. Water resources are managed through a system of conferring water rights on water users. One relevant type of water right is a water licence. The Minister is able to issue water licences to parties intending to take and use water from a prescribed water resource.^{ccxiii} These licences provide the licence holder with an ongoing right to take water from a particular water resource.

- An approval under the EPBC Act may be required in the event the relevant power station proposal is assessed as being a controlled action that has or will have a significant impact on the environment.

6.1.11 Interactions within regulatory framework

As noted above, there are numerous interactions between the various instruments which comprise the South Australian framework regulating power stations.

The EP Act explicitly provides for the avoidance of unnecessary duplications between approvals under the EP Act, and approval under the EPBC Act.^{ccxiv} Under the EP Act, documents or procedures undertaken pursuant to the EPBC Act are taken to comply with the requirements of the EP Act, so as to ensure such documents and procedures do not need to be duplicated in respect of these separate approvals processes. We also note in this respect that the Commonwealth had entered into a bilateral agreement with South Australia to enable EPBC assessment of a proposal to be carried out by the South Australian government. The previous South Australia bilateral agreement is, however, no longer operable and the Government is in the process of preparing a new bilateral agreement at the time this report was written.

Additionally, the EP Act does not require a project operator to obtain a works approval in respect of a project, where a development authorisation is required under the PDI Act for the same project.

6.1.12 Overview of the hierarchy of instruments for power stations

Table 26 Overview of the hierarchy of instruments for power stations

	Primary	Secondary
Acts	<ul style="list-style-type: none"> ▪ Planning, Development and Infrastructure Act 2016 (SA) ▪ Environment Protection Act 1993 (SA) ▪ Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> ▪ Aboriginal Heritage Act 1988 (SA) ▪ Heritage Places Act 1992 (SA) ▪ Landscape South Australia Act 2019 (SA)
Subordinate legislation	<ul style="list-style-type: none"> ▪ Planning, Development and Infrastructure (General) Regulations 2017 (SA) ▪ Environment Protection Regulations 2023 (SA) 	<ul style="list-style-type: none"> ▪ Landscape South Australia (Water Register) Regulations 2020 (SA)
Policies/guidelines	<ul style="list-style-type: none"> ▪ EPA Publication 1088/16: Preparation and implementation of closure and post-closure plans 	

6.1.13 Overview of the key stakeholders and responsibilities for power stations

Table 27 Overview of the key stakeholders and responsibilities for power stations

Stakeholder	Responsibility
Minister for Planning	Minister responsible for administering the PDI Act, decision-maker for certain developments
State Planning Commission	Body responsible to support the Minister for Planning in administering the PDI Act, decision-maker for certain developments
Assessment Manager	Individual appointed by a Council to perform certain assessment functions in relation to planning and land division consents under the PDI Act
Assessment Panel	Panel established by a Council to perform certain assessment functions in relation to planning and building consents under the PDI Act
Council	Limited decision-making powers, given the establishment of Assessment Managers and Assessment Panels under the PDI Act
Minister for Climate, Environment and Water	Minister responsible for administering the EP Act
Department for Environment and Water	Department responsible for administering the EP Act

6.1.14 Overview of the regulatory framework over the project life cycle of power stations

Table 28 Overview of the regulatory framework over the project life cycle of power stations

Phase	Explanation (all other scenarios)
Approval Phase	<ul style="list-style-type: none"> Obtainment of a planning consent under PDI Act for the use and development of the land. Planning consent may require a decommissioning and rehabilitation plan. Obtainment of a licence (and works approval if relevant) under EP Act if project involves undertaking a “prescribed activity of environmental significance”. Licences concerning power stations may contain conditions regarding preparing and implementing closure and post-closure plans. Obtainment of other relevant approvals (if required) including authorisation or a local heritage agreement under AH Act, permit under Heritage Act, or water licence under the Landscape Act. If project is a “controlled action” under the EPBC Act, obtainment of approvals under the EPBC Act.
Operational Phase	<ul style="list-style-type: none"> Compliance with decommissioning and rehabilitation plan (if progressive decommissioning/rehabilitation applicable) under PDI Act.

- Compliance with obligations under closure and post-closure plans (if relevant) under EP Act.
- Submission of progress reports regarding closure and post-closure plans to EPA at specified intervals.
- Provision of financial assurance, i.e. bonds under the EP Act (if relevant) to ensure compliance.

Closure Phase

- Completion of closure obligations in closure and post-closure plan under EP Act (if required).
- Any changes to closure and post closure plan can be done without a formal application to EPA.
- Changes to the decommissioning or rehabilitation plan, if minor, may be streamlined and will not require a separate application. If a major variation, then a fresh application is required under PDI Act.

Post-Closure Phase

- Completion of post-closure obligations in closure and post closure plan under the EP Act (if plan is reasonably required), i.e. monitoring and receiving compliance assessment.
- Any changes to the post-closure use of the site will be assessed at the time applications are provided.
- Obtainment of any approvals required for the beneficial reuse of the site.
- Return of rehabilitation bond or alternative financial assurance (if relevant), once actions that it applies to are completed.

6.1.15 Focus questions for coal- and gas-fired power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

A licence issued under the EP Act and pertaining to a power station will typically contain a condition requiring the licensee to prepare and implement closure and post-closure plans for the cessation of the power station.

The EPA is empowered under the EP Act to impose this condition on a licence but only if it is satisfied that the condition is reasonably required for the purpose of:

- Preventing or minimising environmental harm; or
- Dealing with stockpiled or abandoned waste or other matter.

In addition to requiring the preparation of closure and post closure plans, the relevant condition will require the licensee to comply with the plans to the satisfaction of the EPA.

Planning consents issued to a power station operator under the PDI Act may also be subject to conditions pertaining to the closure, decommissioning and/or remediation/rehabilitation of the site post-closure, i.e. the planning consent may require the preparation of a closure plan (or similar) and specify requirements in terms of timing of the delivery of the works. Stakeholders noted that the outdated Mining Act presents challenges in obtaining approvals, especially for multiple land uses.

At what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

The preparation of a closure and post closure plan (which addresses decommissioning, remediation and rehabilitation activities) is typically a condition of the licence issued under the EP Act. Similarly, a planning

consent for a power station may also require the preparation of a decommissioning or rehabilitation plan (or similar) as a condition of the consent. This means decommissioning, remediation and rehabilitation matters for power stations are typically considered not at the outset of a project but following the issuance of approvals.

In terms of timing and delivery of decommissioning, remediation and rehabilitation activities, this will largely be project specific and governed by timeframes specified in the closure and post-closure plan (per the requirements of EPA Guideline 1088/16 Preparation and implementation of closure and post-closure plans). The closure and post-closure plan itself will also require the licensee to submit progress reports to the EPA at specified intervals detailing compliance with the plan.

The EP Act requires the EPA to notify the licensee holder when compliance with a closure and post-closure plan is no longer required. The EPA will do so once it forms the view that compliance with the specified objectives of the closure and post-closure plan has been achieved.

If the power station is subject to a planning consent that includes a condition pertaining to decommissioning and/or remediation/rehabilitation, then that condition may also specify a timeframe within which decommissioning and remediation is required to be completed.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

The regulatory framework applying to power stations does not require operators to consider the most productive or beneficial uses of a power station site post-closure.

EPA Publication 1088/16: Preparation and implementation of closure and post-closure plans provides assistance to licensees who are required by conditions of an environmental authorisation to develop and implement a closure and post-closure plan. Closure and post-closure plans set out the process that will apply during the cessation of an activity on the land, and once activities cease. Closure and post-closure requirements include activities such as decommissioning, removing waste and contaminated materials, ongoing environmental monitoring and maintenance of land. While the remediation and rehabilitation requirements within a closure or post-closure plan will directly impact upon any potential reuse of the land, there is no explicit requirement for the closure or post-closure plans to propose, plan for or accommodate an intended land use, once operations cease.

As with the reuse of mining land, consideration of the suitability of a reuse proposal in the context of a decommissioned power station site will be assessed at the time that the relevant development proposal application is submitted (assuming planning consent is required). It is important to note that the relevant authority will assess the development proposal on its merits and against the Planning and Design Code. The relevant authority is not required to consider whether the development proposal is the most productive or beneficial use the site could be put to.

To what extent does the regulatory framework require consultation in relation to a mining/power station project's remediation, rehabilitation and (if applicable) reuse requirements?

The various instruments which comprise the regulatory framework for power station operations in South Australia require different levels of consultation in relation to power station projects. Often, consultation in relation to such requirements will take the form of public notice when a project operator is submitting its approval applications under the PDI Act and EP Act, however as these applications don't typically address decommissioning and remediation matters (as the requisite plans are prepared and approved post approvals being obtained), this gives the community limited opportunity to make their views known on these matters.

Notwithstanding this, a licence issued under the EP Act may require a licensee (by way of a condition) to undertake community and stakeholder engagement during the closure process and/or prepare a stakeholder engagement plan that:

- identifies key stakeholders during the closure process; and
- outlines timeframes for communication and correspondence types.

Irrespective of whether it is a condition of the licence, the EPA strongly encourage licensees to communicate with neighbours and other stakeholders about closure activity.

Any development proposal for the reuse of the decommissioned power station site requiring development consent under the PDI Act will likely require notice to be given to certain parties, including the owners and occupiers of adjacent land, and members of the public more broadly (by placing notice on the land). Upon receiving notice of the development proposal, a party may make representations in relation to the proposal (akin to an objection to the proposal). The proponent of the development may respond to such representations and may seek to amend the development having regard to representations received.

How are remediation and rehabilitation works secured by the regulatory framework?

The rehabilitation and remediation of power station land is secured via the provision of financial assurances under the EP Act.

The EP Act may require the holders of environmental authorisations to provide the EPA with a financial assurance.^{ccxv} A financial assurance under the EP Act can be in a variety of forms (such as a bond, insurance policy, letter of credit or guarantee), and is determined based on (among other things) the risk of environmental harm of an activity, the likelihood of action being required to make good any environmental damage or to decommission plant and equipment, and the nature of costs of such remediation/rehabilitation works.^{ccxvi}

A financial assurance may be drawn upon where the holder of an authorisation has contravened a requirement under the EP Act, or where the holder has failed to take a specific action within a specified period under the EP Act.^{ccxvii}

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

Amendments to the closure and post closure plan required to be prepared pursuant to an EPA issued licence can be approved by the EPA without a formal application to amend the authorisation being submitted.

The EPA may also require the licensee to amend the closure and post-closure plan when:

- Significant flaws are noted;
- A risk assessment or review determines that further actions are required to help manage the environmental or human health risks; or
- There are major changes to the licensed activity, operational processes or infrastructure or environmental management practices.

A variation to an approved decommissioning or rehabilitation plan prepared pursuant to a condition of a planning consent may be approved under section 128 of the PDI Act, which regulates the variation of authorisations including a variation of a condition imposed under an authorisation. Generally, variations to authorisations under the PDI Act will be approved through a streamlined process where the relevant authority considers the variation is minor in nature and does not need to be treated as a new application. If a proposed variation is major variation, a fresh application for authorisation will be required.

Any proposal to reuse the site for an alternative use post-closure of the power station will be assessed at the time that the relevant applications for the reuse development are submitted. The nature of the reuse proposal will dictate what approvals are required, though they may be similar to the approvals mentioned in the context of power stations for example:

- planning consent under the PDI Act;
- a works approval and/or licence under the EP Act;
- an authorisation or a local heritage agreement under the AH Act;
- a permit under the Heritage Act; and
- an EPBC approval under the EPBC Act.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework applying to the approval, operation and closure of power stations in South Australia does not mandate proactive planning for post-closure uses. At no stage of the power station's life cycle is an operator required to consider the most productive or beneficial uses of a power station site post-closure. That is, there is also no explicit requirement for power station operators to propose, plan for or accommodate an intended land use in their closure or post-closure plans.

Closure and post-closure plans, which are typically conditioned as part of the licence issued under the EP Act, typically focus on activities such as decommissioning, removing wastes and contaminated materials, ongoing environmental monitoring and maintenance of land. While decommissioning and rehabilitation activities may impact upon any potential reuse of a power station site, a power station operator does not need to propose an intended post-closure land use. This may result in missed opportunities for closure and post-closure plans to have regard to reuse opportunities.

Any proposal to reuse the power station site for an alternative post-closure use will be assessed at the time that the relevant applications for the reuse development are submitted.

The nature of the reuse proposal will dictate exactly what approvals are required, though a reuse proposal is likely to require multiple approvals with involvement from numerous government agencies and authorities. Where there is a lack of co-ordination between government agencies and authorities, such approvals processes can be lengthy and expensive, particularly where the site is subject to ongoing monitoring and management requirements to address historical contamination. This can dissuade site owners from pursuing reuse proposals that are productive or beneficial.

6.1.16 Overview of regulatory framework for mining lands and power stations

Table 29 List of South Australia's key Acts, regulations or non-enforceable policies/guidelines

Name	Type	Related act, instrument, policy, guidelines	Obligation	Applicable to mining lands?	Applicable to power stations?
Mining Act 1971 (SA) (Mining Act)	Act	Mining Regulations 2020 (SA) Bonds - Mineral Policy Developing outcomes for quarrying and mining - Mineral Regulatory Guideline Mineral exploration OEPRs and compliance - Mineral Regulatory Guideline Mine operations plans - Mineral Regulatory Guideline	The holder of a mineral tenement	Yes	No
Opal Mining Act 1995 (Opal Mining Act)	Act	Opal Mining Regulations 2012 Opal prospecting and mining - Mineral Regulatory Guideline	Holder of a precious stones prospecting permit or mining tenement	Yes	No
Planning, Development and Infrastructure Act 2016 (SA) (PDI Act)	Act	Planning, Development and Infrastructure (General) Regulations 2017	The proponent of a development	Yes	Yes

Name	Type	Related act, instrument, policy, guidelines	Obligation	Applicable to mining lands?	Applicable to power stations?
Environment Protection Act 1993 (SA) (EP Act)	Act	Environment Protection Regulations 2023 (SA) EPA Publication 1088/16: Preparation and implementation of closure and post-closure plans	The proponent for a project which is a prescribed activity of environmental significance	Yes	Yes
Aboriginal Heritage Act 1988 (SA) (AH Act)	Act	Aboriginal Heritage Regulations 2017 (SA)	The proponent of a project capable of damaging, disturbing, interfering or removing an Aboriginal site, object or remains	Yes	Yes
Heritage Places Act 1992 (Heritage Act)	Act	Not applicable	The proponent of a development	Yes	Yes
Landscape South Australia Act 2019 (SA) (Landscape Act)	Act	Landscape South Australia (Water Register) Regulations 2020	The proponent of a development	Yes	Yes
Mining Regulations 2020 (SA) (Mining Regulations)	Subordinate legislation	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No

Name	Type	Related act, instrument, policy, guidelines	Obligation	Applicable to mining lands?	Applicable to power stations?
Opal Mining Regulations 2012 (SA) (Opal Mining Regulations)	Subordinate legislation	Opal Mining Act 1995	Holder of a precious stones prospecting permit or mining tenement	Yes	No
Planning, Development and Infrastructure (General) Regulations 2017 (PDI Regulations)	Subordinate legislation	Planning, Development and Infrastructure Act 2016 (SA)	The proponent of a development	Yes	Yes
Environment Protection Regulations 2023 (SA) (EP Regulations)	Subordinate legislation	Environment Protection Act 1993 (SA)	The proponent for a project which is a prescribed activity of environmental significance	Yes	Yes
Bonds - Mineral Policy	Policy	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No
Developing outcomes for quarrying and mining - Mineral Regulatory Guideline	Guideline	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No

Name	Type	Related act, instrument, policy, guidelines	Obligation	Applicable to mining lands?	Applicable to power stations?
Mineral exploration OEPs and compliance – Mineral Regulatory Guideline	Guideline	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No
Mine operations plans – Mineral Regulatory Guideline	Guideline	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No
Determination (Terms of Reference 005) – Metallic and industrial mineral PEPRs (Determination)	Determination	Mining Act 1971 (SA)	The holder of a mineral tenement	Yes	No
Opal prospecting and mining – Mineral Regulatory Guideline (Opal Mining Guideline)	Guideline	Opal Mining Act 1995	Holder of a precious stones prospecting permit or mining tenement	Yes	No
EPA Publication 1088/16: Preparation and implementation of closure and post-closure plans (Publication 1088/16)	Guideline	Opal Mining Act 1995	The proponent for a project which is a prescribed activity of environmental significance	Yes	Yes

6.2 Stakeholder consultation & findings

6.2.1 Summary

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none">Infrastructure SA's 20-year strategy prioritises industrial uses, aligning future planning with economic activity and regional development through extensive government consultation.	<ul style="list-style-type: none">Uncertainty remains around navigating the complexities of responsibility and funding for approximately 8,000 abandoned mines on Crown land, with prioritisation needed based on public and environmental risk.There is an opportunity to learn from past failures in the nuclear industry to develop robust frameworks and best practices for rehabilitation and repurposing in the mining sector.

Legislative, Regulatory & Policy Hindrances
<ul style="list-style-type: none">The outdated Mining Act presents challenges in obtaining approvals, especially for multiple land uses.The current Mining Act review aims to update the legislation to address these contemporary challenges and improve mining site management.South Australia is currently exploring financial mechanisms similar to Western Australia's Mining Rehabilitation Fund (MRF) model.

6.2.2 Key findings by stakeholder

Anonymous Stakeholder

Productive Uses:

- Industrial uses:** Industrial uses are a key priority, led by Infrastructure SA. A 20-year infrastructure strategy has been released, setting a vision for future planning based on economic activity and regional development. The strategy involves extensive consultation across government, ensuring that future planning aligns with economic activity and regional development goals. This collaborative approach aims to create a cohesive and strategic framework for industrial uses.

Challenges:

- Responsibility and funding for abandoned mines:** Complexities arise around responsibility for former and abandoned mines, many of which are on Crown land. There are funding issues for approximately 8,000 sites, necessitating prioritisation based on public and environmental risk. The Former Mines Program, managed by DEM, documents and ranks the risk of former mines in South Australia and addresses issues of environmental and public safety through undertaking audits, risk assessment and site inspections.
- South Australia is currently exploring financial mechanisms similar to Western Australia's Mining Rehabilitation Fund (MRF) model. The South Australian Government has released an issues paper seeking feedback and to explore opportunities to introduce greater flexibility into the state's mining financial assurance framework by expanding the role of the Mining Rehabilitation Fund. The proposal would allow eligible low-risk tenement holders to pay an annual levy as an alternative to, or partial

substitute for, rehabilitation bonds, increasing funding available for the management and rehabilitation of both legacy and existing mine sites. This approach would complement, rather than replace, current financial assurance arrangements and is consistent with similar levy-based models operating in Western Australia and Queensland.

Opportunities & Recommendations:

- **Setting foundations for future success:** The Government is working to set the foundations for future success in rehabilitation and repurposing, learning from past failures in the nuclear industry. By developing robust frameworks and best practices, there is an opportunity to significantly improve the execution of rehabilitation and repurposing efforts in the mining sector, ensuring more sustainable and productive outcomes.

Legislative, Regulatory & Policy Hindrances:

- **Modernising the Mining Act:** The State Government's current review of the Mining Act aims to modernise it and develop a multiple land use framework. The existing Act is outdated and makes it difficult to get approval, particularly for multiple land uses. An issues paper has been released for consultation, highlighting the need for updated legislation to address contemporary challenges in mining site management.

7

**Western
Australia**

7 Western Australia

7.1 WA regulatory framework analysis

Term	Meaning
AH Act	<i>Aboriginal Heritage Act 1972 (WA)</i>
CEO	Chief Executive Officer of the Department administering the MRF Act
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
CS Act CEO	Chief Executive Officer of the Department administering the CS Act
DMIRS	Department of Energy, Mines, Industry Regulation and Safety
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Act CEO	Chief Executive Officer of the Department administering the EP Act
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Heritage Act	<i>Heritage Act 2018 (WA)</i>
MCP	Mine closure plan
Mining Act	<i>Mining Act 1978 (WA)</i>
MRF	Mining Rehabilitation Fund
MRF Act	<i>Mining Rehabilitation Fund Act 2012 (WA)</i>
MRF Regulations	<i>Mining Rehabilitation Fund Regulations 2013 (WA)</i>
Planning Act	<i>Planning and Development Act 2005 (WA)</i>
Planning Regulation	<i>Planning and Development Regulation 2009 (WA)</i>
RIWI Act	<i>Rights in Water and Irrigation Act 1914 (WA)</i>
Statutory Guidelines for mine closure plans	Statutory Guidelines for Mine Closure Plans – <i>Mining Act 1978</i> – Version 4.0, effective 3 March 2020 (updated January 2023)
Statutory Guidelines for Mining Proposals	Statutory Guidelines for Mining Proposals – <i>Mining Act 1978</i> – Version 6.0, effective 3 March 2020 (updated November 2023)
UPB	Unconditional Performance Bond

7.1.1 Summary

The development, operations, closure, and rehabilitation of mines in Western Australia are principally regulated by the Mining Act. Mining proposals may still require assessment and approvals under other Acts such as the EP Act.

The Mining Act requires mine operators to hold a mining lease, in order to carry out mining operations, unless the mine is regulated by a State Agreement. State Agreements are not addressed in detail in this report

because they are essentially contracts, which are negotiated on a case-by-case basis between proponents and the State.

The Mining Act and mining leases are the main source of regulation for mine closure and rehabilitation. The proponent of a mine must lodge a mining proposal, including an MCP which, together with relevant conditions, regulates guides how a mine's operations will cease.

It is a standard tenement condition to require the rehabilitation of mining disturbances to be undertaken progressively where possible. MCPs are generally guided by the objective of rehabilitating and closing mines in a manner that makes them safe, stable, non-polluting, and capable of sustaining an agreed post-mining land use. To achieve this objective, tenements will often usually include conditions requiring tenement holders to undertake rehabilitation and closure of all mining activities in accordance with an approved MCP and the progressive rehabilitation of a mine site.

Under the MRF Act, a mining rehabilitation levy is payable in respect of each mining tenement under the Mining Act (with some exceptions) by the holder of the tenement. Additionally, the Mining Act provides for the lodgement of securities and additional discretionary securities by the tenement holder.

The development, operations, decommissioning and remediation/rehabilitation of coal- and gas-fired power stations in Western Australia are principally regulated by the EP Act. Like mining proposals, power station proposals may will also require assessment and approvals under other Acts, including the Planning Act.

The environment impact assessment of a power station proposal will be conducted in accordance with the EP Act. Once assessed, the Minister will determine if the proposal can be implemented, and on what conditions. Such conditions may include, for example, a requirement on the proponent to take environmental protection, abatement or restoration measures on the subject land. The EP Act may also require the power station operator to provide a financial assurance, environmental undertaking and environmental management plan.

The reuse of mining land and decommissioned coal- and gas-fired power stations will be subject to further approvals, the nature of those approvals dictated by the specifics of the reuse proposal.

7.1.2 Overview of the regulatory framework for mining lands

Subject to the Mining Act and any mining lease conditions, the Mining Act authorises the lessee of a mining lease, its agents and employees to carry out mining operations in, on or under the subject land.^{ccxviii} In Western Australia, the Mining Act is the main source of regulation for mine closure and rehabilitation.

State agreements, on the other hand, are not addressed in detail in this report, notwithstanding they are also an important part of the overall regulation of the mining sector in Western Australia. State agreements are essentially contracts, negotiated on a case-by-case basis between proponents and the State, although ratified as Acts of Parliament. Each state agreement therefore functions as a unique piece of legislation.

State agreements may modify aspects of other laws (including, potentially, the Mining Act) to the extent there is a conflict. However, they cannot override obligations under the EP Act. For mining proposals, this means that a mine closure plan may still be required to be prepared and implemented.^{ccxix}

The Mining Act is subject to the EP Act.^{ccxx} Part IV of the EP Act provides a framework for the environmental impact assessment of significant proposals,^{ccxxi} which may include a 'mining proposal' for a mining lease.^{ccxxii}

Before a mining operation may commence on a tenement granted under the Mining Act, the proponent must lodge (among other things) a mining proposal, which must include an MCP. Approved mining proposals and MCPs are publicly available.

The expiry, surrender or forfeiture of a mining tenement does not affect the liability of the person who was the holder of the mining tenement immediately before its expiry, surrender or forfeiture:

- to comply with any obligation imposed on or before that date under or in relation to the mining tenement; or

- for any act done or default made on or before that date under or in relation to the mining tenement.^{ccxxiii}

It is noted for completeness that the CS Act is separate to any processes set out under the Mining Act. Where contaminated sites exist, the CS Act takes precedence.^{ccxxiv}

The CS Act provides for the identification, recording, management and remediation of contaminated sites in the State.^{ccxxv}

7.1.3 Other legislation

While the Mining Act and the EP Act provide the primary framework for the authorisation and ongoing regulation of mining operations on mining leases in Western Australia, the following additional legislation may be relevant to the approval, operation, rehabilitation and post-closure of a mine (among other things):

- **Water:** Mining projects are often water intensive, as are measures to remediate and rehabilitate mining land. As such, mining operators will typically require a '5C licence' to take water from any surface water or underground water source and, depending on the nature of the mines' operations, a '26D licence' to construct or alter wells. Both categories of licences are issued under the RIWI Act.
- **Aboriginal cultural heritage:** The AH Act provides for a general duty, rather than being an Act with specific provisions for mining lands. The AH Act prescribes that, without consent, it is an offence to excavate, destroy, damage, conceal or in any way alter any Aboriginal site or Aboriginal object on or under an Aboriginal site. It is also an offence to deal with any Aboriginal site or object in a manner not sanctioned by relevant custom, or assume the possession, custody or control of, any object on or under an Aboriginal site. Section 18 of the AH Act provides the mechanism for which Ministerial consent must be sought to proceed with any work which is likely to impact an Aboriginal site.
- **European heritage:** The Heritage Act also applies as a general duty, rather than one with specific provisions for mining lands. The Heritage Act principally protects places or objects of cultural heritage significance (not including Aboriginal cultural heritage) through the State Register of Heritage Places, which is kept and maintained by the Heritage Council. This is the advisory body for heritage matters, focusing on places, buildings and archaeological sites. If a development or change to a State-registered heritage place is proposed, it will be referred to the Heritage Council for advice or approval.

This chapter report advises on the law prior to September 2025. However, it must be noted that in September 2025, 'Mining Development and Closure Proposals' are being introduced under the Mining Amendment Act 2022 (WA). They will replace the requirement to provide a mining proposal and MCP at the project approval stage.^{ccxxvi}

7.1.4 Overview of the hierarchy of instruments for mining lands

Table 30 Overview of the hierarchy of instruments for mining lands

	Primary	Secondary
Acts	<ul style="list-style-type: none"> ▪ Mining Act 1978 (WA) ▪ Environmental Protection Act 1986 (WA) ▪ Contaminated Sites Act 2003 (WA) ▪ Mining Rehabilitation Fund Act 2012 (WA) 	<ul style="list-style-type: none"> ▪ Aboriginal Heritage Act 1972 (WA) ▪ Heritage Act 2018 (WA) ▪ Rights in Water and Irrigation Act 1914 (WA)

	<ul style="list-style-type: none"> Environment Protection and Biodiversity Conservation Act 1999 (Cth)
Subordinate legislation	<ul style="list-style-type: none"> Mining Regulations 1981 (WA) Environmental Protection Regulations 1987 (WA) Contaminated Sites Regulations 2006 (WA) Mining Rehabilitation Fund Regulations 2013 (WA) Aboriginal Heritage Regulations 1974 (WA)
Policies/guidelines	<ul style="list-style-type: none"> Statutory Guidelines for Mining Proposals – Mining Act 1978 Statutory Guidelines for Mine Closure Plans – Mining Act 1978 Mine Closure Completion Guideline – for demonstrating completion of mine closure in accordance with an approved Mine Closure Plan Mining Securities Policy – Administration for compliance with environmental conditions

7.1.5 Overview of the key stakeholders and responsibilities for mining lands

Table 31 Overview of the key stakeholders and responsibilities for mining lands

Stakeholder	Responsibility
Department of Energy, Mines, Industry Regulation and Safety	Department responsible for administering the Mining Act and MRF Act
Department of Water and Environmental Regulation	Department responsible for administering the CS Act and EP Act
Environmental Protection Authority	Regulator responsible for administering the EP Act

7.1.6 Overview of the regulatory framework over the project life cycle for mining lands

Table 32 Overview of the regulatory framework over the project life cycle for mining lands

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> Obtainment of mining lease under the Mining Act (unless regulated by a State Agreement). Lease may require certain rehabilitation of mining disturbances. Obtainment of approved mining proposal. A mining proposal must contain an MCP.

- Obtainment of an approved MCP under the Mining Act. An MCP will regulate rehabilitation and closure and provide proposed post-mining land uses.
- Obtainment of environmental impact assessment under the EP Act (if applicable).
- Obtainment of other relevant approvals (if required) including a 5C licence and/or 26D licence under RIWI Act, consent under the AH Act, referral for advice or approval under the Heritage Act.
- Lodgement of security for compliance with mining lease and Mining Act within 28 days after lodging application.
- Provision of additional discretionary securities (if any).

Operational Phase

- Progressive rehabilitation of all mining activities in accordance with an approved MCP.
- Obtainment of reviewed and approved MCP every 3 years (or alternative period, if required).
- Annual payment of mining rehabilitation levy and annual review of levy under the MRF Act.
- Provide annual environmental reports (if required).
- Compliance with 'investigation notice', 'clean up notice', or 'hazard abatement notice' under the CS Act, where the site is classified as 'contaminated - remediation required'. These take precedence over Mining Act processes.

Closure Phase

- Completion of rehabilitation and closure of all mining activities in accordance with an approved MCP.
- Annual payment of mining rehabilitation levy and annual review of levy under MRF Act (if still rehabilitating land).
- Obtainment of reviewed and approved MCP every 3 years (or alternative period if required). Reviewed MCPs should include an environmental closure risk assessment and documentation addressing changes.

Post-Closure Phase

- Submission of Mine Closure Completion Report for relinquishment.
- Obtainment of formal written acknowledgement that the MCP has been achieved from DMIRS.
- Removal by DMIRS of tenement conditions from mining lease relating to submission of environmental reports and MCPs.
- Review by DMIRS of any relevant unconditional performance bonds relating to rehabilitation that has been completed.
- Obtainment of any approvals required for the beneficial reuse of the site.

7.1.7 Focus questions for mining lands

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Mine closure plans

A mining proposal must be approved in writing, prior to carrying out mining operations.^{ccxxvii} A mining proposal must be in the form and contain information of the kind required by the guidelines. The statutory guideline is titled Statutory Guidelines for Mining Proposals.

A mining proposal must contain an MCP.^{ccxxviii} An MCP must be in the form required by the guidelines. The statutory guideline is the Statutory Guidelines for Mine Closure Plans.^{ccxxix}

Part 2 of the Statutory Guidelines for Mine Closure Plans sets out the form and content requirements for an MCP for small mining operations. Part 1 sets out the form and content requirements for all other MCPs.^{ccxxx} In this report, we are focussed primarily on the Part 1 regulatory framework (except where noted).

The Statutory Guidelines for Mine Closure Plans are supported by a range of policies, guidelines and procedures listed on page 2 of those guidelines. Until there is a change in law later in 2025 (as foreshadowed in our introductory comments), the Statutory Guidelines for mine closure plans will continue to apply.^{ccxxxi}

It is a standard tenement condition that the management of mine closure be carried out in accordance with an approved MCP.^{ccxxxii}

Environmental objectives

The environmental objectives for decision-making under the Mining Act are identified in the “Environmental Objectives Policy for Mining” dated 3 March 2025.^{ccxxxiii}

The principal objective for environmental regulation is that resource industry activities are designed, operated, closed, decommissioned and rehabilitated in an ecologically sustainable manner, consistent with agreed environmental outcomes and post-mining land uses without unacceptable liability to the State.^{ccxxxiv}

The objective for rehabilitation and mine closure is as follows:

Mining activities are rehabilitated and closed in a manner to make them physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/non-contaminating, and capable of sustaining an agreed post-mining land use, with consideration for cultural values and without unacceptable liability to the State.^{ccxxxv}

Tenement conditions

A mining lease can be granted on such terms and conditions as the Minister considers reasonable.^{ccxxxvi} This means that environmental conditions may be imposed on tenements directly.

The Mining Act expressly provides for conditions to be imposed on tenements for “the purpose of preventing or reducing, or making good, injury to the land in respect of which the lease is sought or was granted, or injury to anything on or below the natural surface of that land or consequential damage to any other land.”^{ccxxxvii}

It is a standard tenement condition to require rehabilitation of mining disturbances to be undertaken progressively where possible to ensure they are safe, stable, non-polluting and non-contaminating and capable of sustaining an agreed post-mining land use, without unacceptable liability to the State.^{ccxxxviii}

As noted above, it is also a standard condition to require tenement holders to undertake rehabilitation and closure of all mining activities in accordance with an approved MCP.^{ccxxxix}

Rehabilitation completion and relinquishment

If the DMIRS accepts that the completion criteria set out in an approved MCP have been achieved, the corresponding mining activities will be considered concluded and DMIRS will:

- issue formal written acknowledgement that closure outcomes and completion criteria, as outlined in the approved MCP, have been achieved;
- remove the relevant tenement conditions related to submission of annual environmental reports and MCPs; and
- initiate a review of any relevant unconditional performance bonds held for compliance with tenement conditions related to the rehabilitation that has been completed.

This process is commonly referred to as 'relinquishment'.^{ccxi}

At what stage of a mining/power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Mine closure planning should be integrated into all stages of mine development and operation in Western Australia, and it is intended that MCPs are continuously refined over the life of a mine.^{ccxli}

As noted above, a mining proposal must contain an MCP. Under the current law, this must be submitted for written approval prior to the commencement of mining operations.^{ccxlii} Usually, it will accompany the application for a mining lease.^{ccxliii}

Further, MCPs must be reviewed and submitted for approval every three years, or an alternative period as required.^{ccxiv}

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

While it is encouraged to consider the most productive or beneficial uses of a site post closure, this is not a mandatory requirement.

The Statutory Guidelines for mine closure plans provide that MCPs (other than for small mining operations) must detail all legal obligations for rehabilitation and closure that will affect the post-mining land use and closure outcomes.^{ccxlv} MCPs must include the post-mining land use(s) that has been proposed or agreed with key stakeholders, including regulators.

MCPs (other than for small mining operations) must describe how the post-mining land use(s) is:

- relevant to the environment in which the mine will operate or is operating;
- achievable in the context of post-mining land capability;
- acceptable to the key stakeholders; and
- ecologically sustainable in the context of the local and regional environment.

Non-statutory guidelines provide as follows:

Where possible, proponents are encouraged to consider applying resources to achieve improved land management and ecological outcomes on a wider landscape scale, as well as the potential for multiple land uses. DMIRS acknowledges that end land uses may change over time, and this can be reflected in mine closure plan revisions. Agreed end land use(s) may change in iterations of mine closure plans as more information is acquired through progressive rehabilitation and continued stakeholder engagement.

The mine closure plan should identify all potential (or pre-existing) environmental legacies (including contaminated sites) that may restrict the post-mining land use.

The following land use options provide a guide to identifying appropriate post-mining land use(s):

- *Reinstate “natural” ecosystems to be as similar as possible to the original ecosystem.*
- *Develop an alternative land use with higher beneficial uses than the pre-mining land use.*
- *Reinstate the pre-mining land use.*
- *Develop an alternative land use with beneficial uses other than the pre-mining land use.*

In the early stages of a mining project, it may be acceptable for provisional or proposed post-mining land use(s) to be identified, provided that there has been adequate engagement with the key stakeholders and that there is a clear process and timeline to further identify or refine the agreed post-mining land use(s), as part of the stakeholder engagement process.^{ccxlvii}

The Statutory Guidelines for Mine Closure Plans further provides that MCPs (other than for small mining operations) must include:

- site-specific closure outcomes consistent with the post-mining land use(s) that are realistic and achievable based on the closure risk assessment; and
- completion criteria that are specific, measurable, achievable, relevant and time-bound, and will demonstrate the achievement of the closure outcomes and monitoring.^{ccxlvii}

The content requirements for small mining operations are, by comparison, less onerous.

Those MCPs may include the following:

1. describe the underlying and/or pre-existing land uses of the area;
2. list those stakeholders affected by rehabilitation and mine closure and any consultation undertaken to date;
3. confirm whether the underlying and/or pre-existing land uses are expected to change after completion of mining and if so, provide a description of the end land use;
4. confirm whether engagement has been undertaken with stakeholders affected by a change in land use; and
5. describe the strategy for ongoing stakeholder engagement.^{ccxlviii}

To what extent does the regulatory framework require consultation in relation to a mining/power station project’s remediation, rehabilitation and (if applicable) reuse requirements?

A mining proposal (which must contain the MCP) must be made available for public inspection.^{ccxlix} A person may object to the grant of a mining lease.^{ccli}

In addition to this objection’s procedure, the Statutory Guidelines for Mining Proposals provides in respect of Part I mining proposals that the proposal must include information on the engagement that has been undertaken with stakeholders, a record of the engagement undertaken to date and include a strategy for ongoing engagement.^{cclii} In these statutory guidelines, a stakeholder is a person or representatives of an organisation that can affect, be affected by, or perceive themselves to be affected by, a decision or activity. A decision-maker can be a stakeholder.^{ccliii}

Non-statutory guidelines explain how to develop a stakeholder engagement strategy.^{ccliii} They state that mine closure must be integrated throughout the process. They state:^{ccliv}

It is essential that stakeholders have the opportunity to engage, through an iterative process, in the development of environmental outcomes (including mine closure outcomes) to ensure the identified environmental receptors are protected. The mining proposal should demonstrate how the consultation has influenced (or not) the development of the proposed environmental outcomes.^{cclv}

For mining proposals relating to small-scale mining operations, the proposal must list those stakeholders that will be affected by the proposed operation and any engagement undertaken, including any issues raised.^{cclvi}

The Statutory Guidelines for Mine Closure Plans further provide that an MCP (other than for small mining operations) must include information on the engagement that has been undertaken with stakeholders relevant to rehabilitation and mine closure, a record of the engagement undertaken to date and include a strategy for ongoing engagement.^{cclvii}

Additional information on the stakeholder engagement register is available in non-statutory guidelines.^{cclviii}

It is acknowledged that agreed end land use(s) may change in iterations of MCPs as more information is acquired through progressive rehabilitation and, relevantly, continued stakeholder engagement. It is anticipated that there will be a clear process and timeline to further identify or refine the agreed post-mining land use(s) as part of the stakeholder engagement process for the MCP.^{cclix}

The content requirements for small mining operations are, by comparison, less onerous.

Those MCPs may confirm whether engagement has been undertaken with stakeholders affected by a change in land use and describe the strategy for ongoing stakeholder engagement.^{cclx}

It is also expected that, prior to submission of the Mine Closure Completion Report for relinquishment, appropriate engagement has been undertaken to determine the acceptability of rehabilitation to the underlying land users, land managers or other relevant stakeholders. The level of stakeholder engagement will depend on the specific post-mining land use and completion criteria relevant to each site.^{cclxi}

How are remediation and rehabilitation works secured by the regulatory framework?

Securities

The Mining Act provides that the applicant for a mining lease shall lodge, in the 'prescribed manner' and within the 'prescribed period', a security for compliance with:

- the conditions to which the mining lease, if granted, will from time to time be subject; and
- the provisions of Part IV – Mining tenements of the Mining Act and the regulations.^{cclxii}

Section 126 of the Mining Act provides for the administration of the amount, method and discharge of mining securities. Section 112 of the Mining Regulations 1981 (WA) further provides that the applicant shall lodge a security within 28 days after lodging the application to which the security relates. It is a mandatory requirement to provide a security for the amount of \$5,000. A mining lease shall not be granted unless a security has been lodged.^{cclxiii}

Additional discretionary securities

The Mining Act allows the Minister to require additional discretionary securities in certain cases,^{cclxiv} including for compliance with environmental conditions. Generally, this additional security will be required to be in the form of a UPB.^{cclxv}

The purpose of mining securities is as follows:

- to help ensure tenement holders comply with conditions imposed on their tenements; and
- to ensure that the State is not exposed to unacceptable costs should tenement holders fail to meet the mine closure requirements and environmental conditions on their tenements.

The calculation of an additional discretionary security may consider risk factors or information available to DMIRS. Increased mining securities will be recommended where DMIRS considers there is a high risk of the tenement holder not complying with their environmental conditions, or liability reverting to the state.^{cclxvi}

The requirement for a mining security does not affect the operation of the MRF Act, which is discussed below.

Prior to the commencement of the MRF in 2013, the main means of ensuring tenement holders complied with environmental conditions was through the imposition of mining securities under the Mining Act. Most mines in Western Australia were required to lodge mining securities in the form of a UPB prior to the commencement of mining. Most UPBs were retired when these tenements entered into the MRF. The MRF is discussed below.

Mining rehabilitation levy

Under the MRF Act, a mining rehabilitation levy is payable in respect of each mining tenement under the Mining Act (with some exceptions), by the holder of the tenement. The levy is payable each year to the MRF in accordance with the MRF Regulations.

Tenement holders must, on or before the prescribed day each year, give to the CEO of DMIRS assessment information (i.e., disturbance data) in the approved form and manner to allow the CEO to make an assessment of the levy amount payable.

The amount of levy payable in respect of a mining tenement in a year is worked out in accordance with a formula, taking in account the rehabilitation liability estimates for the tenement. If the rehabilitation liability estimate for the tenement is \$50,000 or less, the amount of levy payable in respect of the tenement in the year is nil.

Money pooled in the MRF is used by the State to rehabilitate abandoned mines where the tenement holder has failed to meet rehabilitation obligations and efforts to recover funds from the holder have been unsuccessful. Payment of the mining rehabilitation levy does not release tenement holders of their other rehabilitation obligations under tenement conditions, or any requirements to provide securities.

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

An MCP is required to be reviewed and lodged for approval throughout the term of the tenement. This must occur every three years or at an alternative time as approved in writing by the prescribed official. The due date of the revised MCP is specified as a tenement condition. This is referred to as a 'reviewed' MCP in the statutory guidelines.

A reviewed MCP (other than for small mining operations) must include an environmental closure risk assessment that includes the following:

- identifies all the environmental closure risk pathways;
- evaluates the environmental closure risks to derive an inherent risk rating, prior to the application of treatments;
- identifies appropriate risk treatments, using the hierarchy of control;
- re-evaluates the risk pathways to derive a residual risk rating; and
- demonstrates that all residual risks are as low as reasonably practicable.

The reviewed MCP must provide information on the processes and methodologies undertaken to identify the closure risks and their potential environmental impacts post-mining, including a description of the risk assessment criteria and risk evaluation techniques.^{cclxvii}

Where an MCP (other than for small mining operations) is reviewed under s84AA of the Mining Act or included in a revision to an approved mining proposal, the reviewed MCP must also include:

- a revision summary table that clearly outlines all changes made in the reviewed MCP;
- a summary table documenting how the aspects identified by the relevant government department for improvement in the prior revision of the MCP have been addressed;
- a table documenting how the knowledge gaps identified in the prior revision of the MCP have been addressed, as well as any new gaps identified.^{cclxviii}

Non-statutory guidelines entitled, "Mine Closure Plan Guidance – How to prepare in accordance with Part 1 of the Statutory Guidelines for Mine Closure Plans, Version 4.0", effective 3 March 2020 (updated in January 2023), are available to assist applicants.^{cclxix}

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework in Western Australia encourages consideration of the productive or beneficial uses of a mine site following closure; however, this is not a mandatory requirement. Thereby, flexibility for proponents is preserved.

While MCPs (other than for small mining operations) must detail the proposed or agreed post-mining land uses and demonstrate that these land uses are relevant, achievable, acceptable to stakeholders, and ecologically sustainable, there is flexibility for these land uses to evolve over time. Non-statutory guidelines encourage proponents to pursue improved land management on a wider landscape scale where possible, as well as to consider the potential for multiple land uses. However, the guidelines also recognise that post closure land uses may change as more information becomes available, including through progressive rehabilitation and ongoing stakeholder engagement.

The prolonged timeline for mining operations, mine site rehabilitation and redevelopment can add significant complexity, making it difficult to predict and plan for optimal outcomes. As noted above though, guidance material in Western Australia promotes the identification and pursuit of end land uses, but it also allows for iterative refinement of proposals, rather than imposing a strict legal obligation to achieve the most productive or beneficial outcome from the outset. In the early stages of a mining project, the guidelines provide that it may be acceptable for provisional or proposed post-mining land uses to be identified, provided that there has been adequate engagement with the key stakeholders and that there is a clear process and timeline to further identify or refine the agreed post-mining land uses as part of the stakeholder engagement process. This approach reflects a balance between regulatory expectations and the practical realities of mine closure planning and subsequent reuse.

As detailed earlier, Mining Development and Closure Proposals (MDCPs) are being introduced under the Mining Amendment Act 2022, which will commence on 9 September 2025. MDCPs will replace the requirement for a mining proposal and MCP. While this chapter of the report advises on the law prior to September, it must be noted that Western Australia has significant upcoming reforms commencing after this chapter of the report was written.

The Mining Amendment Act 2022 aims to modernise the mining approval process in Western Australia and allow for easier administration of compliance with conditions of approval. According to the state government, the new MDCP framework will "reduce duplication and create efficiencies in assessment processes and approval document preparation, as well as monitoring compliance with approvals".^{cclxx} The effectiveness of these reforms in supporting productive site reuse will depend on the clarity and enforceability of the new requirements.

Stakeholder consultation noted that whilst acknowledging that rehabilitation obligations provide a necessary safety net for environmental concerns, these responsibilities can prove problematic for small or financially weak operators to comply with and to proceed with future reuse.

A recognised hindrance and barrier of productive or beneficial reuse of mining lands post-closure is the placing of sites under extended 'care and maintenance' to avoid final relinquishment. Extended care and maintenance is a recognised cross jurisdictional concern, including in Western Australia. Sometimes this is strategically used to avoid or delay mine closure and rehabilitation obligations, potentially putting sites at risk of abandonment or transfer to other operators.

7.1.8 Overview of regulatory framework for coal- and gas-fired power stations

The EP Act is critical in regulating the rehabilitation, remediation and reuse of coal- and gas-fired power stations lands in Western Australia.

Part IV of the EP Act provides a framework for the environmental impact assessment of significant proposals. A 'significant proposal' is a proposal that is likely, if implemented, to have a significant effect on the environment, and includes a significant amendment of an approved proposal.^{cclxxi} A coal- or gas-fired power station is likely to be a significant proposal.^{cclxxii}

After the environmental impact assessment process has concluded, and a report produced, the Minister for Environment must determine, in consultation with other Ministers, whether the assessed proposal should be allowed to proceed, and if so, under what conditions.^{cclxxiii}

If the Minister determines that a proposal may be implemented, the Minister must issue and publish a Ministerial statement which sets out any implementation conditions.^{cclxxiv}

Section 45A of the EP Act sets out some examples of implementation conditions that may be agreed or decided in relation to the assessed proposal, but nothing in that section prevents any other implementation condition from being agreed or decided.^{cclxxv}

Section 45A includes:

- at the proponent's expense, a requirement on the proponent to take environmental protection, abatement or restoration measures on the subject land, or on other land, in order to directly or indirectly offset the impacts of the implementation of the proposal on the environment; and
- contribute moneys to be used for the purpose of taking environmental protection, abatement or restoration measures on the subject land or other land.

The implementation conditions may also require an environmental undertaking, environmental protection covenant, environmental management systems, environmental management plans and environmental improvement plans.^{cclxxvi} They are very broad conditioning powers.

The proponent must ensure that the proposal is implemented in accordance with the implementation conditions, and failure to do so is an offence.^{cclxxvii}

The EP Act CEO is responsible for monitoring and enforcing compliance with implementation conditions,^{cclxxviii} and has wide powers in respect of non-compliance.^{cclxxix}

The Ministerial statement relating to an approved proposal continues to have effect unless it is withdrawn or taken to have been withdrawn.^{cclxxx}

If the proponent of an approved proposal requests the Minister, in writing, to withdraw the Ministerial statement relating to the proposal and the Minister is satisfied:

- that the proposal has been implemented and that the implementation conditions, if any, have been complied with or no longer need to be complied with; or

- that the impacts of the implementation of the proposal can be satisfactorily mitigated by way of licensing or some other form of regulatory control under the EP Act or another written law, then the Minister may withdraw the Ministerial statement if the Minister considers that it is appropriate to do so.^{cclxxxix}

Works approvals and licences

A power station will require a works approval and license to prevent, control, abate and mitigate pollution or environmental harm, provided it meets the production or design capacity thresholds in Schedule 1 of the EP Regulations. Any such works approval or licence shall continue in force for such period as is specified in the works approval or licence. Works approvals and licences are issued with conditions. It is an offence to contravene a condition.

Section 62A (together with ss 51A and 18 of the EP Regulations) set out some kinds of conditions that may be attached to a works approval or licence, but nothing in that section or the regulations prevents other conditions from being attached. It is therefore legally possible that the conditions will broadly regulate rehabilitation and reuse. Conditions will not unnecessarily duplicate requirements imposed on licensees directly by the EP Act or another written law.

Planning Act

The Planning Act, in conjunction with the Planning Regulation, provides the regulatory regime for development in Western Australia. The purposes of Planning Act are to (among other things) provide for an efficient and effective land use planning system in the State and promote the sustainable use and development of land in the State.

Development is defined broadly as the development or use of any land, including:

- any demolition, erection, construction, alteration of or addition to any building or structure on the land;
- the carrying out on the land of any excavation or other works;
- in the case of a place to which a protection order made under the Heritage Act 2018 (WA), Part 4 Division 1 applies, any act or thing that:
 - 3.2. is likely to change the character of that place or the external appearance of any building; or
 - 3.3. would constitute an irreversible alteration of the fabric of any building.

Where a development approval is required, a person must not commence or carry out that development without approval. Development must also be carried out in accordance with any approval conditions.^{cclxxxii} In our experience, development approval conditions may regulate rehabilitation and reuse.

However, the Planning Act is not the key legislation for regulating the rehabilitation and reuse of power station land – that is primarily the role of the EP Act. The Planning Act and EP Act intersect in important ways, especially where development may have environmental impacts.

Section 41 of the EP Act sets out restrictions on the making of certain decisions by decision-makers which could have the effect of causing or allowing a proposal to be implemented while the referral and assessment processes under the EP Act are ongoing. A decision made under planning legislation, including the Planning Act, is a restricted decision.^{cclxxxiii}

This means that any planning approval cannot be granted until after such time as the Part IV assessment is complete.^{cclxxxiv} This provision does not apply to a restricted decision in relation to a proposal if the effect of the decision would be to cause or allow the doing of minor or preliminary work to which the Environmental Protection Authority has consented under section 41A(3) of the EP Act.^{cclxxxv}

Further, section 41A of the EP Act makes it an offence for a person to do anything to implement a proposal before a statement is published under section 45(8)(b) of the EP Act or a notification is given, in circumstances where a decision of the Environmental Protection Authority that a proposal is to be assessed

has been set out in the public record under section 39 of the EP Act.^{cclxxxvi} This provision also does not apply to minor or preliminary work done with the Environmental Protection Authority's consent.^{cclxxxvii}

Following the assessment process, copies of a statement setting out the implementation agreement or decision (if any) will be served on key decision-making authorities (among others).^{cclxxxviii} 'Implementation agreement or decision' means an agreement or decision under sections 45 and 45A of the EP Act (or under those sections as applied by section 46(8) of the EP Act) as to whether or not a proposal to which a report published under section 44(3)(a) of the EP Act relates may be implemented and, if that proposal may be implemented, as to what conditions and procedures, if any, that implementation is subject.^{cclxxxix}

The EP Act provides that the Minister will also cause the statement to be published as soon as practicable after it is served.

If a statement has been published under subsection (8)(b) in relation to the assessed proposal and the Minister is satisfied that there is no reason why the assessed proposal should not be implemented, the Minister may cause to be served on the decision-making authority precluded by section 41 from making a DMA decision an authority in writing permitting a DMA decision to be made. 'DMA decision' means a decision of a decision-making authority that could have the effect of causing or allowing the assessed proposal to be implemented.^{ccxc}

Contaminated sites

In addition to the EP Act, the other important piece of legislation in Western Australia for the management of contaminated sites is the CS Act. This legislation is discussed further below.

7.1.9 Other legislation

While the EP Act, Planning Act and CS Act provide the primary framework for the authorisation and ongoing regulation of power station lands in Western Australia, the following additional legislation may be relevant to the approval, operation, rehabilitation and post-closure of a power station site (among other things):

- **Water Power:** Station projects are often water intensive, as are measures to remediate and rehabilitate power station land. As such, depending on the nature of the power station's operations, power station operators may require a '5C licence' to take water, a '26D licence' to construct or alter wells and/or a permit to interfere with or obstruct a watercourse or wetland under sections 11, 17 or 21A of the RIWI Act. Each of the licences and permits listed here will be issued under the RIWI Act (unless exempt).
- **Aboriginal cultural heritage:** As discussed above in relation to mining lands, the AH Act applies as a general duty, rather than an Act with specific provisions for power station lands. The AH Act prescribes that, without consent, it is an offence to excavate, destroy, damage, conceal or in any way alter any Aboriginal site or Aboriginal object on or under an Aboriginal site. It is also an offence to deal with any Aboriginal site or object in a manner not sanctioned by relevant custom, or assume the possession, custody or control of, any object on or under an Aboriginal site.

European heritage: As discussed above in relation to mining lands, the Heritage Act applies as a general duty, rather than one with specific provisions for power station lands. The Heritage Act principally protects places or objects of cultural heritage significance (not including Aboriginal cultural heritage) through the State Register of Heritage Places. If a development or change to a State-registered heritage place is proposed, it is referred to the Heritage Council for advice or approval.

7.1.10 Overview of the hierarchy of instruments for power stations

Table 33 Overview of the hierarchy of instruments for power stations

	Primary	Secondary
Acts	<ul style="list-style-type: none"> Environmental Protection Act 1986 (WA) Planning and Development Act 2005 (WA) Contaminated Sites Act 2003 (WA) Environment Protection and Biodiversity Conservation Act 1999 (Cth) 	<ul style="list-style-type: none"> Aboriginal Heritage Act 1972 (WA) Heritage Act 2018 (WA) Rights in Water and Irrigation Act 1914 (WA)
Subordinate legislation	<ul style="list-style-type: none"> Environmental Protection Regulations 1987 (WA) Planning and Development Regulations 2009 (WA) Contaminated Sites Regulations 2006 (WA) 	<ul style="list-style-type: none"> Aboriginal Heritage Regulations 1974 (WA)

7.1.11 Overview of the key stakeholders and responsibilities for power stations

Table 34 Overview of the key stakeholders and responsibilities for power stations

Stakeholder	Responsibility
Department of Water and Environmental Regulation	Department responsible for administering the CS Act and EP Act
Environmental Protection Authority	Regulator responsible for administering the EP Act
Department of Planning, Lands and Heritage	Department responsible for administering the Planning Act

7.1.12 Overview of the regulatory framework over the project life cycle for power stations

Table 35 Overview of the regulatory framework over the project life cycle for power stations

Phase	Explanation
Approval Phase	<ul style="list-style-type: none"> Preparation and assessment of environmental impact assessment under the EP Act (if applicable). If successful, a Ministerial Statement will provide implementation conditions (e.g. requirement of protection, abatement or restoration measures and to contribute moneys for this purpose, environmental undertaking, environmental protection covenant, environmental management systems,

environmental management plans or environmental improvement plans).

- Obtainment of a works approval and licence under the EP Act.
- Obtainment of development approval under the Planning Act after preparation of environmental impact assessment (if required).
- Obtainment of other relevant approvals (if required) including a 5C licence and/or 26D licence under the RIWI Act, consent under the AH Act, referral for advice or approval under the Heritage Act.

Operational Phase

- Rehabilitation / restoration in accordance with applicable approvals (i.e. implementation conditions, works approval, licence under the EP Act, development approval, EPBC approval).
- Provision of financial assurance (if applicable) under the EP Act.
- Compliance with 'investigation notice', 'clean up notice', or 'hazard abatement notice' under the CS Act, where the site is classified as 'contaminated – remediation required'.

Closure Phase

- Completion of conditions, including restoration, within Ministerial Statement and other approvals (i.e. EP Act, Planning Act).

Post-Closure Phase

- Withdrawal of Ministerial Statement.
- Obtainment of any approvals required for the beneficial reuse of the site.

7.1.13 Focus questions for coal- and gas-fired power stations

Broadly, what obligations does the regulatory framework impose on operators with respect to remediation, rehabilitation and reuse?

Conditions of approval

A Ministerial statement may set out implementation conditions for significant proposals following an environmental impact assessment under the EP Act. This may include conditions relating to the taking of restoration measures on the subject land or other land, and the contribution of moneys for the purpose of taking such restoration measures.

Contaminated land – CS Act

The CS Act can also be relevant to the remediation of power station sites given the contamination risks.

The object of the CS Act is to protect human health, the environment and environmental values by providing for the identification, recording, management and remediation of contaminated sites in the State, having regard to the principles in the Table to section 8 of the CS Act – which includes the 'polluter pays' principle.

The only sites that are required to be remediated under the CS Act are sites classified as 'contaminated – remediation required'.

Under section 24 of the CS Act, and subject to certain rules, a person is responsible for remediation of a site:

- if the person has caused, or contributed to, the contamination of the site;
- if the person is an owner or occupier of the site who has changed, or proposes to change, the use to which land that comprises all, or part, of the site is put, and remediation is required because of the change, or proposed change; and
- if the person is an owner of the site, or of a source site.

The CS Act CEO may, in his or her discretion, give an 'investigation notice', 'clean up notice', or 'hazard abatement notice' to any of the following persons:

- if given in relation to a site classified as 'contaminated – remediation required', a person responsible for remediation of the site;
- a person who, in the opinion of the CEO, would be a person responsible for remediation of the site if the land to which the notice relates was land that comprised all, or part, of a site classified as 'contaminated – remediation required';
- an owner or occupier of land that comprises all, or part, of the site to which the notice relates.^{ccxcxi}

Each type of notice is only to be given in certain circumstances. For example, a clean-up notice may only be given in respect of a site classified as 'contaminated – remediation required' and if the CS Act CEO believes, on reasonable grounds, that appropriate action to remediate the site is not being, or has not been, taken.^{ccxcii}

A notice is binding on each person:

- to whom it is given; and
- on whom it is binding in accordance with section 48 of the CS Act (which provides when notices are binding on new owners) or section 54 of the CS Act (in circumstances where an owner or occupier refuses or fails to give a person permission to enter a site to comply with a notice or to remediate).^{ccxciii}

A notice is to require a person on whom the notice is binding to engage an auditor to report on the actions taken to comply with the requirements of the notice.^{ccxciv}

A person on whom a notice is binding must ensure that the requirements of the notice are complied with within such time as is specified in the notice.

The CS Act includes a duty for a person to report known or suspected contaminated sites under section 11. The duty applies to:

- an owner or occupier of the site;
- a person who knows, or suspects, that he or she has caused, or contributed to, the contamination;
- an auditor engaged to provide a report that is required for the purposes of the CS Act in respect of the site.^{ccxcv}

The CS Act also requires disclosure in relation to contaminated land at least 14 days before the completion of a transaction which would result in another person becoming an owner, mortgagee or lessee of the land.^{ccxcvi}

At what stage of a power station project's life cycle does the regulatory framework require remediation, rehabilitation and reuse matters to be considered and delivered?

Remediation, rehabilitation and reuse must be considered throughout the lifecycle of a power station project in Western Australia, including during the application, assessment, approval, decommissioning, closure, and post-closure monitoring stages. This is overseen by multiple bodies including the EPA and DWER. These are outlined below:

- Application Stage – during the initial application phase proponents must identify potential environmental impacts, including contamination risks, and propose remediation and rehabilitation strategies as part of their environmental and planning approvals.
- Assessment Stage – the EPA and other regulators assess the proposed project against statutory environmental standards.

This stage requires detailed evaluation of proposed remediation and rehabilitation plans, including how contaminated sites will be managed, rehabilitation objectives, and the feasibility of site reuse.

- Approval Stage – prior to project approval, remediation, rehabilitation, and reuse commitments must be finalised, including any conditions related to environmental management and site restoration post-closure.
- Decommissioning and Closure Stage – regulatory requirements mandate active remediation and rehabilitation works to restore the site to a safe, stable, and usable condition. This includes removing infrastructure, managing hazardous materials, and ensuring the site can be reused either for industrial or community purposes.
- Post-Closure Monitoring – regulatory requirements mandate active remediation and rehabilitation works to restore the site to a safe, stable, and usable condition. This includes removing infrastructure, managing hazardous materials, and ensuring the site can be reused either for industrial or community purposes.

To what extent does the regulatory framework require consideration of the most productive or beneficial use of a site post-closure?

The most productive or beneficial use of a site post-closure is not a key consideration in the rehabilitation, remediation and reuse of power stations sites in Western Australia.

Any proposed re-purposing will require all necessary approvals, permits, licences and authorisations to be obtained for the proposed land use. The legislation that will be applicable will depend on the use for which the land is proposed to be repurposed. This may include the EP Act, Planning Act, CS Act and EPBC Act. If there are places or objects of heritage or Aboriginal cultural heritage significance on the site, the Heritage Act or AH Act may also apply.

To what extent does the regulatory framework require consultation in relation to a power station project’s remediation, rehabilitation and (if applicable) reuse requirements?

The EP Act procedure for deciding if an assessed proposal may be implemented includes consultation with Ministers and key decision-making authorities, but not members of the public. Implementation agreements or decisions are, however, published.^{ccxcvii}

How are remediation and rehabilitation works secured by the regulatory framework?

Implementation conditions for significant proposals under the EP Act may include conditions requiring the contribution of moneys to be used for the purpose of taking restoration measures on the subject land or other land.

Implementation conditions or conditions of an authorisation may require the responsible person to provide a financial assurance of a kind specified in the conditions, within the time specified in the conditions.^{ccxcviii} ‘Authorisation’ means a declaration under section 6 of the EP Act, a clearing permit, a works approval, a licence, an exemption under section 75 of the EP Act, or a licence, permit, approval or exemption under the EP Regulations.^{ccxcix}

Financial assurance may also be required of persons bound by certain statutory notices listed in section 86B(2) of the EP Act. The Minister’s consent is required for the imposition or continuation of a financial assurance requirement.^{ccc}

The amount of the financial assurance is to be specified in the financial assurance requirement and is not to exceed an amount that, in the opinion of the EP Act CEO, represents a reasonable estimate of the total likely costs and expenses that may be incurred in taking action in that case or in reimbursing a person for any action taken.^{ccci}

The requirement to provide financial assurance lapses and no longer binds the responsible person if the EP Act CEO is satisfied that the reason for which the financial assurance was required no longer exists and has given the responsible person written notice of the lapsing of the financial assurance requirement. If a responsible person makes a written request to the EP Act CEO for advice as to whether the reason for which a financial assurance provided by that person was required still exists, the EP Act CEO must provide that advice.^{ccci}

What is the process to amend the intended remediation/rehabilitation outcomes for the site at the operation or closure stage, and what is the process to change the intended post-closure use?

An approval for a power station such as a works approval, licence or development approval may be subject to conditions, which regulate remediation or rehabilitation of the site. Where changes are proposed to the intended remediation/rehabilitation outcomes during the life cycle of the power station, it may be necessary to amend those conditions using relevant statutory processes.

Following decommissioning and closure of the power station, any proposed repurposing of the site will require all necessary approvals, permits, licences and authorisations to be obtained for the proposed land use. The legislation that will be applicable will depend on the use for which the land is proposed to be repurposed. This may include the EP Act, Planning Act, CS Act and EPBC Act. If there are places or objects of heritage or Aboriginal cultural heritage significance on the site, the Heritage Act or AH Act may also apply.

To what extent does the regulatory framework support or hinder the objective of productive or beneficial use of a site post-closure?

The regulatory framework in Western Australia does not place primary emphasis on ensuring that the most productive or beneficial use of a power station site is achieved post-closure, while the protracted nature of site rehabilitation and subsequent reuse introduces significant complexity that makes it challenging to accurately anticipate, plan for, and deliver optimal post-closure outcomes.

From a regulatory viewpoint, the legislation governing the closure and subsequent reuse of power station sites is highly complex. The reuse of a power station site will require all necessary approvals, permits, licences and authorisations to be obtained for the proposed land use. The complexity of legislation governing the closure and subsequent use of power station sites, particularly where key requirements may be embedded within detailed guidelines rather than clear statutory provisions, presents significant barriers to achieving productive or beneficial post-closure outcomes. The regulatory landscape may create uncertainty for site operators, developers, and potential investors, who may not fully understand their obligations or the relevant approval processes. This can result in investment uncertainty, inconsistent interpretation of statutory and other requirements, and protracted planning and implementation timelines, all of which may delay or prevent the redevelopment of these sites.

Moreover, the lack of clarity and accessibility in the legislative framework may lead to a focus on minimum compliance rather than the pursuit of innovative or strategic reuse options that could deliver broader economic, social, or environmental benefits. Important opportunities for stakeholder engagement and community input may be missed, and there is an increased risk of inadvertent non-compliance or legal challenges. Ultimately, we expect that these factors may limit innovation and make it difficult to maximise the potential of post-closure sites. This issue underscores the importance of establishing clear and accessible regulatory frameworks to facilitate productive and beneficial reuse of power station sites.

Stakeholders noted that although strict rehabilitation obligations provide a necessary safety net and support environment protections, these responsibilities prove problematic for small or financially weak operators to comply with for the beneficial use of sites post-closure.

7.1.14 Overview of regulatory framework for mining lands and power stations

Table 36 List of Western Australia's key Acts, regulations or non-enforceable policy/guidelines

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations imposed on whom?	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Mining Act 1978 (WA) (Mining Act)	Act	<ul style="list-style-type: none"> ▪ Mining Regulations 1981 ▪ Statutory Guidelines for Mining Proposals - Mining Act 1978 ▪ Statutory Guidelines for Mine Closure Plans - Mining Act 1978 	Tenement applicants and holders	Yes	No
Environmental Protection Act 1986 (WA) (EP Act)	Act	Environmental Protection Regulations 1987	Project proponents, owners and occupiers of land	Yes	Yes
Contaminated Sites Act 2003 (WA) (CS Act)	Act	Contaminated Sites Regulations 2006 (WA)	Persons responsible for contamination under the polluter pays principle	Yes	Yes
Mining Rehabilitation Fund Act 2012 (WA) (MRF Act)	Act	Mining Rehabilitation Fund Regulations 2013	Mining tenement holder	Yes	No
Planning and Development Act 2005 (WA) (Planning Act)	Act	Planning and Development Regulations 2009 (WA)	Project proponents	No	Yes
Rights in Water and Irrigation Act 1914 (WA) (RIWI Act)	Act	Rights in Water and Irrigation Regulations 2000 (WA)	The proponent of a proposed use or development of the land	Yes	Yes
Aboriginal Heritage Act 1972 (WA) (AH Act)	Act	Aboriginal Heritage Regulations 1974 (WA)	The proponent of a proposed use or development of the land	Yes	Yes

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations imposed on whom?	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
Heritage Act 2018 (WA) (Heritage Act)	Act	Heritage Regulations 2019 (WA)	The proponent of a proposed use or development of the land	Yes	Yes
Mining Regulations 1981 (WA) (Mining Regulations)	Subordinate legislation	Mining Act 1978 (WA)	Tenement applicants and holders	Yes	No
Environmental Protection Regulations 1987 (WA) (EP Regulations)	Subordinate legislation	Environmental Protection Act 1986 (WA)	Project proponents, owners and occupiers of land	Yes	Yes
Contaminated Sites Regulations 2006 (WA) (CS Regulations)	Subordinate legislation	Contaminated Sites Act 2003 (WA)	Persons responsible for contamination under the polluter pays principle	Yes	Yes
Planning and Development Regulations 2009 (WA) (Planning Regulations)	Subordinate legislation	Planning and Development Act 2005 (WA)	Project proponents	No	Yes
Aboriginal Heritage Regulations 1974 (WA) (AHR)	Subordinate legislation	Aboriginal Heritage Act 1972 (WA)	The proponent of a proposed use or development of the land	Yes	Yes
Statutory Guidelines for Mining Proposals - Mining Act 1978 (Statutory Guidelines for Mining Proposals)	Guideline	<ul style="list-style-type: none"> ▪ Mining Act 1978 ▪ Environmental Regulatory Strategy ▪ Environmental Objectives Policy for Mining; Mining Proposal Guidance – How to Prepare in accordance with Part 1 of the 	Mining lease applicants and holders	Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations imposed on whom?	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
		Statutory Guidelines for Mining Proposals <ul style="list-style-type: none"> Environmental Applications Administrative Procedures 			
Statutory Guidelines for Mine Closure Plans – Mining Act 1978 (Statutory Guidelines for mine closure plans)	Guideline	<ul style="list-style-type: none"> Mining Act 1978 Environmental Regulatory Strategy Environmental Objectives Policy for Mining Mine Closure Plan Guidance – How to Prepare in accordance with Part 1 of the Statutory Guidelines for Mine Closure Plans 	Mining lease applicants and holders	Yes	No
Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan	Guideline	<ul style="list-style-type: none"> Mining Act 1978 Statutory Guidelines for Mine Closure Plans Environmental Regulatory Strategy Environmental Objectives Policy for Mining Mine Closure Plan Guidance – How to Prepare Mine Closure Plans in accordance with Part 1 of the Statutory Guidelines for Mine Closure Plans 	Mining lease applicants and holders	Yes	No
Mining Securities Policy – Administration for	Guideline	Mining Securities Procedure – Administration for compliance with	Mining lease applicants and holders	Yes	No

Name	Type	Related act, legislative instrument & non-enforceable policy/guideline	Obligations imposed on whom?	Applicable to mining lands?	Applicable to coal- and gas-fired power stations?
compliance with environmental conditions		environmental conditions - December 2020 which is the procedure for the administration of the requirement, lodgement, variation, enforcement and retirement of Unconditional Performance Bonds			

7.2 Stakeholder consultation & findings

7.2.1 Summary

Beneficial and Productive Reuse	Challenges & Opportunities
<ul style="list-style-type: none">Focus on leveraging industrial zoning at Collie and Muja, repurposing buildings for new energy generation, and collaborating with neighbouring mines.Focus on preparing sites for manufacturing and also exploring other opportunities, including recreational.	<ul style="list-style-type: none">The importance of government-led transition programs and substantial investment is considered a critical success factor. This includes aligning planning with government priorities.Managing natural radioactive material at Collie and asbestos at Muja requires clear decommissioning provisions.Build long-term relationships with the community and Traditional Owners, ensuring consistent communication and support.Utilise current workers' skills for decommissioning and new job creation, with a focus on reskilling and pathway planning.

Legislative, Regulatory & Policy Hindrances

- Whilst strict rehabilitation obligations provide a necessary safety net, these responsibilities prove problematic for small or financially weak operators to comply with.

7.2.2 Key findings by stakeholder

Mining and Energy Union (MEU)

Opportunities & Recommendations:

- Government-led transition:** Collie has demonstrated successful models with government-led investment and transition programs. Two redevelopment projects converted sites into camping grounds and motorhome facilities, showcasing the potential for diverse and productive reuse. Stronger state involvement delivered clearer planning and employment continuity, providing a blueprint for other regions to follow.

Legislative, Regulatory & Policy Hindrances:

- Rehabilitation obligations:** While Western Australia has strict obligations for rehabilitation, these can be problematic for financially weak or small operators who struggle to comply. This highlights the need for balanced legislation that ensures high rehabilitation standards while also providing support mechanisms for smaller operators to meet their obligations.

Synergy

Productive Uses:

- **Industrial use:** Collie and Muja power stations have industrial zoning, offering a range of opportunities within this classification. Options of a future site vision for repurposing assets are being explored. Coal-fired power generation assets may need to be demolished, but the land, security, and amenities are already in place to support manufacturing and processing industries. There is also potential for water-intensive industries, non-coal energy generation (solar, battery etc.), hydrogen production and waste management to support Collie's growing Strategic Industrial Area.
- **Industrial training and education use:** With existing training facilities, offices, large open bituminised areas and already equipped workshops, Collie and Muja power stations could potentially be adapted for industrial training and education activities. Site facilities may support a range of industrial training initiatives, with a secure road network and workshops suitable for construction, processing and manufacturing activities, heavy vehicle operation and maintenance, through to emerging closure and demolition specialities. Collaboration with neighbouring mines is possible to work towards positive, regional training and education outcomes.
- **Recreation/mix of use:** The Collie region hosts a variety of recreational experiences, with a vibrant Motorsport complex, dams and lakes, bike trails and nature-based experiences in the local forest. If the land use at Muja was changed to recreational/mixed-use zoning, select buildings and amenities could be preserved and the land rehabilitated to create memorial parks, cafes and secure storage for Motorsport and trail-bike enthusiasts.

Challenges:

- **Workforce retention:** Closure announcements can trigger unplanned turnover. Retention of a skilled workforce is critical to maintain safe, reliable operations until closure. Develop a Closure Plan that includes people (workforce transition) and plant (plant transition) so no-one is left behind and there are no stranded assets.
- **Closure planning and engagement:** Having a clear vision and coordinated regional approach is critical to a successful transition. Each site will have different issues, outcomes and approaches, so providing tailored information and communication is essential when engaging with stakeholders and community in the context of the vision for the regional transition.
- **Waste and hazardous materials:** Synergy's decommissioning provision and closure planning includes strategies to manage and dispose of waste and hazardous materials. Industry and financial guidelines in accounting for remediation require clarity.

Opportunities & Recommendations:

- **Importance of government coordinating regional transition:** The WA government has established the Collie Delivery Unit (CDU) to oversee and coordinate the regional transition, involving state and Commonwealth governments, industry, community and unions. CDU has a broad scope, particularly focused on attracting new industries, supporting workers, and community engagement.
- **Job creation and individual transition pathways:** Opportunities are being explored for reskilling and reallocation of workforce to closure, decommissioning and new job creation. Synergy commenced its Workforce Transition Program in 2019, more than 5 years ahead of the announced closures. This extended lead time allows individual pathway planning and reskilling for future job opportunities. This approach ensures a just transition for affected workers, long-term embedded contractors, their families and the Collie community so that no-one is left behind.
- **Embrace co-creation:** Plan, act early and iterate on developing the closure plan with workers and stakeholders to ensure alignment and collaboration that contributes to a regional approach, so no one

is left behind and there are no stranded assets.

Tourism Council Western Australia

Overview:

Tourism Council Western Australia (TCWA) is a peak industry body representing the WA's tourism sector, with over 1,700 member organisations spanning aviation, accommodation, venues, hospitality, tours, attractions, and events. As the voice of industry, TCWA proudly represents members and promotes the value of tourism to the state economy, environment and the social fabric of local communities.

Legislative, Regulatory & Policy Hindrances:

- **Tourism is policy-sensitive:** Its growth relies significantly on the right policy environment. Without supportive, clear, and consistent settings, private investment is hesitant to proceed. This is important when considering tourism as a post-mining/fossil fuel generation activity.
- **The Environment Protection and Biodiversity Conservation Act (EPBC Act)** is perceived as a key obstacle. For instance, developers looking to construct eco-resorts or accommodation near environmentally sensitive areas often encounter resistance from environmental groups and the government. The result is often that such tourism initiatives are effectively shelved, even before they can be properly developed into feasible projects. The EPBC Act's current structure appears to favour resource extraction projects (e.g., mining developments) over tourism-oriented ones, creating a disparity in approvals.

Challenges:

- **Dependency on location and infrastructure:** The success of tourism experiences depends heavily on the site for different reasons, including proximity to natural attractions and on complementary infrastructure like access roads and availability of visitor accommodation.
- **Investor confidence deficit:** Investors need assurance that necessary government approvals and policy settings will favour their investment. Without this and faced with potential environmental opposition and unclear approval processes, tourism projects struggle to secure private capital and go ahead.
- **Limited "bookable tourism" options:** There is currently a systemic scarcity of tourism products such as tours, activities, trails, or accommodation that are easily reservable through digital platforms or visitor services. This limits the ability to convert infrastructure investment or attractions (like walking or biking trails) into tangible economic benefits that can be scaled up enough.

There is a lack of strong policy frameworks or strategic agendas to support the expansion of bookable tourism. Government backing in marketing or promotion of such tourism offerings is currently insufficient. Having the backing and investment into marketing and promotion can boost such activities.

- **Land ownership complexity:** Whether land is state-owned, private, or within protected areas introduces complexity regarding investment structure, permissions, benefits distribution, and project feasibility.

Opportunities:

- **Supportive policy settings for tourism:** Establishing clearer, more supportive policy settings and expediting approval pathways. This includes items such as accommodation and infrastructure, which

could unlock private investment in post-mining landscapes or power station redevelopment areas, where tourism activities make sense as a post-mining activity.

- **Boosting bookable tourism:** With better government support in marketing, technology adoption (e.g., digital booking systems, streamlined visitor-centre integrations), and promotional campaigns, bookable tourism experiences can flourish, enabling infrastructure investments like trails or visitor hubs to be monetised effectively.
- **Economic diversification via visitor economy:** As a labour-intensive sector, tourism presents the opportunity to replace jobs lost in mining or other resource-based industries. However, it is important to ensure there is proper workforce planning, sequencing and capability building to support this transition.

8

Key findings by theme

In the previous sections of this report, the key findings from stakeholder consultations are collated by jurisdiction and stakeholder to reflect regional contexts and diverse perspectives. This following section presents findings thematically, enabling a clear understanding of the findings spanning geographic boundaries and stakeholder groups.

Research findings and stakeholder consultation has shown that transforming former mining sites and power stations into productive assets is complex, but has significant opportunity and potential, with optimism present across all levels of industry and government. Each site requires a tailored and place-specific approach, taking into account local economic, geographic, physical, and demographic factors.

Leveraging existing infrastructure and addressing specific challenges can open opportunities for energy hubs, industry, agriculture, nature conservation, and recreation, and considering complex realities such as the time and the spatial scale for post-mining uses to realise. The following section explores the recurring themes that were discovered as part of the research process, and those raised by stakeholders.

8.1 Regulatory, legislative and policy hindrances to reuse

Australia's mining regulatory, legislative, and policy frameworks are complex and vary across jurisdictions, creating significant challenges for streamlined project approvals, mine closures, remediation, and subsequently, reuse. Mining laws and regulations are primarily managed by state and territory governments, each with its own mineral tenure systems, environmental requirements, land access rules, and rehabilitation obligations. This fragmentation was perceived by some stakeholders to lead to overlapping agency roles, and lengthy approval processes, causing inefficiencies and uncertainty for investors and proponents.

Local council and government land use planning can add further complexity. While Commonwealth authorities play roles in native title and national environmental matters, the dominant regulatory responsibilities predominantly lie with state jurisdictions. Consistent industry feedback provided was that there is a need for streamlined processes to support efficient, sustainable, and socially responsible transition across Australia.

Research and stakeholder consultation further identified some of the key themes across the jurisdictions, including that:

Fragmented governance significantly hinders effective rehabilitation and land reuse efforts by creating gaps in accountability and complicating long-term oversight. Stakeholders described the regulatory environment as fragmented and difficult to navigate, with responsibilities split across multiple government levels and agencies. Site advisory groups were raised as a significant benefit in overcoming some of these challenges. However, in general, slow decision-making creates uncertainty, often leading to reactive and uncoordinated planning due to the lack of a clear, overarching post-mining land use framework.

Residual risk remains a key barrier to post-mining land use, as governments' reluctance to assume liability complicates land transfer and final relinquishment. Effective quantification and management of residual risk are essential to facilitate smoother transitions and ensure safe and productive land reuse. Industry concerns about indefinite liability and cost uncertainty, coupled with governments' need for rigorous assurance of long-term land safety and stability, further complicate the issue. The lack of clear mechanisms to apportion or underwrite this risk can stall investment and delay beneficial reuse.

Complex and inflexible tenure arrangements hinder the transition of mine land to new uses. The lack of a clear pathway from mining tenure to rehabilitation or redevelopment tenures creates uncertainty and slows progress. Introducing transitional or rehabilitation-specific tenure categories could enable strategic land release. Modernising tenure systems can support flexibility and innovation in post-mining economies, but outdated regulations currently do not accommodate these practices.

Lengthy and unclear approval processes for rehabilitation and reuse create uncertainty and discourage investment. Slow timelines, unclear criteria, and risk-averse regulators delay proposals. Strict environmental requirements in some states deter innovation and the use of alternative materials. Poor

documentation from proponents can further delay approvals, especially when councils rely on state agencies for technical advice. Streamlined and transparent approval processes are needed to facilitate timely and efficient site redevelopment.

The evolving landscape of rehabilitation legislation is creating a challenging environment for operators, marked by inconsistent expectations and decision paralysis. Jurisdictions such as Victoria are transitioning from prescriptive models to duty-based frameworks, aiming to establish clearer responsibilities and encourage investment in higher-value reuses. However, this period of regulatory reform has introduced uncertainty, prompting some operators to delay significant rehabilitation decisions. This has resulted in extended "care and maintenance" phases, underscoring the urgent need for a consistent and clear regulatory framework.

Better alignment between state and federal legislation is essential for effective land repurposing strategies. Currently, the disconnect between local, state, and federal policy objectives creates significant challenges. Local councils may support specific land uses that state regulations do not align with, and decarbonisation and regional development ambitions are often missing from rehabilitation regulations. This misalignment hampers coordinated decision-making and long-term planning for communities.

Legislative reform provides opportunities for sequenced rehabilitation. Legislative reform in Queensland has signalled potential for a more structured and sequenced rehabilitation towards reuse. With the commencement of the Progressive Rehabilitation and Closure Plan (PRCP) regime on 1 November 2019, mining proponents seeking new or site-specific Environmental Authorities must submit a PRCP that includes a legally enforceable schedule. This schedule requires mapping post-mining land uses (PMLUs), identifying non-use management areas (NUMAs), and setting time-bound milestones. Unlike Environmental Authorities, PRCP schedules are binding, providing a clear compliance mechanism for owners and operators throughout the project lifecycle. Collectively, these measures establish a more targeted legislative framework to manage rehabilitation obligations, mitigate legacy risks, and reduce the state's exposure to future environmental liabilities.

There is growing recognition of the need for regionally coordinated strategies that balance environmental rehabilitation with economic redevelopment and social outcomes. Collaborative forums and place-specific concept studies may help identify feasible repurposing options, manage risks, and align stakeholder interests. A flexible framework that allows for site-specific variation while encouraging best practice principles in governance, risk management, and circular economy innovation could bridge these disparities and unlock the substantial benefits of mine site repurposing for Australia's regions and communities.

Flexible and adaptable land zoning such as the SP4 Enterprise zone in NSW provides for strategic planning initiatives aimed at fostering economic development by facilitating a diverse range of employment-generating activities. This zone supports promoting innovation and adaptability in land use. Introduced as part of the broader employment zones reform, SP4 Enterprise zones are designed to provide clarity, flexibility, and alignment with strategic planning objectives, thereby enhancing productivity and job growth. The implementation of the SP4 Enterprise zone has garnered strong support from industry stakeholders and local governments, reflecting a collective endorsement of the framework's potential to drive economic recovery and sustainable development. Given its success in NSW, the SP4 Enterprise zone model presents a compelling opportunity for further assessment as to its relevance and applicability to other jurisdictions.

8.2 Beneficial and productive reuse types

Former mining lands and power station sites in Australia offer diverse beneficial and productive reuse opportunities that vary across jurisdictions, shaped by regional skills, market dynamics, land use and zoning, geographical considerations and existing infrastructure factors.

These lands and sites, often in close proximity to existing critical infrastructure and transport and port facilities, are attractive for renewable energy projects, including solar farms and battery storage facilities,

capitalising on Australia's high solar yield potentials, especially in regions like Queensland and South Australia.

The Hunter region in NSW is an example of the planned reuse of rehabilitated mine land for industrial, commercial, residential, and renewable energy purposes, supported by local planning frameworks that allow flexible rezoning (i.e., SP4 Enterprise), and alternate post-mining land uses to drive economic regeneration and employment. Zoning and environmental assessments remain pivotal to ensure compatibility with surrounding land uses, community acceptance, and regulatory compliance. These sites also present opportunities for ecological restoration, tourism, and agriculture.

Importantly, the dominant majority of these reuse pathways align with Australia's commitment to transition towards net zero emissions and a circular economy, with investment and policy support crucial to unlocking their full potential. Below is a short overview of the current and future types of beneficial and productive reuse:

Renewable energy projects and Clean Energy Hubs, including utility scale solar farms, wind farms, pumped hydro, energy-from-waste, grid-scale battery storage facilities – such as the Muswellbrook solar farm, Kidston Clean Energy Hub pumped hydro facility, Hunter Energy Hub, and Swanbank Power Station Precinct.

Industrial and commercial development projects including low-carbon industrial hubs and manufacturing of green steel production, such as those in planning for Greenspot's Wallerawang, Lithgow, and AGL's Hunter Energy Hub on the former Bayswater and Liddell mining and power station sites.

Ecological and environmental reuse, including biodiversity and conservation.

Recreational and tourism reuse such as nature and culture destinations or water-based recreation, as seen at Lake Kepwari, or the Eden Project Anglesea.

Agriculture and grazing opportunities such as those planned in the Gippsland region.

Circular economy and resource recovery projects for reuse of materials towards manufacturing and new low-carbon technologies.

Community and social infrastructure including vocational skills training centres, in particular, for mining regions transitioning their economies.

Other **notable Australian examples** include the former Rhondda Colliery near Lake Macquarie being developed into a motorsport circuit, and the Stawell Underground Physics Laboratory.

Notable global examples include Limburg, Belgium, Reimagine Appalachia, and Ratcliffe-on-Soar.

For further beneficial uses and case studies, please refer to the companion document *Case Studies*.

8.3 Challenges and opportunities

Australia's jurisdictions face varied challenges and opportunities in managing the closure, rehabilitation, and reuse of former mining lands and coal- and gas-fired power stations, driven largely by differences in regulatory complexity, policy and guidelines, environmental risks, geographical considerations, workforce skillsets, and economic drivers.

A key challenge in Australia is that the opportunities and challenges associated with repurposing former mining lands and managing mine closure are highly place-specific, which complicates the development of an overarching strategic framework. Research and consultation indicate that each site presents a unique combination of environmental, social, economic, and regulatory factors that demand tailored solutions.

Regulatory Complexities across Jurisdictions: Each Australian state and territory operates with distinct legislative frameworks, regulatory agencies, and compliance standards, which can create fragmented governance and prolong approval processes for reuse projects. Western Australia utilises the Mining Rehabilitation Fund to secure funding for rehabilitation, Queensland's regulatory landscape for mine closure reflects evolving legislation, New South Wales and Victoria have their own approval pathways that vary in

how mining site remediation and post-closure land use are governed. This diversity of regulation complicates development, planning and understanding – sapping investor confidence – and can hinder development and reuse. A unifying reform with streamlined processes and clear jurisdictional responsibilities would help to reduce these barriers and provide certainty for investors and communities.

Environmental Risks and Remediation Challenges: Environmental remediation requirements and efforts across jurisdictions vary considerably depending on the previous land use and legacy contaminants present. These legacy pollutants require specialised, often costly remediation and long-term monitoring. Water availability and management further complicate realising productive uses that rely on water accessibility, with states differing in policies around water entitlements. Jurisdictions with more restrictive water access create additional hurdles for environmental rehabilitation efforts, which can limit project feasibility and community benefits.

Community and Workforce Transition: Jurisdictions differ in how they manage community engagement and workforce transitions. Queensland and New South Wales have developed frameworks aimed at early and inclusive consultation with Traditional Owners and local communities to boost social license. States with stronger policies supporting skill recognition, retraining, and aligned economic redevelopment – such as Western Australia’s programs to integrate mining workers into renewable energy or resource recovery sectors – are better positioned to manage the workforce transition as the economy continues to decarbonise. However, where community engagement is delayed or inadequate, as seen with sudden mine closures such as the Hazelwood Power Station and coal mine, social and economic decline is exacerbated.

Challenging but Optimistic: Despite challenges and the nascency of most projects in this sector, there is optimism for the very high potential for repurposing mining and power station lands, capitalising on existing infrastructure for new net zero industries and economic opportunities. Queensland’s Kidston Clean Energy Hub exemplifies this, transforming an abandoned mine into a pumped hydro energy storage site, integrating solar farms, and employing circular economy principles by using recycled construction materials onsite. Western Australia is exploring similar opportunities for critical mineral sites and clean energy precincts, while the Hunter Region in New South Wales promotes clean industrial hubs post-mining. These projects highlight that, where regulations are adaptable and support innovation, large land areas with legacy infrastructure can be catalysts for economic diversification and environmental sustainability.

New Business and Economic Opportunities are emerging in the redevelopment of former industrial sites, following examples such as Greenspot and Harworth in the UK. These specialised repurpose investors and developers are leading the transformation of former power station and mining sites into low-carbon energy projects, residential precincts, and industrial developments.

The **time-lag disconnect between the decommissioning and future reuse operational stage** is a significant challenge. While decommissioning of mining lands and coal-fired power stations can occur within a defined timeframe, the processes required to enable productive reuse (remediation, planning approvals, infrastructure investment, market development, construction, etc.) extends over many years. This creates a gap in which workforces and communities face reduced employment opportunities and economic contraction, well before new industries or land uses are established.

Beyond unlocking economic value, these initiatives address environmental remediation, support regional regeneration, and align with broader sustainability and net-zero objectives. Such strategic models are demonstrating how strategic investment and innovative planning can convert legacy industrial sites into productive, future-focused assets, creating both local employment and long-term economic growth.

9

Future Directions

9 Future Directions

9.1 Focus areas for further investigation or intervention

This section provides the Authority with a structured overview of critical areas that merit further investigation or potential policy intervention. The analysis is grounded in research evidence, stakeholder insights, and jurisdictional practices, highlighting both opportunities and constraints associated with the productive reuse of former mining and power generation sites.

The intention is to inform strategic decision-making, support risk management, and identify priorities that could support the Australian Government in identifying specific directions, and the sequencing and planning of future directions towards further progress in this focus area.

By presenting these future direction focus areas (or red flags in the current state), the Australian Government is equipped to target resources effectively, align cross-jurisdictional efforts, and enable outcomes that balance economic, environmental, and community objectives.

Future Directions Roadmap for further investigation or intervention

1. Improving alignment between strategic objectives, policy & regulatory frameworks

Misalignment between state and federal policy frameworks creates uncertainty for investors and can limit private sector engagement in post-mining redevelopment. This diversity of regulation across jurisdictions complicates development, planning and understanding, reducing investor confidence, and can hinder development and reuse. A unifying reform with streamlined processes and clear jurisdictional responsibilities would help reduce these barriers and provide certainty for investors and communities.

Actions

Investigate mechanisms for harmonising planning, rehabilitation, and post-mining land use policies across jurisdictions. Focus on enabling long-term private sector investment in low-emission industries, particularly in regions transitioning from coal- and gas-fired infrastructure.

Review the applicability of Queensland's 2019 legislative reforms, which introduced a Progressive Rehabilitation and Closure Plan (PRCP) framework, to other jurisdictions. These reforms aim to shift the focus from mere rehabilitation to the sustainable repurposing of mining sites, fostering economic diversification and community resilience.

Short Term

2. Reframing policy from *rehabilitation* to *repurpose and reuse*

Current regulatory frameworks are heavily focused on rehabilitation and environmental compliance, often at the expense of enabling productive reuse. This emphasis can limit flexibility, deter investment, and delay the economic and social benefits of site repurposing. These regulatory frameworks prioritise rehabilitation and remediation, with the primary objective of achieving land that is 'safe and stable' for future uses.

Stakeholders noted that while remediation can technically enable almost any productive use, the challenge often lies in the level of investment required to achieve remediation standards that make certain uses viable and the time-lag it takes to implement. In some cases, prohibitive remediation costs limit opportunities.

Actions

Reframe policy objectives to prioritise repurposing and reuse, while maintaining environmental safeguards. This may include introducing reuse focused planning mechanisms, outcome-based

rehabilitation standards, and incentives for innovative land use, supporting a more integrated approach to environmental, economic, and community outcomes.

Short Term

3. Strengthening of incentives for first-movers in repurpose investors and owners

Current obligations under mining licences prioritise compliance and rehabilitation, often without incentivising productive or beneficial land use, limiting investment in alternative economic activities.

Actions

Assess the feasibility and impact of developing targeted incentives such as tax breaks, fast-tracked approvals, or co-investment mechanisms to encourage private sector repurposing of former mining and power station sites. Explore models used by Greenspot and Harworth in the UK for specialised repurpose investment.

4. Mitigating the impact of the transition time-lag between the decommissioning and future reuse operational stages

While the decommissioning of mining lands and coal- and gas-fired power stations can occur within a defined timeframe, the processes required to enable productive reuse (remediation, planning approvals, infrastructure investment, market development, construction, etc.) extends over many years. This creates a gap in which workforces and communities face reduced employment opportunities and economic contraction, well before new industries or land uses are established.

Action

Addressing this lag is essential to support community resilience, sustain local services, and ensure that regional economies remain viable throughout the transition.

Establish targeted interim measures, including workforce transition programs and transitional support, and place-based investment in community services and infrastructure. These measures would provide a stabilising function, ensuring communities remain viable and workforces are retained until longer-term economic diversification and redevelopment projects are realised.

Medium Term

5. Introducing greater flexibility into land use planning frameworks

Current rehabilitation and reuse frameworks in Australia are characterised by rigidity and complexity, often resulting in protracted timelines and uncertainty for investors and communities. Strict rehabilitation requirements, while critical for environmental protection, are typically prescriptive and leave limited scope for alternative or adaptive end land uses.

Action

Assessing recent revisions to land use frameworks such as the introduction of SP4 Enterprise zones in NSW, and aim towards more adaptive and responsive pathways for the productive reuse of former mining and power station sites. This could include mechanisms such as transitional zoning, streamlined approvals for innovative land uses, and performance-based planning controls that prioritise outcomes (e.g., economic diversification, community benefit, or environmental resilience) rather than rigid land-use classifications. Such flexibility would reduce barriers to investment, and allow sites to evolve in line with market demand.

6. Assessing the current residual risk & liability management hindering reuse

Small to medium operators may struggle to meet rehabilitation obligations, creating potential liability risks for government and investors.

Action

Review bond calculation methods, explore legislative amendments to reduce risk, and consider progressive rehabilitation or insurance-based mechanisms to ensure accountability and minimise exposure to legacy liabilities.

7. Further investigating the benefits of progressive rehabilitation

Current rehabilitation approaches for mining and power generation sites in Australia are often static and prescriptive, limiting flexibility in site management and delaying opportunities for productive reuse.

By integrating rehabilitation and remediation with ongoing mining operations, residual risks are reduced, and land can be transitioned more effectively over time. This approach also demonstrates a shift towards more proactive mine management.

Action

Further investigate the benefits of progressive rehabilitation, which involves the staged or incremental restoration of sites during the operational life of the asset. Assessment should include comparative case studies within Australia and internationally, financial modelling of cost and timing benefits, and alignment with adaptive land use planning and regulatory frameworks.

8. Advance workforce development and community preparedness

Delays between site closure and commencement of new economic activities risk workforce dislocation and regional economic stress.

Action

Map workforce capabilities, develop training pathways aligned with emerging low-carbon and circular economy industries, and engage communities early to foster social acceptance. Tailor programs to local skill sets and potential new industries.

Integrate workforce planning into early-stage redevelopment strategies; align training and reskilling programs with projected industry start-up timelines.

9. Promote strategic and place-specific value of mining and power station lands

Not all mining or power station lands are equally suited to productive reuse, and technical constraints such as remediation costs, landform, topsoil availability, and water access can limit viable options.

Action

Develop site-specific strategies that assess infrastructure, natural assets, and community values to identify feasible post-mining uses. Consider progressive rehabilitation approaches to reduce residual risks and enable staged transition to productive uses.

Prioritise sites with existing supporting infrastructure or a strategic location for early demonstration projects, gradually expanding to more challenging sites as solutions and funding models mature.

10. Target investment and listen to the investors' concerns

Investors highlighted that misalignment between state and federal policies is creating risks by sending inconsistent signals to the market. The investor cohort also expressed the need to provide more clarity on the vehicles available for investment and noted that the Authority could play a role in helping articulate this.

Action

Identify high-potential sites and implement incentives, co-investment, or risk-sharing mechanisms to attract specialised developers and early-stage projects.

Unlock the economic diversification potential of decommissioned mining and power generation sites by aligning redevelopment opportunities with local strengths, infrastructure, and market demand, while supporting workforce retention and community resilience.

Medium Term

Long Term

11. Development of Replicable Frameworks for Productive Reuse

Limited knowledge transfer and inconsistent approaches can delay the adoption of productive reuse practices nationally.

Action

Capture lessons from domestic and international examples (e.g., Greenspot, Harworth, Appalachia Valley) and develop replicable frameworks for adaptive reuse, low-carbon energy hubs, industrial precincts, and residential precincts.

Pilot innovative projects in high-visibility sites, evaluate outcomes, and then disseminate frameworks for broader application across jurisdictions.

12. Establishment of a Productive and Beneficial Reuse Ministerial Council or advisory body

There is a range of initiatives and policies across various levels of government and advisory bodies focused on promoting the beneficial reuse of mining lands and power stations.

Action

Comprising representatives from each state and territory jurisdiction, a Ministerial Council would provide a structured forum to develop a cohesive national strategy on the productive reuse of former mining lands and power station sites. Such a body could align regulatory approaches, share best practice, and identify priority sites for redevelopment, while ensuring consistency in investment signals and community transition planning across Australia.

13. Establish a National Roadmap for Productive Reuse

Action

Develop a structured roadmap that sequences reforms, research priorities, and investment pathways. Include milestones for policy alignment, community engagement, workforce development, incentive implementation, and demonstration projects. This will provide a clear plan to coordinate across governments, industry, and communities to achieve productive and beneficial post-mining outcomes.

Disclaimer

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This Report is strictly limited to the matters set out in it and is not to be read as extending, by implication or otherwise, to any other matter.

In preparing this document, we have only considered the legislation, regulations and policies within scope and current as at the date of this document. There may be other legislation, regulations and policies which are beyond scope and were therefore not reviewed.

We have not considered legislation, regulations and policies specific to the Australian Capital Territory, Northern Territory and Tasmania, nor projects which are based offshore from Australia.

Each of the 6 jurisdictions (Commonwealth, Victoria, New South Wales, Queensland, South Australia, Western Australia), are provided a section, in which the sector landscape, regulatory framework review and regulatory analysis are included. For efficiency, a summary is included at the beginning of each section.

Stakeholder confidentiality

The views expressed in this document were provided by stakeholders for the purposes of this project only. They do not represent government policy, or the formal positions of the organisations involved in the stakeholder consultations. Several stakeholders requested confidentiality and anonymity for their responses.

Other stakeholders have allowed for the inclusion of their organisations in this report, and have reviewed and approved their responses prior to the report being made public.

10 References

Legislation, Regulatory & Policy References

ⁱ EPBC Act s 134.

ⁱⁱ EPBC Act s 134(3)(a).

ⁱⁱⁱ EPBC Act s 134(4).

^{iv} 'Basin' means the Murray–Darling Basin.

^v MRSD Act s 8(1).

^{vi} MRSD Act s 40(1).

^{vii} MRSD Act s 40.

^{viii} MRSD Act s 78, 81.

^{ix} MRSD Act s 80.

^x See MRSD Act pt 7C for example.

^{xi} MRSD Act s 84AZU.

^{xii} MRSD Act s 8(1).

^{xiii} MRSD Act s 40(1).

^{xiv} MRSD Act s 40.

^{xv} MRSD Act s 78, 81.

^{xvi} MRSD Act s 80.

^{xvii} See MRSD Act pt 7C for example.

^{xviii} MRSD Act s 84AZU.

^{xix} A CHMP is required in multiple circumstances, most commonly when a 'high impact activity' is planned in an area of 'cultural heritage sensitivity'.

^{xx} Heritage Act pt 4, ss 87–89.

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- ^{xxi} Heritage Act s 587.
- ^{xxii} See for example FFG Act ss 48, 48A, 53 and 53A.
- ^{xxiii} MRSD Act s 77TE.
- ^{xxiv} MRSD Act s 77TD(2).
- ^{xxv} MRSD Act s 78.
- ^{xxvi} MRSD Act ss 84AZU.
- ^{xxvii} MRSD Act s 81(2).
- ^{xxviii} Latrobe Valley Regional Rehabilitation Strategy, p 24.
- ^{xxix} Latrobe Valley Regional Rehabilitation Strategy, p 23.
- ^{xxx} MRSD Regulations reg 43(2)(a).
- ^{xxxi} MRSD Act s 84AZU(4); MRSD Regulations reg 64G.
- ^{xxxii} MRSD Regulations reg 64H.
- ^{xxxiii} MRSD Regulations reg 64F.
- ^{xxxiv} P&E Act s 52.
- ^{xxxv} MRSD Act s 80.
- ^{xxxvi} MRSD Act s 80(4).
- ^{xxxvii} MRSD Act s 41.
- ^{xxxviii} AH Act ss 66A(2), (5).
- ^{xxxix} Heritage Act s 105.
- ^{xl} Heritage Act s 105(6).
- ^{xli} Water Act s 48K.
- ^{xlii} EP Regulations sch 1, item 70.
- ^{xliii} EP Regulations sch 1, item 70.

^{xliv} EP Act ch 4.

^{xlv} EP Act ch 10.

^{xlvi} EP Act pt 8.4.

^{xlvii} A CHMP is required in multiple circumstances, most commonly when a 'high impact activity' is planned in an area of 'cultural heritage sensitivity'.

^{xlviii} Heritage Act pt 4, ss 87-89.

^{xlix} Heritage Act s 587.

^l EPA Victoria operating licence condition OL_G07.

^{li} EP Act s 219.

^{lii} EP Act s 227.

^{liii} EP Act ss 231 – 231B.

^{liiv} AH Act ss 66A(2), (5).

^{liv} Heritage Act s 105(6).

^{lvi} Water Act s 48K.

^{lvii} Based on the NSW Government Submission to the Legislative Council, Standing Committee on State Development, 'Inquiry into beneficial and productive mining land use' (July 2024) (NSW Submission), all ongoing/active coal mine operations in NSW are regulated under the Mining Act which commenced in 1992.

^{lviii} EP&A Act ss 4.12, 4.15.

^{lix} Schedule 3, clause 14 of the Environmental Planning and Assessment Regulation 2021 (NSW) (EP&A Regulation) and State Environmental Planning Policy (Planning Systems) 2021 sch 1 cl 5.

^{lx} Mining Act s 65.

^{lxi} Mining Act sch 1B, cl 7.

^{lxii} The NSW Resources Regulator has published a series of guidelines that set out what information is required to be submitted for approval at various stages of the mining process. These are set out in the spreadsheet attached in Part A.

^{lxiii} Mining Act s 261BA.

^{lxiv} Guideline – Achieving rehabilitation completion (sign-off) (NSW Resources Regulator, August 2024).

^{lxv} While there are certain exceptions under the EPBC Act to obtain approvals, there is currently no bilateral agreement in place that applies to development applications issued under Part 4 of the EP&A Act.

^{lxvi} Mining Act sch 1B cl 7.

^{lxvii} Mining Regulation sch 8A cl 6.

^{lxviii} Mining Regulation sch 8A pts 2 and 3.

^{lxix} Mining Amendment (Standard Conditions of Mining Leases—Rehabilitation) Regulation 2021.

^{lxx} Mining Regulation sch 8 pts 2 and 3.

^{lxxi} Mining Regulation sch 8A cl 5.

^{lxxii} Practical Guide: Post mining land use (NSW Resources Regulator, January 2023).

^{lxxiii} EP&A Act 1979 div 3.1.

^{lxxiv} EP&A Act 1979 s 4.15.

^{lxxv} EP&A Act Sch 1 cl 8 and 9.

^{lxxvi} EP&A Act 1979 s 4.15(1)(d).

^{lxxvii} Mining Regulation sch 8A cl 16.

^{lxxviii} Mining Act sch 1 pt 2.

^{lxxix} Form and Way Rehabilitation Management Plan (large mines) (NSW Resources Regulator, 2021) p 19.

^{lxxx} Mining Regulation sch 8A cls 6(3) and 7(3).

^{lxxxi} Mining Regulation sch 8A cl 14.

^{lxxxii} EP&A Act s 3.33.

^{lxxxiii} Beneficial and Productive Post-Mining Land Use (Legislative Council Standing Committee on State Development, 2025).

^{lxxxiv} NSW Government Response, Standing Committee on State Development, Report No. 53 – Beneficial and Productive Post-Mining Land Use (NSW Government, 2025).

^{lxxxv} *Resilience and Hazards SEPP* ss 4.7–4.12.

^{lxxxvi} *State Environmental Planning Policy (Planning Systems) 2021* sch 1 cl 24.

^{lxxxvii} EP&A Act ss 4.42 and 5.24.

^{lxxxviii} POEO Act ss 80 and 81.

^{lxxxix} CLM Act pt 3.

^{xc} POEO Act s 93A.

^{xcⁱ} Resilience and Hazards SEPP ss 4.7–4.12.

^{xcⁱⁱ} EP&A Act s 4.2.

^{xcⁱⁱⁱ} EP&A Act sch 1 cl 7.

^{xc^{iv}} EP&A Act s 4.15(1)(d).

^{xc^v} EP&A Act s 14.

^{xc^{vi}} EP&A Act sch 1 cl 2.

^{xc^{vii}} Resilience and Hazards SEPP s 4.6(1)

^{xc^{viii}} EP&A Act s 9.34.

^{xc^{ix}} CLM Act 1997 s 14(6).

^c EP&A Act s 3.33.

^{ci} Local Environmental Plan Making Guideline (NSW Department of Planning and Environment, 2021) p 72.

^{cⁱⁱ} MRA s 276(1)(c)–(d) and (2).

^{cⁱⁱⁱ} MRA s 276(1)(c) and (2).

^{c^{iv}} MRA s 6C.

^{c^v} MRA s 276(5).

^{c^{vi}} MRA s 4A.

^{c^{vii}} EP Act s 426.

^{c^{viii}} EP Act s 110.

^{cix} EP Act s 172.

^{cx} EP Act s 430.

^{cxⁱ} EP Act s 207(1)(f); see also 'Frequently asked questions - Progressive rehabilitation and closure (PRC) plans - Version 2.00' (Department of Environment and Science, effective 4 December 2020), page 1.

^{cxⁱⁱ} 'Frequently asked questions - Progressive rehabilitation and closure (PRC) plans - Version 2.00' (Department of Environment and Science, effective 4 December 2020), page 1.

^{cxⁱⁱⁱ} Explanatory Note, Environmental Protection and Other Legislation Amendment Bill 2020 (Qld).

^{cx^{iv}} EP Act s 297.

^{cx^v} EP Act s 296.

^{cx^{vi}} EP Act s 257.

^{cx^{vii}} EP Act s 262.

^{cx^{viii}} EP Act s 126B.

^{cx^{ix}} EP Act s 126C.

^{cx^x} EP Act s 111A.

^{cx^{xi}} 'Information Sheet - Environmental Protection Act 1994 - Common Issues with Progressive Rehabilitation and Closure Plan Applications (PRCP applications) - ESR/2021/5775 - Version 1.01' (Department of Environment, Science and Innovation, last reviewed 16 February 2024), page 4.

^{cx^{xii}} EP Act s 126D; see also 'Information sheet - Environmental Protection Act 1994 - Voids in flood plain - ESR/2019/4966 - Volume 1.01' (Department of Environment, Science and Innovation, effective 16 February 2024).

^{cx^{xiii}} EP Act s 126D (2); see also 'Information sheet - Environmental Protection Act 1994 - Non-use Management Areas - ESR/2019/4954 - Volume 1.01' (Department of Environment, Science and Innovation, effective 16 February 2024).

^{cx^{xiv}} <https://environment.desi.qld.gov.au/_data/assets/pdf_file/0035/87659/mined-land-rehabilitation-policy.pdf> accessed 02/06/2025.

^{cx^{xv}} Statutory guideline - Progressive rehabilitation and closure plans (PRC plans) Volume 3.01' (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 22.

^{cx^{xvi}} As above, page 22; and EP Act s 111A for the meaning of stable condition.

^{cxxvii} As above, page 23; and EP Regulation, Schedule 8A, Part 3, Division 1, Table 1, Item 1 – see also EP Regulation, s 41B for requirements for PRCP schedule decisions.

^{cxxviii} ‘Statutory guideline – Progressive rehabilitation and closure plans (PRC plans) Volume 3.01’ (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 22.

^{cxxix} As above, page 29.

^{xxx} EP Act s 126C(1)(c).

^{xxxi} Statutory guideline – Progressive rehabilitation and closure plans (PRC plans) Volume 3.01’ (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 29; and ‘Information Sheet – Environmental Protection Act 1994 – Common Issues with Progressive Rehabilitation and Closure Plan Applications (PRCP applications) – ESR/2021/5775 – Version 1.01’ (Department of Environment, Science and Innovation, last reviewed 16 February 2024), pages 3-4.

^{xxxii} EP Act s 126C(1)(d).

^{xxxiii} ‘Statutory guideline – Progressive rehabilitation and closure plans (PRC plans) Volume 3.01’ (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 29.

^{xxxiv} As above, page 30.

^{xxxv} ‘Information sheet – Environmental Protection Act 1994 – Community consultation for Progressive Rehabilitation and Closure Plan – ESR/2019/5101 – Version 1.01’ (Department of Environment, Science and Innovation, effective 16 February 2024), pages 1-2.

^{xxxvi} *Ibid.*

^{xxxvii} As above, page 2.

^{xxxviii} EP Act s 297.

^{xxxix} EP Act s 296.

^{cxl} EP Act s 298(2)(c).

^{cxli} EP Act s 298(2)(e).

^{cxlii} MERFP Act, s 3.

^{cxliii} EP Act Schedule 4.

^{cxliii} 'Financial Provisioning Scheme' website (Queensland Treasury) <
<https://www.treasury.qld.gov.au/programs-and-policies/improving-rehabilitation-financial-assurance-outcomes-resources-sector/financial-provisioning-scheme/>> accessed 02/06/2025, noting that website includes several guidelines, information sheets, templates and checklists.

^{cxliii} EP Act s 224.

^{cxliii} EP Act s 226B.

^{cxliii} 'Statutory guideline - Progressive rehabilitation and closure plans (PRC plans) Volume 3.01' (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 47.

^{cxliii} EP Act ss 223 and 228.

^{cxlix} EP Act Chapter 5, Part 7, Division 4.

^{cli} EP Act s 316H

^{cli} 'Statutory guideline - Progressive rehabilitation and closure plans (PRC plans) Volume 3.01' (Department of Environment, Science and Innovation, ESR2019/4964, Last reviewed 16 September 2024), page 48; see also 'Information Sheet - Environmental Protection Act 1994 - Progressive rehabilitation and closure plan (PRC plan) documents on the public register portal - ESR/2023/6344 - Volume 1.01' (Department of Environment, Science and Innovation, last reviewed 16 February 2024).

^{clii} EP Act s 426.

^{cliii} EP Act s 18.

^{cliv} EP Act s 106.

^{clv} Planning Act s 3.

^{clvi} EP Act s 426.

^{clvii} EP Act s 203.

^{clviii} EP Act s 207(1)(f).

^{clix} <https://environment.des.qld.gov.au/___data/assets/pdf_file/0030/89841/pr-co-common-conditions-prescribed-eras.pdf> accessed 02/06/2025.

^{clx} EP Act s 308.

^{clxi} EP Act s 257.

^{clxii} EP Act s 262.

clxiii EP Act s 264.

clxiv EP Act s 268(b).

clxv EP Act s 268(d).

clxvi EP Act s 269.

clxvii EP Act s 371.

clxviii EP Act s 372.

clxix EP Act ss 407–408.

clxx EP Act ss 380–386.

clxxi ‘Draft site management plan – Guideline – ESR/2025/7047 – Version 1.00’ (Department of the Environment, Tourism, Science and Innovation, Last reviewed 5 March 2025), page 11.

clxxii As above, page 12.

clxxiii EP Act s 371.

clxxiv EP Act s 406.

clxxv PDI Act s 127(3) empowers the relevant authority to approve a development subject to conditions which, for example: provide for the management, preservation or conservation of land; regulate maintenance of any land; and require the restoration of the land, in the case of temporary developments.

clxxvi Mining Act s 73G.

clxxvii Mining Act s 73G; Mining Regulations reg 72.

clxxviii Mining Act s 70B.

clxxix www.energymining.sa.gov.au/home/news/latest/review-of-south-australias-mining-act-open-for-consultation

clxxx Opal Mining Act pts 2 and 3.

clxxxi At the time of the writing, the Opal Mining Regulations has not declared any other minerals to be ‘precious stones’.

clxxxii Opal Mining Act s 35.

clxxxiii Opal Mining Act s 36.

clxxxiv EP Act s 35.

clxxxv EP Act s 36.

clxxxvi AH Act s 23.

clxxxvii Heritage Act ss 25–29.

clxxxviii Landscape Act s 121.

clxxxix Mining Act s 56J(2)(b).

cx c Mining Act s 56I.

cxci EP Act s 50A.

cxcii Mining Act ss 70B and 73G.

cxciiii Mining Act s 70B(2).

cxciiv ‘Residual liability’ refers to the liability for a mine site once closure activities have occurred. Residual liability may include ongoing monitoring and maintenance of the site, including inspecting for new risks that may arise after the closure of the mine.

cxci v Opal Mining Act s 35.

cxci vi Opal Mining Act s 35(2)

cxci vii Per the requirements of the *Terms of Reference 005 for Metallic and industrial mineral PEPRs Determination*.

cxci viii Mining Act s 73G(8).

cxci ix Opal Mining Act s 99.

cc PDI Act ss 107(3), 110(2).

cci EP Act s 45.

ccii Mining Act s 62; Opal Mining Act s 36.

cciii Mining Act s 62(1).

cciv Opal Mining Act s 36(2).

ccv Mining Act s 62(6)(a).

ccvi Mining Act s 70C.

ccvii AH Act s 19H(7).

ccviii Landscape Act ss 124(1)(a), (2).

ccix EP Act s 36.

ccx EP Act s 35.

ccxi EP Act sch 1.

ccxii Heritage Act ss 25–29.

ccxiii Landscape Act s 121.

ccxiv EP Act s 50A.

ccxv EP Act s 51.

ccxvi EP Act s 51(3).

ccxvii EP Act s 51(1).

ccxviii Mining Act, s 85.

ccxix Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual – Requirements under the Environmental Protection Act 1986 (Environmental Protection Authority, December 2024), pages 30 and 53.

ccxx Mining Act s 6(1); EP Act s 5.

ccxxi EP Act Part IV.

ccxxii Mining Act s 6.

ccxxiii Mining Act s 114B.

ccxxiv Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan – Version 1.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, November 2021), page 5; see also EP Act, s 7(3).

ccxxv CS Act s 8.

ccxxvi Mining Development and Closure Proposals website <<https://www.wa.gov.au/organisation/resource-and-environmental-regulation/mining-development-and-closure-proposals>> accessed 26/05/2025.

ccxxvii Mining Act ss 700 and 82A(2).

ccxxviii Mining Act s 70O and Statutory Guidelines for Mining Proposals, Parts 1 and 2, Item 12.

ccxxix Mining Act s 70O.

ccxxx Statutory Guidelines for mine closure plans, page 3.

ccxxxi Prepare a mine closure plan website, <<https://www.wa.gov.au/organisation/resource-and-environmental-regulation/prepare-mine-closure-plan>> accessed 26/05/2025.

ccxxxii Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan – Version 1.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, November 2021), page 5.

ccxxxiii Policy – Environmental Objectives Policy for Mining (Department of Energy, Mines, Industry Regulation and Safety, 3 March 2020), page 3.

ccxxxiv As above, page 3.

ccxxxv As above, page 3.

ccxxxvi Mining Act s 71.

ccxxxvii Mining Act s 84.

ccxxxviii Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan – Version 1.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, November 2021), section 4.2.

ccxxxix As above, section 4.2.

ccxli Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan – Version 1.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, November 2021), page 3.

ccxlii As above, page 3.

ccxliii Lodge a mining proposal website <<https://www.wa.gov.au/organisation/resource-and-environmental-regulation/lodge-mining-proposal>> accessed 26/05/2025.

ccxliv Mining Act s 74.

ccxlv Statutory Guidelines for mine closure plans, page 3; also see Mining Act, s 84AA.

ccxlvi Statutory Guidelines for mine closure plans, page 4.

ccxlvii Statutory Guidelines for mine closure plans, pages 12.

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- ccxlvii Statutory Guidelines for mine closure plans, page 5.
- ccxlviii Statutory Guidelines for mine closure plans, page 6.
- ccxlix Mining Act ss 74(1)(ca) and (5).
- cccl Mining Act s 75.
- cccli Statutory Guidelines for Mining Proposals, page 6.
- ccclii Statutory Guidelines for Mining Proposals, page 23
- cccliii Mining Proposal Guidance – How to prepare in accordance with Part 1 of the Statutory Guidelines for Mining Proposals, Version 6.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, Effective from 3 March 2020 (updated in November 2023)), pages 13 – 15 and Appendix G.
- cccliv As above, page 41.
- ccclv As above, page 13.
- ccclvi Statutory Guidelines for Mining Proposals, page 10.
- ccclvii Statutory Guidelines for Mine Closure Plans, page 4.
- ccclviii Mine Closure Plan Guidance – How to prepare in accordance with Part 1 of the Statutory Guidelines for Mine Closure Plans, Version 4.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, Effective from 3 March 2020 (updated in January 2023)), pages 7–10.
- ccclix As above, page 12.
- ccclx Statutory Guidelines for mine closure plans, page 6.
- ccclxi Mine Closure Completion Guideline – For demonstrating completion of mine closure in accordance with an approved Mine Closure Plan – Version 1.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, November 2021), page 7.
- ccclxii In relation to mining leases, see Mining Act s 84A(1) and (2); see also Mining Act s 126.
- ccclxiii In relation to mining leases, see Mining Act s 84A (4). See also the *Mining Regulations 1981 (WA)* s 112.
- ccclxiv In relation to mining leases, see Mining Act s 84A (2).
- ccclv Mining Securities Policy – Administration for compliance with environmental conditions, Version 2.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, December 2020).

We note for completeness that Mining Securities Procedure – Administration for compliance with environmental conditions, Version 2.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety December 2020) has procedures in relation to additional mining securities.

cclxvi Mining Securities Policy – Administration for compliance with environmental conditions, Version 2.0 (Government of Western Australia Department of Mines, Industry Regulation and Safety, December 2020).

cclxvii Statutory Guidelines for mine closure plans, page 5.

cclxviii Statutory Guidelines for mine closure plans, page 5.

cclxix <<https://www.wa.gov.au/system/files/2025-03/rec-ec-112d.pdf>> accessed 26/05/2025.

cclxx Government of Western Australia, *Update on Mining Amendment Act 2022* (Web Page) <<https://www.wa.gov.au/government/announcements/update-mining-amendment-act-2022#:~:text=In%20March%202023%2C%20DMIRS%20released,as%20monitoring%20compliance%20with%20a%20provals.>>.

cclxxi EP Act s 37B(1).

cclxxii We conducted a simple search of the phrase, ‘power station’, in the Environmental Protection Authority’s closed activities online register on 3 June 2025 and 16 results were returned. Of these 16 results, at least 10 closed proposals related to power stations, power station expansions or increases to power station operation hours: https://consultation.epa.wa.gov.au/consultation_finder/.

cclxxiii EP Act ss 45–45A.

cclxxiv EP Act s 45(8).

cclxxv EP Act s 45(9).

cclxxvi EP Act s 45A.

cclxxvii EP Act s 47(1).

cclxxviii EP Act s 48.

cclxxix EP Act s 48(2).

cclxxx EP Act s 47A(1) and (8).

cclxxxi EP Act s 47A(3)–(4).

cclxxxii Planning Act s 162; see also Planning Act ss 216–217.

cclxxxiii EP Regulation s3H(2).

ccclxxxiv EP Act s 41(2)–93).

ccclxxxv EP Act s 41(4).

ccclxxxvi EP Act s 41A(1).

ccclxxxvii EP Act s 41A(3).

ccclxxxviii EP Act s 48(8).

ccclxxxix EP Act s 44A.

ccxc EP Act s 44A.

ccxci See CS Act ss 49, 50 and 51.

ccxcii CS Act s 50(2).

ccxciii CS Act s 47.

ccxciv CS Act s 44.

ccxcv CS Act s 11(4); see also the Guidance for information on the identification, reporting and classification of contaminated sites in Western Australia (February 2025) available at <<https://www.wa.gov.au/government/publications/identification-reporting-and-classification-of-contaminated-sites-western-australia>> accessed 03/06/2025.

ccxcvi CS Act s 68; see also the Fact sheet about buying and selling contaminated land (October 2024) available at <<https://www.wa.gov.au/system/files/2024-10/buying-selling-contaminated.pdf>> accessed 03/06/2025.

ccxcvii EP Act s 45.

ccxcviii EP Act s 86B(1).

ccxcix EP Act s 86A.

ccc EP Act s 86C(1).

ccci EP Act s 86D.

cccii EP Act s 86F.