

Case Study Project 1.3

Rehabilitation of the Latrobe Valley Coal Mines - Integrating regulation of mine rehabilitation and planning for land and water use

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STATEMENT OF ACADEMIC INDEPENDENCE

The members of Steering Committee for Project 1.3 are named in the principal report, *Mapping the Regulatory Framework of Mine Closure*, May 2022. All members of the Steering Committee had the opportunity to provide comment on drafts of this case study in late 2021. The authors specifically sought the feedback from the Victorian members of the Steering Committee and some other research contacts arranged through the CRC, including Emeritus Professor Rae Mackay, Chair, Mine Land Rehabilitation Authority Board. The authors have also benefited from feedback from the independent consultant who conducted peer review of drafts of the report, Dr Meredith Gibbs.

The authors appreciate the assistance of Steering Committee members, research contacts and consultants, and their recognition of our academic independence. The views in the Case Study are our own, as are any errors.

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Executive Summary

This case study considers the challenges of implementing effective regulatory processes for rehabilitation of open cut coal mines in one of the world's largest brown coal reserves, the Latrobe Valley, Victoria. It demonstrates the leading role of the *Mineral Resources (Sustainable Development) Act 1990* (MRSD Act) in mine rehabilitation regulation, including measures to integrate the MRSD Act with the operation of land use, water use and climate change legislation.

The Latrobe Valley coal fired energy industry is experiencing a transition hastened by a serious coal mine fire in 2014 and climate change. The Latrobe Valley mines and their associated power stations either have closed (2017 for Hazelwood) or are scheduled to close (Yallourn 2028 and Loy Yang 2035) with final rehabilitation to follow. In 2019, the Victorian Parliament enacted significant reforms to the MRSD Act, introducing important mine rehabilitation reforms and to integrate mine rehabilitation regulation with land use and water use planning, all operating in the context of climate change legislation enacted in 2017. The principal integrative instrument is the *Latrobe Valley Regional Rehabilitation Strategy* (LVRRS).

The case study explores this integrated regime of mine rehabilitation regulation from three perspectives.

- It explains the physical, policy and legal contexts for the rehabilitation of the Latrobe Valley mines, highlighting the water resources planning challenge of a legacy of pit lakes as the preferred final mine rehabilitation measure.
- It reviews the regulatory instruments and integrative procedures of mine rehabilitation under the MRSD Act, including requirements to make new mine rehabilitation plans in the next three years, and the role of the Mine Land Rehabilitation Authority, established in 2019.
- It reviews the LVRRS as the principal integrative instrument that provides the vision for the exercise of the regulatory powers, and explores its legal character and the core propositions addressing the interaction of mine rehabilitation regulation with land and water use planning.

The conclusion suggests further research to improve the regulatory outcomes of this integrated rehabilitation framework.

Key Words: Latrobe Valley, coal mine, mining licence, mine rehabilitation, land use planning, water use planning, Latrobe Valley Regional Rehabilitation Strategy



Figure 1: Loy Yang Coal Mine, Latrobe Valley, Victoria

Introduction

This case study considers the challenges of implementing effective regulatory processes for rehabilitation of the Latrobe Valley, Victoria, open cut coal mines. It demonstrates the leading role of the *Mineral Resources (Sustainable Development) Act 1990* (Vic) (**MRSD Act**) in mine rehabilitation regulation, including measures to integrate the MRSD Act with the operation of land use, water use and climate change legislation. It also suggests further research to improve the regulatory outcomes of this integrated rehabilitation framework.

The Latrobe Valley in Victoria is the site of one of the world's largest brown coal resources.¹ Coal mining has been present there for over a century, supplying coal-fired power generation to domestic markets. However, the Latrobe Valley is presently experiencing a transition. Its three brown coal mines and their associated power stations either have closed (2017 for Hazelwood) or are scheduled to close (Yallourn 2028 and Loy Yang 2035) with final rehabilitation to follow. Each of these mines will have site-specific rehabilitation challenges, and their closure and final rehabilitation will also present issues to be managed collectively.

As will be seen in this case study, the regulation and policies associated with rehabilitation of the Latrobe Valley mines is a complex landscape. The MRSD Act is an adaptive regulatory framework for mine rehabilitation, which both directly regulates declared mines² through approved work plans (including rehabilitation plans) and integrates regulation relating to land use planning, water allocation entitlements under the *Water Act 1989* (Vic) and climate change laws and policies. In theory, the principal integrative instrument is the *Latrobe Valley Regional Rehabilitation Strategy* (LVRRS), a statutory regional rehabilitation strategy developed under the MRSD Act. In practice, there are challenges to its implementation and integration of the regulation of land and water use in a (generally) drying climate.

The framework for land use planning applicable to the Latrobe Valley mines rehabilitation incorporates instruments at the state, regional and local levels and addresses economic, social and environmental transitions to post-mining land uses. The framework should be flexible to address emerging technologies, new information, evolving conditions and emerging hazards, such as those posed by climate change. However, regulatory instruments (such as the Latrobe Planning Scheme) that are slow to update, lack flexibility or are uncoordinated with other regulatory instruments threaten the efficacy of the land use planning framework.

The framework for water resources planning needs to address the contest for scarce water resources between the present mine rehabilitation proposals for pit lakes and the needs and interests of other water users and the environment. National, state and regional levels of water resources law and policy also need to be coordinated for contested resources that are increasingly impacted by climate change. These changing conditions may require flexibility in the allocation of water access entitlements to reflect evolving land use and energy needs in a post coal mine land use setting.

To explore the interaction of these frameworks for mineral resources, land use planning and water resources, this paper is structured as follows. Section 1 provides an overview of the physical, policy and legal contexts for land use planning and water use concerning rehabilitation of the Latrobe Valley mines. This overview introduces:

• the MRSD Act and the LVRRS as central elements of the regulatory framework for coal mine rehabilitation,

¹ Australian Government, Geoscience Australia, 'Coal', available at <u>https://www.ga.gov.au/digital-publication/aecr2021/coal</u>

² As defined by MRSD Act section 4(1) – declared mine means a mine specified in an Order under section 7C.

- the *Planning and Environment Act 1987* (Vic) and associated Schemes and Plans for land use, and the effect of the *Climate Change Act 2017* (Vic) and associated Climate Change Strategy, and
- the pit lakes final rehabilitation option and how that pit lakes option may operate within the national and state policy frameworks for water management, and under the state legal framework for water access entitlements.

Section 2 highlights the regulation of the coal mines' rehabilitation, including recent (2019-2022) legislative reforms. It outlines the regulatory framework for 'declared mine land',³ including operation of the MRSD Act instruments and integrative procedures, and the role of the Mine Land Rehabilitation Authority (**MLRA**), a statutory authority with special oversight functions for rehabilitation of declared mine land in the Latrobe Valley. It highlights new requirements for declared mine rehabilitation plans that the mine licensees must now (from 1 October 2022) prepare in the next three years.

Section 3 discusses the legal character of the LVRRS as a statutory instrument and then considers how its strategic vision for industry and government engagement operates with regional land use planning and water resources planning. It also identifies some issues for future reform consideration.

Section 4 concludes the case study with a summary of the regulatory issues identified in this paper and recommendations for further research.

This case study should be read in conjunction with the Project 1.3 Regulatory Mapping Report (**P1.3 RMR**), which presents the mining rehabilitation regulatory framework of Victoria.

³ As defined by MRSD Act section 4(1) – 'declared mine land' means, essentially, land covered by a mining licence that includes a declare mine.

1 Physical, Policy and Legal Contexts for Rehabilitation of the Latrobe Valley Mines

1.1 The Latrobe Valley Mines

The Latrobe Valley is located approximately 135 km southeast of Melbourne, Victoria, in the Gippsland region and spans over 5,400 square kilometres. There are three open cut brown coal (lignite) mines; one mine (Hazelwood) is decommissioned and undergoing final rehabilitation, and two mines are operational (Loy Yang and Yallourn) (collectively '**Latrobe Valley mines**'). The Yallourn mine and power plant are located north of Morewell, next to the Latrobe and Morwell rivers.⁴ The Loy Yang mine is located approximately four kilometres southeast of Traralgon (population of approximately 25,000 people).⁵ Hazelwood mine was south of the town of Morewell.⁶ The map in Figure 2 shows the location of the three mines, power stations and the associated towns.



Figure 2: Map of the Latrobe Valley mines, mining licences, and power stations⁷

The Latrobe Valley is the source of most (over 90%) of Australia's economically demonstrated recoverable brown coal reserves, which are among the largest in the world at 24%, and second only to Russia.⁸ Brown

⁴ 'A Clearer Path to Rehabilitation: Yallourn' *Mine Land Rehabilitation Authority* (Web Page) ">https://www.mineland.vic.gov.au/mine/yallourn/.

⁵ According to 2016 census data. See '2016 Census Quick Stats' Australia Bureau of Statistics (Web Page, 23 October 2017) https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC22556>.

⁶ Hazelwood Mine Fire Board of Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume 4: Mine Rehabilitation* (Victorian Government Printer, 2016) 60.

⁷ Map supplied courtesy of the Mine Land Rehabilitation Authority, Victoria.

⁸ Alanah Hughes, Australian Resource Reviews: Brown Coal 2017 (Geoscience Australia, 31 December 2016) <u>http://dx.doi.org/10.11636/9781925297997</u>; 'Coal', Earth Resources (Web Page, 2 June 2021)

coal was first discovered there in 1873.⁹ A public electricity generation industry followed, which spanned most of the 20th century. This began with construction of the Yallourn power station and mine in the 1920s under the mandate of the Electricity Commissioners, the predecessor of Victoria's State Electricity Commission.¹⁰ The Hazelwood mine and power station followed in the 1950s and Loy Yang in the late 1970s/early 1980s.¹¹ The mines and associated power stations were privatised in the 1990s as a result of restructuring the electricity supply sector.¹²

At the Hazelwood mine, coal was mined to a depth of 120 metres and the mine spanned 3,320 hectares. Yallourn, has the largest mine area of 5,595 hectares but is also the shallowest of the mines at 90 metres. Loy Yang is the deepest mine at 200 metres and spans 4,560 hectares. Together the three open pit mines are four times larger than Sydney Harbour.¹³

The life cycle of the coal mines is regulated by the MRSD Act. It establishes a flexible governance framework that is underpinned by regard to the principles of sustainability in section 2A, which also provide a basis for rehabilitation decisions to integrate with community wellbeing, intergenerational equity and community involvement. The principles also include the effective integration of long and short term economic, environmental, social and equity considerations into decision making¹⁴ and that development should make a positive contribution to regional development and respect the aspirations of the community and Indigenous peoples.¹⁵ Functions and powers under the Act for the regulation of the Latrobe Valley mines are given to the Minister and Department Head while the MLRA has functions and powers to carry out the Authority's objectives including to promote the effective and consistent rehabilitation of coal mine land¹⁶ and its sustainable and beneficial use.¹⁷

The LVRRS, published in 2020, is a statutory instrument created under the MRSD Act. It is non-prescriptive and intended to operate as an integrative mechanism within a complex regulatory framework that includes several levels of law and policy (i.e. local, state and Commonwealth) addressing a range of issues for mine rehabilitation (e.g. land use planning and water rights).

1.2 Land Use Planning and Mine Rehabilitation

Land use planning/decision making in Victoria is governed by the *Planning and Environment Act 1987* (Vic) (**PE Act**). The objective of integrated mine rehabilitation and regional land use planning is also generally reflected in the PE Act objectives for planning,¹⁸ and specifically in one of the objectives of the planning

¹⁸ Planning and Environment Act 1987 s 4(1).

<u>https://earthresources.vic.gov.au/geology-exploration/coal;</u> Geoscience Australia, Australian Government, *Australia's Energy Commodity Resources 2021: Coal* (2021) <<u>https://www.ga.gov.au/digital-</u> <u>publication/aecr2021/coal</u>>.

⁹ Hazelwood Mine Fire Board of Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume 4: Mine Rehabilitation* (Victorian Government Printer, 2016) 32.

¹⁰ Hazelwood Mine Fire Board of Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume 4: Mine Rehabilitation* (Victorian Government Printer, 2016) 32.

¹¹ Hazelwood Mine Fire Board of Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume 4: Mine Rehabilitation* (Victorian Government Printer, 2016) 32.

¹² Hazelwood Mine Fire Board of Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume 4: Mine Rehabilitation* (Victorian Government Printer, 2016) 33.

¹³ Jarrod Whittaker, 'Latrobe River Earmarked as Water Source in Plan to Turn Coal Mines into Lakes' ABC News Gippsland (Online, 8 February 2020) <https://www.abc.net.au/news/2020-02-08/plan-to-turn-victorias-coal-minesinto-lakes/11942972>.

¹⁴ MRSD Act section 2A(2)(f).

¹⁵ MRSD Act section 2A(2)(h).

¹⁶ MRSD Act s 84AE(c).

¹⁷ MRSD Act s 84AE(d).

framework; namely, 'to enable land use and development planning and policy to be easily integrated with environmental, social, economic, conservation and resource management policies at State, regional and municipal levels.'¹⁹

Local government councils administer the PE Act and any requisite planning permissions or regional planning schemes. For Latrobe Valley mine rehabilitation, two key local-level strategies that are subordinate to the PE Act are the Latrobe Planning Scheme and the Gippsland Regional Growth Plan (2014). These strategies embody land use planning and development objectives of the PE Act and focus on economic, environmental and social criteria that will need to be considered concurrently with the LVRRS by the mine licensees and the State Government.

The Latrobe Planning Scheme recognises that the operational phase of the mines needs to integrate with state and local strategic planning initiatives, taking into account urban amenity, productivity of land and the social and environmental impacts of development.²⁰ The Latrobe Planning Scheme 'supports planning for the remediation of existing mines and for the future use of brown coal ...', seeking to ensure that 'development does not compromise coal resources' and that remediation of the mines is 'to a useable and stable land form'.²¹

The Gippsland Regional Growth Plan projects a 2041 vision of increased investment in economic and urban growth through implementation of regional strategies and projects, taking into account the region's assets.²² Various principles underpin this vision of growth, including two interlinked principles, being investment and innovation to support a more diverse economy (including strengthening the energy sector) and the promotion of a healthy environment that minimises the region's exposure to natural hazards and risks.²³ The natural hazards include impacts of climate change²⁴ and the Plan recognises that initiatives to reduce greenhouse gas emissions will affect the Gippsland economy because of the size of its mining and power generation sectors.²⁵ The Plan's 2014 vision of this adaptation still saw a future for the coal fired electricity industry.²⁶

'While some coal-fired power generation plants will eventually close, the state will retain a need for reliable power generation that can be provided by coal-fired plants. Environmental considerations will support changes in power generation and renewable energy projects across Gippsland. ... Future technology to enable commercial-scale carbon capture and storage would provide for the continued use of the brown coal resource and power generating facilities in the long term.'

There are similar optimistic forecasts for the future of coal and a declaration of the importance of retaining access to the region's coal reserves to realise future opportunities, with references to the promise of carbon capture and storage potential being investigated through the CarbonNet project.²⁷

Since 2014, the State's vision has evolved with greater attention to addressing climate change through the enactment of the *Climate Change Act 2017* and the 2021 adoption of the Climate Change Strategy. The Strategy advocates renewable energy as 'an obvious choice to replace our ageing coal-fired generators',

¹⁹ Planning and Environment Act 1987 s 4(2)(c)

²⁰ Latrobe Planning Scheme Ordinance, 02.03-4 Strategic Directions – Coal.

²¹ Latrobe Planning Scheme Ordinance, 02.03-4 Strategic Directions – Coal.

²² Gippsland Regional Growth Plan, Executive Summary i-iii, and 17.

²³ Gippsland Regional Growth Plan, Executive Summary ii.

²⁴ Gippsland Regional Growth Plan, Regional Overview, 14.

²⁵ Gippsland Regional Growth Plan, Towards the Regional Growth Plan, 19.

²⁶ Gippsland Regional Growth Plan, Towards the Regional Growth Plan, 25.

²⁷ Gippsland Regional Growth Plan, Towards the Regional Growth Plan, 30-31.

while not abandoning the CarbonNet project in the context of developing the Latrobe Valley Hydrogen Energy Supply Chain.²⁸ In due course, one suspects that the Gippsland Regional Growth Plan will be adapted.

The regional planning policies also recognise the socio-economic impacts of coal mine closures. There remains ongoing concern that closure of the Latrobe Valley mines could result in large-scale job losses and could increase economic and social disadvantage in the region.²⁹ Mine rehabilitation activities undertaken post closure provide only limited opportunities for a smaller number of workers over the short to medium term. When the Hazelwood mine and power station closed in 2017 more than 750 workers lost their jobs. An estimated 500 people are employed at the Yallourn mine and power station, with 1000 contractors employed for three to four months each year for annual maintenance.³⁰ In contrast, the proposed Jeeralang battery project would employ only dozens of people.³¹

The impact of Latrobe Valley mine closures is felt beyond the workers directly affected and extends to communities, households and businesses. Following the Hazelwood Mine closure, the Latrobe Valley Authority established Latrobe Valley Community Forums to support the community and local businesses by identifying economic development opportunities, innovation and jobs and through the Community and Facility Fund \$20 million was allocated support 186 community projects.³² Strategic long-term planning for the economic development and growth of employment becomes essential.³³

Therefore, the regional strategic planning initiatives recognise the importance of taking into account urban amenity, productivity of land and the social and environmental impacts of development. In particular, the Gippsland Regional Growth Plan envisages increased investment in economic and urban growth through implementation of regional strategies and projects.³⁴ Other opportunities are developing in the region that could employ former Latrobe Valley mine and power plant workers. One is the Star of the South wind farm,

²⁸ Victoria's Climate Change Strategy, 2021, 18 and 26. The Hydrogen Energy Supply Chain Project says it will produce clean hydrogen through gasification of coal with carbon capture and storage: <u>https://www.hydrogenenergysupplychain.com/</u>, site accessed on 9 June 2022.

²⁹ Latrobe City Council, Submission to Senate Standing Committee on Economy and Infrastructure—Legislative Council, Parliament of Victoria, Inquiry into the Closure of the Hazelwood and Yallourn Power Stations (Submission, 2021) 3 <https://www.latrobe.vic.gov.au/sites/default/files/2021-09/Latrobe%20City%20Council%20Submission%20-

^{%20}Inquiry%20into%20Closure%20of%20Hazelwood%20and%20Yallourn.pdf>; Latrobe City Council, Submission No 66 to Senate Standing Committee on Environment and Communications, Parliament of Australia, Inquiry into the Retirement of Coal-Fired Power Stations (Submission, 2016) 2

<https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Coal_f ired_power_stations/Submissions>.

³⁰ Angela Macdonald-Smith and Patrick Durkin, 'Taylor Demands Energy Suppliers "Step Up" to Fill Yallourn Shortfall' *The Australian Financial Review* (Online, 10 March 2021) https://www.afr.com/companies/energy/energyaustraliato-close-yallourn-early-20210310-p579by>.

³¹ Angela Macdonald-Smith and Patrick Durkin, 'Taylor Demands Energy Suppliers "Step Up" to Fill Yallourn Shortfall' *The Australian Financial Review* (Online, 10 March 2021) https://www.afr.com/companies/energy/energyaustraliato-close-yallourn-early-20210310-p579by>.

³² Wiseman, J., Workman, A., Fastenrath, S. and Jotzo, F. (2020) After the Hazelwood coal fired power station closure: Latrobe Valley regional transition policies and outcomes 2017-2020. CCEP Working paper 2010, Nov 2020. Crawford School of Public Policy, Australian National University, pp 14-15.

³³ Wiseman, J., Workman, A., Fastenrath, S. and Jotzo, F. (2020) After the Hazelwood coal fired power station closure: Latrobe Valley regional transition policies and outcomes 2017-2020. CCEP Working paper 2010, Nov 2020. Crawford School of Public Policy, Australian National University, p 7.

³⁴ Gippsland Regional Growth Plan, Executive Summary i-iii, and 17.

which may provide an opportunity for Yallourn workers to retrain to work in the wind sector.³⁵ The wind farm project is presently in the feasibility stage and, if constructed, will be operational in the early 2030s.³⁶ As mentioned previously, development of a hydrogen industry may be another opportunity for the Latrobe Valley.

However, it is not clear if or how the use of water for alternative energy projects would be affected by the water-based rehabilitation for the Latrobe Valley mines. While maintaining water availability is a concern contemplated in the LVRRS (for example, the intermittent filling of the pit lakes to address drying conditions), it is unclear how decisions will be made to protect the rights of other water users.

1.3 Water Resource Planning and Mine Rehabilitation

Pit lakes have been approved for rehabilitation and final land use for each Latrobe Valley mine since the privatisation of the Yallourn³⁷ and Loy Yang³⁸ mines and a pit lake appears in the 2002 Rehabilitation Plan for the Hazelwood mine.³⁹ Pit lakes are considered as likely the most economically viable rehabilitation option for the Latrobe Valley mines to mitigate post-mining risks of instability or fire.⁴⁰ The problem is that very large volumes of water would be required over decades to fill the pit lakes. Is the allocation of significant volumes of water for mine rehabilitation consistent with water resources policy and law?

1.3.1 Latrobe Valley Water Resources and the Pit Lakes Rehabilitation Option

The Latrobe River System includes the Latrobe River, its tributaries such as the Morwell, Tanjil and Tyers Rivers, and the Latrobe River outflows to the Gippsland Lakes. It includes major water storages (e.g. Blue Rock Reservoir, Moondarra Reservoir and Lake Narracan) and associated water harvesting infrastructure to supply water to towns, industry, agriculture and the environment.⁴¹ The Latrobe Valley power stations have taken, on average, 78 GL/year of water from the Latrobe River and released around 23 GL/year back to the system as return flows used by irrigators.⁴²

However, water availability from the Latrobe River has been declining due to climate change. Surface water availability decreased from approximately 800 gigalitres to 600 gigalitres per year (GL/year) between 1997–

³⁵ John Dagge, 'Finding Jobs of the Future' *Herald Sun* (17 October 2021) 26; Star of the South, 'Statement from Star of the South' (Press Release, 10 March 2021) < https://www.starofthesouth.com.au/news-mediareleases/statementfromstarofthesouth>.

³⁶ Jarrod Whittaker, 'Offshore wind farms a step closer as legislation introduced in Parliament' ABC Gippsland (Online, 2 September 2021) < https://www.abc.net.au/news/2021-09-02/legislation-to-allow-offshore-wind-farms-entersparliament/100428774>.

 ³⁷ Hazelwood Mine Fire Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume IV – Mine Rehabilitation*, 53, 55 < https://www.parliament.vic.gov.au/file_uploads/11172_HAZ_MFIReport-2015_16-Volume4_FA_LR_15B0_pQfGZRIC.pdf>

 ³⁸ Hazelwood Mine Fire Inquiry, *Hazelwood Mine Fire Inquiry Report 2015/2016 Volume IV – Mine Rehabilitation*, 68, 69 < https://www.parliament.vic.gov.au/file_uploads/11172_HAZ_MFIReport-2015_16-
Volume4_FA_LR_15B0_pQfGZRIC.pdf>

 ³⁹ Hazelwood Mine Fire Inquiry, Hazelwood Mine Fire Inquiry Report 2015/2016 Volume IV – Mine Rehabilitation, 62, 63 < https://www.parliament.vic.gov.au/file_uploads/11172_HAZ_MFIReport-2015_16-
Volume4_FA_LR_15B0_pQfGZRIC.pdf>

⁴⁰ Hazelwood Mine Fire Inquiry, Hazelwood Mine Fire Inquiry Report 2015/2016 Volume IV – Mine Rehabilitation, 82 < https://www.parliament.vic.gov.au/file_uploads/11172_HAZ_MFIReport-2015_16-Volume4_FA_LR_15B0_pQfGZRIC.pdf>

⁴¹ LVRRS Latrobe System Water Availability Report p iii.

⁴² Mine Land Rehabilitation Authority Forum, Water Sharing in the Latrobe Valley, (2 .2.2021) presentation slide 8, https://www.mineland,vic.gov.au/wp-content/uploads/2021/03/MLRA-Webinar-1_Action-3_DELWPpresentation.pdf>

2017.⁴³ In that time, '[c]hanges in the water sharing arrangements have increased the volume of water available for consumptive users' and decreased the proportion of the total water resource available to the environment.⁴⁴ Under a high climate change projection, water availability in the Latrobe River System could be 36% lower by the year 2040, and the median projection is for a 10% decrease in water availability.⁴⁵ As the Latrobe River System is the primary water source to fill the Latrobe Valley mine voids, is there water available for the pit lakes option for mine rehabilitation?

Preliminary estimates for the amount of water needed for the pit lake rehabilitation option are that '[a]round 1,600 GL would be needed to partly fill the mine voids to counter weight balance while up to 2,800 GL of water could be needed to completely fill all mine voids to their crests'.⁴⁶ This volume greatly exceeds the average annual historic water use and entitlement volumes.⁴⁷ Using existing water sources allocated to power generation, it is estimated it would take 15 to 30 years to fill the pits without interruption (Hazelwood 15 to 20 years; Yallourn 20 to 25 years; Loy Yang 25 to 30 years).⁴⁸ However, these timeframes could be extended for a longer period if there is a limited surface water source due to dry conditions, which results in a delay in filling the mine pit, or shortened if smaller fill volumes are needed (i.e., mines close earlier and so the pits are smaller) or additional water sources are identified and are suitable for use.⁴⁹

The Victorian government has negotiated a minimum 17 year 'rehabilitation guarantee' with the operators of Yallourn and Loy Yang mines (with the Hazelwood mine already in active closure and final rehabilitation).⁵⁰ The Yallourn mine licence was renewed to 2051 and Loy Yang mine licence to 2065.⁵¹ However, these licence renewals are conditional on mine operations ceasing in 2032⁵² for Yallourn and 2048⁵³ for Loy Yang, so there are at least 17 years for the final rehabilitation stage for each mine.⁵⁴ As it is

⁴³ Mine Land Rehabilitation Authority Forum, Water Sharing in the Latrobe Valley, (2 .2.2021) presentation slide 12, https://www.mineland,vic.gov.au/wp-content/uploads/2021/03/MLRA-Webinar-1_Action-3_DELWPpresentation.pdf>

⁴⁴ State of Victoria, Department of Environment, Land, Water and Planning, *Long-Term Water Resource Assessment for Southern Victoria: Basin-by-Basin Results*, pp 75-76.

⁴⁵ LVRRS Latrobe System Water Availability Report p iii

⁴⁶ State of Victoria Department of Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy, Latrobe System Water Availability Technical Report (May 2020) 26 <https://www.water.vic.gov.au/__data/assets/pdf_file/0029/476741/LVRRS-Latrobe-System-Water-Availability-Technical-Report.pdf>.

⁴⁷ State of Victoria Department of Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy, *Latrobe System Water Availability Technical Report* (May 2020) Figure 8, 26 <https://www.water.vic.gov.au/__data/assets/pdf_file/0029/476741/LVRRS-Latrobe-System-Water-Availability-Technical-Report.pdf>.

⁴⁸ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 51.

⁴⁹ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 51.

⁵⁰ Certainty For Workers And Communities In The Latrobe Valley (2018) Premier of Victoria <<u>https://www.premier.vic.gov.au/certainty-workers-and-communities-latrobe-valley</u>>.

⁵¹ Certainty For Workers And Communities In The Latrobe Valley (2018) Premier of Victoria <<u>https://www.premier.vic.gov.au/certainty-workers-and-communities-latrobe-valley</u>>.

⁵² In March 2021 EnergyAustralia announced that the Yallourn power station would close in 2028. It is expected that the mine will also cease operations at this time. https://www.energyaustralia.com.au/about-us/energygeneration/yallourn-power-station/energy-transition

⁵³ On 29 September 2022, AGL announced that the Loy Yang Mine would close mid 2035. See https://www.agl.com.au/how-we-source-energy/loy-yang-power-station

⁵⁴ Certainty For Workers And Communities In The Latrobe Valley (2018) Premier of Victoria <<u>https://www.premier.vic.gov.au/certainty-workers-and-communities-latrobe-valley</u>>

expected that rehabilitation will take decades longer than the lifetime of the current licences, they will likely need to be renewed again before the licences expire.⁵⁵

The extended time period (decades) required to fill the pit lakes and a myriad of extraneous influencing factors create a range of uncertainties in planning rehabilitation of the Latrobe Valley mines. Additional issues that could have environmental consequences and will need to be addressed in mine rehabilitation planning are:

- 1. water quality, ecological considerations and groundwater monitoring;⁵⁶
- 2. stability and fire risks, such as the use of active or passive controls to minimise post-closure risks, ground subsidence and rebound;⁵⁷
- 3. achieving a long term safe and stable landform, addressing risks of block sliding, sinkholes, floor heave, and subsidence and rebound;⁵⁸ and
- 4. other issues such as seismicity and lake loading.⁵⁹

The pit lake rehabilitation option could also affect commercial decisions by the licensees to close the mines earlier. Environment Victoria has calculated that, if Loy Yang closed in 2030 rather than (formerly proposed) 2048, AGL could 'avoid \$261 million in water costs for filling the Loy Yang mine'.⁶⁰ This, along with other financial/economic factors, could influence early mine closure, which would impact regional rehabilitation planning, economic outcomes for local workers and communities and, as mentioned before, considerations for energy security planning.

While presently the option preferred by some, the pit lake model for rehabilitation is not necessarily settled. The Victorian government acknowledges that '[t]he final landform could include water bodies, partial filled voids or dry void options. The land uses possible with different ways of managing the void are at this point still flexible.'⁶¹ Due to the risk of water unavailability, mine licensees are encouraged to develop contingency options to address land stability and fire risks.⁶²

The pit lakes issue also highlights the need to plan for continued dry conditions to protect the needs of other water users and the environment.⁶³ Such planning will be guided by national, state and regional policy, and by Victoria's statutory framework for water resource allocation.

⁵⁵ MRSD Act 1990 (Vic) s 29 provides for licence renewal.

⁵⁶ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 51 – 53.

⁵⁷ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 37 – 38.

⁵⁸ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 39 – 44.

⁵⁹ *Latrobe Valley Regional Rehabilitation Strategy* (2020) Victoria State Government 47.

⁶⁰ Environment Victoria, 'Briefing Paper: Water Availability and Latrobe Valley Coal Mine Rehabilitation' (December 2020) 5 <http://environmentvictoria.org.au/wp-content/uploads/2020/12/LV-mine-rehab-water-availability-briefing-paper-Dec-2020.pdf>.

⁶¹ Victoria State Government, Latrobe Valley Regional Rehabilitation Strategy Overview: Land Use Planning, 2. (Fact Sheet) https://www.water.vic.gov.au/__data/assets/pdf_file/0031/477067/LVRRS-Land-Use-Planning-factsheet.pdf>

⁶² Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 27.

⁶³ The State of Victoria, Department of Environment Land Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (2019) 2 https://www.water.vic.gov.au/ data/assets/pdf_file/0021/436440/LVRWS_Fact-Sheet-.pdf

1.3.2 National and State Policy Frameworks for Water Resource Management

1.3.2.1 National Policy Framework

The Inter-Governmental Agreement on a National Water Initiative 2004⁶⁴ (NWI) is the national approach to best practice water planning and management and represents a shared commitment by the Federal, State and Territory governments to increase the efficiency of Australia's water use, certainty for investment for communities, and better outcomes for the environment.⁶⁵ Under the NWI, all water access entitlements and planning frameworks will include key features that:⁶⁶

- 1. enhance the security and commercial certainty of water access entitlements by clearly specifying the statutory nature of those entitlements;
- 2. provide a statutory basis for environmental and other public benefit outcomes in surface and groundwater systems to protect water sources and their dependent ecosystems;
- 3. be characterised by planning processes in which there is adequate opportunity for productive, environmental and other public benefit considerations to be identified and considered in an open and transparent way; and
- 4. provide for adaptive management of surface and groundwater systems in order to meet productive, environmental and other public benefit outcomes.

Importantly, the NWI defines 'water access entitlements' as an authorisation required for the consumptive use of water 'to be described as a perpetual or open-ended share of the consumptive pool of a specified water resource, as determined by the relevant water plan'.⁶⁷ Water plans must be prepared by the States and Territories for surface water and groundwater management units in which entitlements are issued. This water management system must reflect the trade-offs between competing outcomes for water systems and involve decisions informed by best available science, socio-economic analysis and community input.⁶⁸

In the implementation of water plans, States and Territories are required to: 1) monitor the performance of water plan objectives, outcomes and water management arrangements; 2) factor in knowledge improvements as provided for in the plans; and 3) provide regular public reports.⁶⁹ The reporting is intended

⁶⁴ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), <u>https://www.awe.gov.au/water/policy/policy/nwi</u>. The NWI is discussed in A Gardner et al, *Water Resources Law*, 2nd ed, 2018, LexisNexis Au, especially chapter 3 and, in relation to minerals and petroleum, chapter 27.

⁶⁵ Department of Agriculture Water and Environment *National Water Reform*, (7.4.2022), https://www.awe.gov.au/water/policy/policy/nwi

⁶⁶ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 25. https://www.awe.gov.au/water/policy/policy/nwi

⁶⁷ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 28. https://www.awe.gov.au/water/policy/policy/nwi

⁶⁸ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 36 https://www.awe.gov.au/water/policy/policy/nwi

⁶⁹ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 40, https://www.awe.gov.au/water/policy/policy/nwi

to help water users and governments to manage risk, and give early indications of possible changes to the consumptive pool.⁷⁰

This planning and entitlement system is qualified by the NWI paragraph 34, which acknowledges that there may be special circumstances facing the minerals and petroleum sectors that will need to be addressed by policies and measures beyond the scope of the NWI Agreement. In this context, specific project proposals would be assessed according to environmental, economic and social considerations, and factors specific to resource development projects, (such as water quality issues and obligations to remediate and offset impacts) may require specific management arrangements outside the scope of the NWI.⁷¹ The Productivity Commission recommended, in its final report on National Water Reform 2020, that paragraph 34 be removed.⁷² Instead, a 'fit-for-purpose' approach to access entitlements should be adopted. For example, in a developed water system such as the Latrobe River system, '[b]ringing the minerals and petroleum industries within [the NWI] entitlements arrangements would promote greater transparency and confidence in water rights ...'.⁷³

1.3.2.2 Victorian Policy Framework

State Policies

The competing interests in water use raise significant economic, social and cultural considerations for waterbased mine rehabilitation. The pit lakes rehabilitation model would require water from the Latrobe River system,⁷⁴ which may impact other existing water users, such as agriculture, industry, and households.⁷⁵

Climate change has also emerged as a key priority for water planning and management.⁷⁶ The *Climate Change Act 2017* (Vic) requires the preparation of Adaptation Action Plans. The Water Cycle Climate Change Adaptation Plan is one of the plans that has been developed.⁷⁷

Water for Victoria (2016) sets the long term direction for managing Victoria's water resources. This policy document has several initiatives to address climate change to understand better its impact on water

<https://www.water.vic.gov.au/ data/assets/pdf file/0021/436440/LVRWS Fact-Sheet-.pdf>.

⁷⁰ Intergovernmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 40, https://www.awe.gov.au/water/policy/policy/nwi.

⁷¹ Inter-Governmental Agreement on a National Water Initiative between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (2004), paragraph 34, https://www.awe.gov.au/water/policy/policy/nwi.

 ⁷² Productivity Commission 2021, Assessment of National Water Initiative implementation progress (2017 – 2020)
National Water Reform 2020 Inquiry Report no. 96 Canberra 75-76.

 ⁷³ Productivity Commission 2021, Assessment of National Water Initiative implementation progress (2017 – 2020) National Water Reform 2020 Inquiry Report no. 96 Canberra 76.

⁷⁴ State of Victoria, Department of Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (Fact Sheet, 2019).

⁷⁵ State of Victoria, Department of Environment, Land, Water and Planning, 'Latrobe Water Fact Sheet 1: Existing Users of Water in Latrobe' (2020) <<u>https://www.water.vic.gov.au/__data/assets/pdf_file/0027/477423/Latrobe-Water-Users.pdf</u>>.

⁷⁶ Productivity Commission 2021, Assessment of National Water Initiative implementation progress (2017 – 2020) National Water Reform 2020 Inquiry Report no. 96 Canberra p 24.

⁷⁷ Victoria State Government, Department of Environment, Land, Water and Planning, *Water Cycle Climate Change Adaptation Action Plan 2022-26*.

availability⁷⁸ and the preparation of a draft Water Cycle Adaptation Action Plan.⁷⁹

But the above climate change initiatives do not address rehabilitation of the Latrobe Valley. It is the LVRRS that deals with water as part of coal mine rehabilitation. The LVRRS recognises the challenges presented by climate change and the need to improve the water resource planning and entitlement systems. A part of the water resource planning system is in regional water policy.

Regional water policy

The instrument for regional water policy is the statutory-based Sustainable Water Strategy.⁸⁰ Such strategies provide information and policy guidance on managing reliability of water supply and the quality of water for environmental and consumptive uses in the region, but they are not a formal part of the regulatory framework for planning and allocating water access entitlements.⁸¹

The role of the 2022 *Central and Gippsland Region Sustainable Water Strategy*⁸² (the Strategy) is to set policy directions and identify the actions to secure the region's long-term water supplies to protect jobs, agriculture, the environment, communities and Traditional Owners.⁸³ The Strategy proposes a pathway to increase the region's water supplies by 50% over the next 50 years. Key to this pathway is the transition away from a reliance on river water to a greater reliance on manufactured water for water needs.⁸⁴

Large volumes of water (representing 9% overall water use)⁸⁵ are still required for coal-fired electricity generation. Water will be needed to generate electricity until the Latrobe Valley mines close and final rehabilitation has occurred. The mine licensees are considering water-based options for mine rehabilitation, which is being guided by the LVRRS rather than the Strategy. If water is used for mine rehabilitation, the volume of water needed will vary over time and for each mine site. Using water for this purpose may depend on a range of water sources – including river water, groundwater and manufactured water.⁸⁶

The principles to guide mine rehabilitation are outlined in the LVRRS and include that decisions about using water for mine rehabilitation are to take into account water availability, a drying climate and avoidance of

⁷⁸ The State of Victoria, Department of Environment, Land Water and Planning, Action Status Report Water for Victoria, 2020, Action 2.2, 2 https://www.water.vic.gov.au/_data/assets/pdf_file/0023/457061/WfV-Action-Status-Report-January-2020

⁷⁹ The State of Victoria, Department of Environment, Land Water and Planning, Action Status Report Water for Victoria, 2020, Action 2.3, 2 https://www.water.vic.gov.au/_data/assets/pdf_file/0023/457061/WfV-Action-Status-Report-January-2020.

⁸⁰ The Water Act 1989 (Vic) Part 3, Division 1B, provides for the preparation and review of Sustainable Water Strategies.

⁸¹ Water Act 1989 (Vic) s.22C.

⁸² The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, https://www.water.vic.gov.au/planning/lomg-term-assessments-andstrategies/central-gipps-sws

⁸³ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 8, https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁸⁴ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 8, https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁸⁵ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, Fig 1.3, 29 https://www.water.vic.gov.au/planning/lomg-termassessments-and-strategies/central-gipps-sws

⁸⁶ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 110, https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

negative impacts on Traditional Owners values, environmental values of the Latrobe River system and the rights of other water users.⁸⁷ Measures to protect the rights of other users are being investigated; they include putting a cap on the volume of water used by mine licensees for mine rehabilitation and limiting the taking of water to periods when competition for water is low and the Latrobe River is less flow stressed. ⁸⁸ To protect the security of existing water users' entitlements and to minimise the impact on the values of the water sources, the maximum annual supply of surface water for mine rehabilitation would need to be capped at no more than the combined historic annual net usage for the power stations, or a smaller volume in response to declining water availability over time.⁸⁹ A staged, broad scale redesign of the Latrobe water supply system involving the community, water stakeholders and Traditional Owners will create a vision and plan for the future, that will also inform the 2023 review of the LVRRS.⁹⁰

The Strategy suggests that the transition away from coal sourced energy to renewable energy provides the Latrobe Valley with the opportunity to transition to a more efficient allocation and use of existing water resources across the region.⁹¹ It identifies the sharing and use of unallocated water as part of making the most of all water sources.⁹² Thus, a review of existing electricity industry entitlements could see some surplus water made available for other purposes and a potential redesign of the environmental rehabilitation of the Latrobe River and water supply from it – examples are discussed below in section 1.3.3. This could partially counter the decline in water from climate change that is available for residential users, agriculture, the environment and Traditional Owners. Ultimately, the re-allocation of the bulk entitlements held for the coal mining and electricity generating industry will be made under the Victorian statutory water allocation framework.

The Strategy also recognises the role that others have to play in the management of water quality risks. There are such risks to the environmental values of water sources from water released from the mines while in operation and during rehabilitation.⁹³ Through the MRSD Act, regulations and guidelines and the LVRRS, DJPR (Earth Resources Regulation) will ensure that mining and rehabilitation of the coal mines are conducted in a way that protects people, property, infrastructure and the environment.⁹⁴

⁸⁷ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 110, https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁸⁸ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 110, https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁸⁹ The State of Victoria, Department of Environment Land Water and Planning, 2021, Central and Gippsland Region Sustainable Water Strategy Discussion Draft, 203 <u>https://www.water.vic.gov.au/planning/long-term-assessments-and-strategies/sws/central-gipps-sws</u>

⁹⁰ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 107 https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁹¹ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 28, 41 https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁹² The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 17 https://www.water.vic.gov.au/planning/lomg-term-assessmentsand-strategies/central-gipps-sws

⁹³ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 236 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

⁹⁴ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 236 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

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1.3.3 Water Entitlements and Mine Rehabilitation

Water resource planning and management is administered under the *Water Act 1989* (Vic) (**Water Act)**, which has been reformed to implement national water policy.

The Water Act governs the procedures and rights pertaining to water access entitlements for managing competing interests in water resources in Victoria. The key purposes of the Act are: to promote the orderly, equitable and efficient use of water resources,⁹⁵ to make sure water resources are conserved and properly managed for sustainable use for the benefit of present and future Victorians⁹⁶ and to provide formal means for the protection and enhancement of the environmental qualities of waterways and their in-stream uses.⁹⁷ The main instruments applied to achieve these purposes in the Latrobe Valley mine and electricity generating industries are 'bulk entitlements' and licences.⁹⁸

1.3.3.1 Bulk Water Entitlements

The operation of the mines and the power stations requires the extraction and use of large volumes of surface and ground water. In summary, the entitlements issued under the Water Act to take surface water from the Latrobe System include:⁹⁹

- five 'bulk entitlements' to supply water for power generation, with two of these entitlements held by the power generators and three held by statutory Water Corporations,
- three bulk entitlements for other consumptive use purposes, two bulk entitlements held in reserve and two bulk entitlements held by the Victorian Environmental Water Holder for environmental flows, especially to the Ramsar listed wetlands at the end of the Latrobe River, and
- private diversion licences for agricultural purposes.

Most of these surface water entitlements are specified as a percentage share of available streamflow and a share of reservoir capacity, with annual maximum diversion limits that apply in average or wet years.¹⁰⁰

Under the Water Act, an Order made for a bulk entitlement to water is held by each of the power generators in the Latrobe Valley¹⁰¹ and the holder is authorised to take and use water from a waterway in accordance with the terms of the entitlement or of a 'water allocation' defined by a seasonal determination of the

⁹⁵ Water Act 1989 s 1(c).

⁹⁶ Water Act 1989 s 1(d).

⁹⁷ Water Act 1989 s 1(j).

⁹⁸ Water Act 1989 (Vic) Part 4, Divisions 1 and 2. The Water Act 1989 also provides for water 'shares' and 'environmental entitlements': Parts 3A and 4, Division 1A, respectively. It is beyond the scope of this report to consider those entitlements.

⁹⁹ The State of Victoria Department of Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy, Latrobe System Water Availability Technical Report, 2020, Table 3, 8. 'Bulk entitlements' are issued to water supply corporations and to large water users like electricity generators.

¹⁰⁰ The State of Victoria Department of Environment, Land, Water and Planning, *Latrobe Valley Regional Rehabilitation* Strategy, Latrobe System Water Availability Technical Report, 2020, Section 3.3, p 6.

¹⁰¹ A bulk entitlement may be granted to an 'Authority', which means a 'water corporation' or (as relevant here) a 'generation company' within the meaning of the *Electricity Industry Act 2000* (Vic): *Water Act 1989* (Vic) ss.34 and 34A. Different entitlement arrangements exist for each of the different power companies. Yallourn and Loy Yang A are supplied from dedicated bulk entitlements. Loy Yang B is supplied via a licence which is allocated water from a dedicated bulk entitlement held by Southern Rural Water. These three entitlements allow up to 96.5 GL/year to be taken from waterways in the Latrobe System. Hazelwood is supplied by agreement from Gippsland Water's bulk entitlement, which is also used to supply towns and Australian Paper Manufacturers. State of Victoria, Department of Environment Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy, *Latrobe System Water Availability Technical Report*, 2020, 6.

volume of water available for the entitlement.¹⁰² The three main entitlements for power generation allow up to 96.5 GL/year to be taken from the Latrobe River System waterways.¹⁰³ Return flows from the power generators can be used by private diverters and the environment.

An Order of bulk entitlement also provides accountability for water usage and compliance with the Order by requiring the holder to ensure there is adequate metering to determine the amount of water taken and to maintain and implement a metering program approved by the Minister.¹⁰⁴ The bulk entitlement Order may also specify whether the entitlement or allocation is transferable, which will require the approval of the Minister.¹⁰⁵

A key question under the LVRRS is what will happen long term to these bulk entitlements. Will they be applied to the filling of pit lakes or could they be transferred to other consumptive or environmental purposes? As mentioned in section 1.3.2, a review of existing electricity industry entitlements could see some surplus water made available for other purposes. This includes reallocating, by 2024, 16 gigalitres from the Latrobe 3-4 bench bulk entitlement that was originally intended to support the expansion of coal-fired electricity generation. This water source could result in the return of water to Traditional Owners, agriculture and the environment.¹⁰⁶ Some water from the Latrobe 3-4 bench bulk entitlement will not be permanently reallocated to a specific purpose but could be made available on a temporary basis to respond to emerging water needs and climate change.¹⁰⁷ Further, the Latrobe Reserve (held under a bulk entitlement by Southern Rural Water) sets aside water for periods of water shortages and drought to ensure the reliability of water supply in the Latrobe system and its provision to the power stations for energy security.¹⁰⁸ As the region moves away from coal-fired electricity, there is an opportunity to consider how this reserve could be used to support the region's socio-economic transition and contribute to the environmental and cultural values of the Latrobe River.¹⁰⁹ The Victorian government will review the future need for the Latrobe Reserve by 2028, the timing to align with the expected closure of the Yallourn power station. The review will consider the impact of the closure of the power stations and water availability due to a drying climate.¹¹⁰

1.3.3.2 Section 51 – Take and use licences

In addition to the bulk entitlements held by the power generators, the Latrobe Valley mines hold groundwater licences authorising the extraction of approximately 45.7 GL/year of water from major aquifers

¹⁰² *Water Act 1989,* s 34B and definition of 'water allocation' in s 3. A bulk entitlement may also be granted in respect of groundwater: see ss 36 and 40.

¹⁰³ The State of Victoria Department of Environment, Land, Water and Planning, *Latrobe Valley Regional Rehabilitation* Strategy, Latrobe System Water Availability Technical Report, 2020, 6.

¹⁰⁴ Water Act 1989, s 43(f), (g) and (h).

¹⁰⁵ Water Act 1989, s 43(d), 46, 46B, 46C and 46D.

¹⁰⁶ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 101 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

¹⁰⁷ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 101 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

¹⁰⁸ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 106 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

¹⁰⁹ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 106 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

¹¹⁰ The State of Victoria, Department of Environment, Land Water and Planning, 2022, Central and Gippsland Region Sustainable Water Strategy – Final Strategy, 107 https://www.water.vic.gov.au/planning/long-term-assessmentsand-strategies/central-gipps-sws

to reduce aquifer pressure and maintain mine void stability; i.e. by mine dewatering.¹¹¹ It is not clear what happens to the dewater. Access to groundwater in the aquifers of the Latrobe Valley is shared mainly by the three coal mines with a small volume being accessed by irrigators and Gippsland Water. The LVRRS Report found that groundwater pumping at the mine sites is needed to maintain stability and will need to be continued by the mine licensees until a safe stable and sustainable landform is achieved.¹¹²

The Water Act regulates the grant and exercise of water licence rights and duties. A person may apply to the Minister for the issue of a take and use licence for water from a waterway, groundwater, water from a spring, soak or water from a dam for a use other than domestic and stock use or water (other than recycled water) from any works of an Authority.¹¹³ Each licence is subject to conditions imposed by the Minister and specified on the licence, which typically include the method of taking the water from the location specified in the licence, the take volume and rate and the take period. A take and use licence may require metering for the licensee to keep an accurate record of the quantity of water extracted. Water taken under the licence may only be used on the land and for the purposes specified in the licence.¹¹⁴ A water licence may also be transferred.¹¹⁵

In addition to a take and use licence, a bore construction licence may be required.¹¹⁶ Bore construction licence conditions can include that the bore is constructed in a way that protects the groundwater resource, that the bore is located to minimise extraction interference with other users of the environment, and to require that information and data are collected in relation to the bore for future reference. A bore must be properly decommissioned, and a decommissioning licence is required.¹¹⁷

As with the bulk entitlements, a key question under the LVRRS is what will happen long term to the licences held by the Latrobe Valley mines to extract ground water for mine stabilisation?

¹¹¹ The State of Victoria Department of Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy, Latrobe System Water Availability Technical Report, 2020, 9, and see Mine Land Rehabilitation Authority Forum Water Sharing in the Latrobe Valley (2.2.2021) 17.

¹¹² The State of Victoria Department of Environment Land Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study 2019, <u>https://www.water.vic.gov.au/planning/LVRRS/support</u>; see Latrobe Valley Regional Water Study fact sheet.

¹¹³ Water Act 1989 s 51(1).

¹¹⁴ The State of Victoria, Victorian Water Register, *Copy of Record in the Victorian Water Register Take and Use Licence* (2022), https://www.waterregister.vic.gov.au/water-entitlements/about-entitlements/take-and-use-licences

¹¹⁵ Water Act 1989 (Vic) s 62.

¹¹⁶ Water Act 1989 (Vic) s 67.

¹¹⁷ Water Act 1989 s 67(1)(b).

2 Regulation of the Latrobe Valley Mines' Rehabilitation

Victoria has developed an adaptive and integrated regulatory framework for rehabilitation of the Latrobe Valley mines, primarily in response to the Hazelwood mine fire in 2014.

The Hazelwood mine fire began on 9 February 2014 and burned for 45 days.¹¹⁸ It was a significant environmental event that resulted in a Victorian Parliamentary Inquiry (the Hazelwood Mine Fire Inquiry or **HMFI**). While the HMFI recommendations addressed immediate reforms for addressing mine fire risks, the recommendations went much further and informed sweeping mine rehabilitation regulatory reform in Victoria in 2019.¹¹⁹ The purpose of this section is to introduce the broad schedule of the reform process and then to highlight the important institutional reforms and reforms that followed in respect of mine closure planning and rehabilitation of declared mine land under the MRSD Act. Section 3 then analyses the overarching and integrative vision set out in the LVRRS for the implementation of these reforms.

2.1 The Hazelwood Mine Fire and Overview of Legal Reforms

Mine fire management was clearly a priority concern for the HMFI. One key finding was that the Hazelwood mine licensee and the mine regulator were key players missing from the integrated fire management planning process and it was crucial that they play a role in the development and implementation of fire risk management plans.¹²⁰ Establishing a clear line of sight to the responsible regulators for integrated fire management planning should ensure that the actions in those plans are monitored and implemented.¹²¹ The HMFI recommended that the State bring forward the commencement date of statutory reforms¹²² to enable approved work plans to address specifically fire prevention, mitigation and suppression and to acquire the expertise to monitor and enforce compliance with fire risk adopted by the mine licensees under the MRSD Act.¹²³ The reforms came into operation in December 2015, and introduced the requirement for a fire risk management plan for the coal mines. In 2019, the details to be included in the fire risk management plan were expanded to include the specification of all fire hazards and appropriate controls to eliminate or minimise the risks of identified fire hazards. Requirements for monitoring and reporting on the control

¹¹⁸ 'Hazelwood Mine Fire Inquiry – Victorian Government Responses and Actions' *Victorian Government* (Web Page) < <u>https://www.vic.gov.au/hazelwood-mine-fire-inquiry-victorian-government-response-and-actions</u>>.

¹¹⁹ Hazelwood Mine Fire Inquiry: Victorian government implementation plan (2016) Victoria State Government 2; 'Hazelwood Mine Fire Inquiry - Victorian Government response and actions' Vic.gov.au (21 August 2021) <<u>https://www.vic.gov.au/hazelwood-mine-fire-inquiry-victorian-government-response-and-actions</u>>.

¹²⁰ Hazelwood Mine Fire Inquiry, Hazelwood Mine Fire Inquiry Report 2014, 147 https://www.parliament.vic.gov.au/file_uploads/8101_HAZ_Hazelwood_Mine_Inquiry_Report_BOOK_LR_f5Bp6wN h.pdf.

¹²¹ Hazelwood Mine Fire Inquiry, Hazelwood Mine Fire Inquiry Report 2014, 147 https://www.parliament.vic.gov.au/file_uploads/8101_HAZ_Hazelwood_Mine_Inquiry_Report_BOOK_LR_f5Bp6wN h.pdf.

¹²² Section 16 of the *Mineral Resources (Sustainable Development) (Amendment) Act* 2014 (Vic), not yet proclaimed at the time of the Hazelwood Mine Inquiry. Section 16 subsequently commenced operation on 8 December 2015 together with accompanying amendments to the *Mineral Resources (Sustainable Development) (Mineral Industries) Regulations* 2013 (Vic).

¹²³ Hazelwood Mine Fire Inquiry, Hazelwood Mine Fire Inquiry Report 2014, Recommendation 4, 30 https://www.parliament.vic.gov.au/file_uploads/8101_HAZ_Hazelwood_Mine_Inquiry_Report_BOOK_LR_f5Bp6wN h.pdf.

measures, plus procedures for regular review and updating of the plan and whenever the hazards or risks change were also introduced.¹²⁴

In 2019, Victoria also legislated to reform the mine rehabilitation and closure laws with special provisions to address Latrobe Valley mine rehabilitation. The reforms amended the MRSD Act in order to:¹²⁵

- 1. clarify rehabilitation, closure and post-closure obligations of the mine licensees, creating a special regime for declared mine land (which has been applied to the Latrobe Valley coal mines) and setting up a post-closure fund for declared mine land;
- 2. establish the MLRA as an oversight, monitoring and enforcement authority, and
- 3. provide for the making of the LVRRS as an instrument for the strategic vision in the regulation of mine operators.

Section 2.2. of this case study defines 'declared mine land' and explains the integrated regulatory framework for managing it, including the role of the MLRA. The second reading speech summary outlines these reforms.¹²⁶ New amending regulations applying to declared mines (the Latrobe Valley mines) commenced on 30 September 2022.¹²⁷ They provide for matters consequential to the 2019 statutory reforms.¹²⁸ The Regulations aim to enable government, mine licensees and the community to make decisions relating to rehabilitation planning of declared mine land (including risk and liability), and the exercise of government functions relating to the assessment and management of risk.¹²⁹

The publication of the LVRRS in June 2020 incorporated an implementation principle that coal fire risk controls for rehabilitated land should be designed to achieve no fire risk greater than that of the surrounding environment taking into account their efficacy, longevity and maintenance requirements.¹³⁰ The LVRRS also records the finding that 'a water-based rehabilitation approach could achieve safe and stable landforms for the Latrobe Valley coal mines through largely passive controls ...'.¹³¹ Section 3 of this case study discusses the effect of the LVRRS as a statutory instrument and its provisions in relation to planning for land and water use.

In 2022, further reforms to the MRSD Act are expected with the aim of improving the management of postproduction coal mine land in the Latrobe Valley and making rehabilitation a greater priority through new provisions that provide for better preparation for long term rehabilitation taking into account future generations.¹³² While the MRSD Act provides that mine rehabilitation and post closure arrangements are the responsibility of the licensee, the proposed reforms will aim to strengthen the requirements for the licensee

¹²⁸ Mineral Resources (Sustainable Development) (Mineral Industries) Amendment Regulations 2022, r 1(a).

¹³⁰ Victoria State Government, *Latrobe Valley Regional Rehabilitation Strategy*, 2020, 8, 16, https://earthresources.vic.gov.au/projects/lvrrs

¹²⁴ Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019, SR48/2019 (made 18 June 2019), Schedule 8.

¹²⁵ MRSD Act Parts 7A, 7B and 7C, which provide respectively for the MLRA, LVRRS and declared mine land rehabilitation regime. We have chosen to address these Parts in a different order.

¹²⁶ Victoria, Parliamentary Debates, Legislative Assembly, 5 June 2019, Second Reading speech (Hon Tim Pallas, Werribee—Minister for Economic Development, Minister for Industrial Relations) 1942 – 1944.

¹²⁷ Mineral Resources (Sustainable Development) (Mineral Industries) Amendment Regulations 2022, S.R. No. 97/2022

¹²⁹ Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris

¹³¹ Victoria State Government, *Latrobe Valley Regional Rehabilitation Strategy*, 2020, 11.

¹³² Proposed amendments to MRSD Act and Regulations for in the Latrobe Valley, Australian Mining, 9 May 2022, http:// www.australianmining.com.au/news/latrobe-valley-mines-set-for-rehabilitation/

to meet their obligations by ensuring the continuation of these obligations, including their funding.¹³³ The proposed reforms are likely to be in line with similar provisions for the decommissioning of offshore infrastructure that are contained in the Commonwealth and Victorian offshore petroleum and greenhouse gas storage Acts.¹³⁴

2.2 Regulatory Framework for the Rehabilitation of 'Declared Mine Land'

The Minister is authorised by the MRSD Act to declare that a mine is a 'declared mine' by publication in the Government Gazette where satisfied that the mine has geotechnical hydrogeological, water quality or hydrological factors that pose a significant risk to: (a) public safety, (b) the environment or (c) infrastructure.¹³⁵ Presently, the only declared mines in Victoria are the mining licences of the three Latrobe Valley mines.¹³⁶

This section 2.2 outlines the operational provisions of the MRSD Act and Regulations for mine closure planning and rehabilitation administered by the Minister for Resources and the Department of Jobs Precincts and Regions (Earth Resources Regulation),¹³⁷ the new declared mine rehabilitation planning requirements following the 2022 regulation amendments and the oversight role of the new MLRA.

2.2.1 MRSD Act Instruments and Integrative Procedures

The main instruments for regulating mine closure planning and mine rehabilitation are the mining licences, work plans and rehabilitation plans authorised under the MRSD Act, which also interact with land use planning permits and environment effects statements as discussed below.¹³⁸ Following the 2019 reforms (applicable from 1 July 2020), the standard requirements for work plans for rehabilitation of mined land include proposed land uses, a completed land form that must be 'safe, stable and sustainable' and capable of supporting the proposed land uses, criteria for measuring completed rehabilitation, a schedule of rehabilitation milestones, an assessment of relevants risks that the rehabilitated land may pose and the projected costs of managing those risks.¹³⁹ The work plan must also include a community consultation plan.¹⁴⁰ Applications for a variation of a work plan lodged after 1 July 2020 that include new or changed rehabilitation of land disturbed by mining are required to provide similar information.¹⁴¹ These requirements operate in respect of mining operations and rehabilitation across the State of Victoria. As the Latrobe Valley mines have existing work plans, the potentially applicable provisions are those for variations of work plans, discussed below.

Enhanced rehabilitation regulation requirements apply to declared mine land under Part 7C of the MRSD Act, starting with the preparation of a 'Declared Mine Rehabilitation Plan' (DMRP). The DMRP was introduced in the MRSD Act to address issues that the government was having with insufficient information about the declared mine sites and rehabilitation planning as a result of the lack of detail in the declared mine

¹³³ Proposed amendments to MRSD Act and Regulations for declared mines in the Latrobe Valley, Australian Mining, 9 May 2022, http:// www.australianmining.com.au/news/latrobe-valley-mines-set-for-rehabilitation/

¹³⁴ For example, *Offshore Petroleum and Greenhouse Gas Storage Act 2010* (Vic) ss 621, 635 and 636.

¹³⁵ MRSD Act s 7C (2).

¹³⁶ 'Declared Mines' *Latrobe Valley Regional Rehabilitation Authority* (Web Page) https://www.mineland.vic.gov.au/declared-mines/>.

¹³⁷ See the website of the Victorian State Government, Jobs Precincts and Regions, Earth Resources, Legislation: https://earthresources.vic.gov.au/legislation-and-regulations/legislation.

 ¹³⁸ See Parts 2, 3 and 7 of the MRSD Act and MRSD (Mineral Industries) Regulations 2019 rr 40(b) and 42. See also CRC TiME, Hamblin L, Gardner A, Haigh Y, *Final Report, Project 1.3, Mapping the Regulatory Framework of Mine Closure*, 2022, chapter 5.2.3.

¹³⁹ MRSD (Mineral Industries) Regulations 2019 r 43(1) and (2).

¹⁴⁰ MRSD (Mineral Industries) Regulations 2019 r 46.

¹⁴¹ MRSD (Mineral Industries) Regulations 2019 r 48(1)(d).

licensees' rehabilitation plans.¹⁴² Where rehabilitation plans are inadequate, it is difficult to assess rehabilitation costs.¹⁴³ The requirements for a DRMP are discussed in more detail below at section 2.2.2 after first discussing some particular requirements in relation to work plans for declared mines and the integrated procedures for variation of work plans applicable to declared mines.

A work plan for a declared mine must contain the prescribed mine stability requirements and processes to achieve a safe stable and sustainable landform.¹⁴⁴ These requirements contribute to the planning and decision making for the final landform and future use of the mine site. They include additional geological information relevant to the stability of the declared mine, an assessment of geotechnical and hydrogeological risks and a description of the control measures to reduce these risks to an acceptable level. A work plan also requires details of monitoring of stability and groundwater management and an outline of the process for reviews.

As mentioned above, an application for a variation of a declared mine work plan lodged after 1 July 2020 that includes new or changed rehabilitation of land disturbed by mining must include the prescribed information about the resulting proposed changes to the rehabilitation plan in the work plan.¹⁴⁵ To reiterate briefly, this requires details of the proposed land uses for the affected land after it has been rehabilitated that considers community views ascertained during consultation, and the proposed land uses, criteria for measuring completion of the rehabilitation, and a schedule of rehabilitation milestones.¹⁴⁶ The application must also identify and assess the risks that the rehabilitated land may pose to the environment, a member of the public or land, property or infrastructure in the vicinity of the rehabilitated land, and it must address the prescribed mine stability requirements.¹⁴⁷

Applications for work plan variations may intersect with the *Planning and Environment Act 1987* (Vic) (**PE Act**) or the *Environment Effects Act 1978* (Vic) (**EE Act**), which is an example of the integration of resources, planning and environmental statutory frameworks. Under the MRSD Act, work plan variations can only be approved once all relevant instruments, including required planning approvals, have been granted.¹⁴⁸ A planning permit may be granted to a mining licensee even if the planning scheme prohibits the grant of a permit for that use or development of the land.¹⁴⁹

The approval of a work plan variation that requires a planning permit is facilitated by a statutory endorsement process,¹⁵⁰ which integrates the approvals processes of the MRSD Act and the PE Act. The intent is to avoid duplication between the approval process for a work plan variation and the referrals normally made during the planning permit application process. As a result, when the licensee submits a work plan variation to the Department Head, if the work plan variation is considered compliant with the regulations, it is then referred to a referral authority, which can include the local council.¹⁵¹ The referral

¹⁴² Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 29

¹⁴³ Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 29

¹⁴⁴ MRSD Act section 40(3)(f) and Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019, r 63 and Schedule 12.

¹⁴⁵ Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019, Regulation 48(1)(d) and (f).

¹⁴⁶ Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019, Regulation 43(2)(a) and (b).

¹⁴⁷ Mineral Resources (Sustainable Development) (Mineral Industries) Regulations 2019, Regulation 43(2)(f) and (h).

¹⁴⁸ MRSD Act, s 41AAB(2)(a).

¹⁴⁹ MRSD Act, s 42(6).

¹⁵⁰ MRSD Act, Part 6B.

¹⁵¹ MRSD Act s 77TE(1).

authority has 30 days to tell the Department Head whether it objects to or approves of the work plan variation (including on conditions) and provide any comments.¹⁵²

The Department Head must not make a decision on statutory endorsement of the work plan variation that is inconsistent with anything that a referral authority tells the Department Head or any comments made.¹⁵³ Once the Department Head has statutorily endorsed the work plan variation, the licensee is advised to make their planning permit application to the local council. In processing that application, the local council is not required to conduct, for the work plan variation, the referral process otherwise normally required under the PE Act for a planning permit application.¹⁵⁴

A further step in the integration of the regulatory process is that a mining licensee is not required to obtain a planning permit for that work if an environment effects statement (EES) has been prepared under the EE Act on the work proposed to be done under the mining licence and an assessment of that EES by the Minister administering the EE Act has been submitted to the Minister for Resources.¹⁵⁵ A proponent or a decision maker required to make a decision in respect of works that would have a significant effect on the environment may seek advice from the Minister administering the EE Act as to whether an EES should be prepared.¹⁵⁶ If so, the mining licensee prepares the EES, which will need to document the project's consistency with applicable legislation, regulations, statutory policies, strategies, plans and guidelines.¹⁵⁷ The opportunity for an integrated response to a proposal is further enhanced by public involvement in the EES process.¹⁵⁸

EES and related statutory approval procedures are often co-ordinated. This may include providing specific advice in the Ministerial assessment to inform relevant statutory and other decisions, such as those under the PE Act, the MRSD Act and the EP Act.¹⁵⁹ The EES process provides for the analysis of potential effects on environmental assets, including relevant effects on land use; for example, access to and efficient use of natural resources (earth and water resources) and the means of avoiding, minimising and managing adverse effects.¹⁶⁰ An assessment of the potential effects of the proposed works on existing land uses and infrastructure that support current patterns of economic and social activity must be evaluated in the context of relevant planning scheme provisions.¹⁶¹

2.2.2 The new Declared Mine Rehabilitation Planning requirements

The essential requirements for declared mine rehabilitation planning are provided in Part 7C MRSD Act (inserted in 2019) and the details are prescribed in 2022 amendments to the MRSD (Mineral Industries) Regulations 2019. This section explains the combined effect of these provisions. A DMRP is to be prepared

- ¹⁵⁶ Environment Effects Act 1978, s 8(1) and (3).
- ¹⁵⁷ Ministerial guidelines for assessment of environmental effect under the Environment Effects Act 1978, seventh edition, 2006, p 19.
- ¹⁵⁸ Ministerial guidelines for assessment of environmental effect under the Environment Effects Act 1978, seventh edition, 2006, p 2.
- ¹⁵⁹ Ministerial guidelines for assessment of environmental effect under the Environment Effects Act 1978, seventh edition, 2006, p 29
- ¹⁶⁰ Ministerial guidelines for assessment of environmental effect under the Environment Effects Act 1978, seventh edition, 2006, p 2, 17.
- ¹⁶¹ Ministerial guidelines for assessment of environmental effect under the Environment Effects Act 1978, seventh edition, 2006, p 17.

¹⁵² MRSD Act s 77TF.

¹⁵³ MRSD Act s 77TD(2).

¹⁵⁴ MRSD Act s 77TG and PE Act s 55(1).

¹⁵⁵ MRSD Act section 42(7).

within 3 years from 1 October 2022.¹⁶² There are specific requirements of **content** and **process** for a DMRP.¹⁶³

The requirements of **content** include a requirement for a further rehabilitation bond, closure criteria, a postclosure plan, and certain risk assessments.¹⁶⁴ The further rehabilitation bond may be required if the mined land requires further rehabilitation in accordance with a DRMP.¹⁶⁵ Closure criteria provide a mechanism for ERR and declared mine licensees to reach agreement on the standard for complete rehabilitation and the point at which responsibilities for land management can be transferred.¹⁶⁶ The detailed prescription of closure criteria include measures to assess and manage fire risks, manage the physical attributes of declared mine land and to ensure the compatibility of the proposed landform with the surrounding areas.¹⁶⁷ The closure criteria also include ongoing research into aspects of the declared mine land and water¹⁶⁸ and measures to manage water quality, water availability for rehabilitation and impacts on the broader water system.¹⁶⁹

The DMRP must also include:

- a statement of the proposed outcomes for land use and post-mining use including land that cannot be rehabilitated to a stable condition;¹⁷⁰
- information on the rehabilitation or closure milestones for the ongoing monitoring and maintenance of the declared mine land; and
- a risk management plan that identifies risks that may lead to early closure and affect rehabilitation outcomes.¹⁷¹

The DRMP also sets the framework for post closure management. Prior to the 2019 amendments to the MRSD Act there was no capacity for ERR to obtain or manage information about post closure mine sites.¹⁷² The DRMP must now include a post-closure plan,¹⁷³ which must provide for ongoing monitoring and maintenance activities to maintain the declared mine land in a safe and stable state after closure, and a risk management plan for the risks that may continue post-closure.¹⁷⁴ The post-closure plan must also include information on the plant that is to be used by the declared mine licensee to meet the closure criteria,¹⁷⁵ who is responsible for post-closure monitoring and maintenance activities¹⁷⁶ and any further supporting data and reports that must be provided to the MLRA after the post-closure plan is registered (discussed below).¹⁷⁷ The aim of the post-closure plan is to ensure that sufficient information on the closure process or decisions

- ¹⁶⁷ MRSD (Mineral Industries) Regulation 64C(e), (f) and (i).
- ¹⁶⁸ MRSD (Mineral Industries) Regulation 64C(k).
- ¹⁶⁹ MRSD (Mineral Industries) Regulation 64C(I).
- ¹⁷⁰ MRSD (Mineral Industries) Regulation 64F(1)(c).
- ¹⁷¹ MRSD (Mineral Industries) Regulation 64F(2)(c) and (e).

¹⁷⁷ MRSD (Mineral Industries) Regulation r 64D(f).

¹⁶² MRSD Act s 84AZU(2) and MRSD (Mineral Industries) Regulation 64A(a), inserted by the Mineral Resources (Sustainable Development) (Mineral Industries) Amendment Regulations 2022, r 12.

¹⁶³ MRSD Act s 84AZU(3).

¹⁶⁴ MRSD Act s 84AZU(3).

¹⁶⁵ MRSD Act ss 84AZU(3)(a) and 82(3)(b).

¹⁶⁶ Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 30.

¹⁷² Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 30.

¹⁷³ MRSD Act, s 84AZU

¹⁷⁴ MRSD (Mineral Industries) Regulation 64D(a) and (b).

¹⁷⁵ MRSD (Mineral Industries) Regulation 64D(c).

¹⁷⁶ MRSD (Mineral Industries) Regulation r 64D(d).

on whether rehabilitation is satisfactory is handed over to government to enable the ongoing monitoring and maintenance of rehabilitated mine land.¹⁷⁸

There are also important prescriptions of **process**,¹⁷⁹ especially regarding consultation. The DMRP must include a stakeholder engagement plan¹⁸⁰ that identifies a list of statutory officers consulted in the preparation of the plan (such as, the MLRA, the Minister responsible for the Environment Effects Act 1978, a responsible authority under the PE Act)¹⁸¹ and a list of other persons that will be consulted on the DMRP (such as, affected landowners, communities in the Gippsland region and a traditional owner group).¹⁸² A declared mine licensee who is required to consult on a DMRP must give public notice of seeking submissions on a proposed DMRP.¹⁸³ Subsequently, an application for approval of a DMRP or of a variation to a DMRP must also include a report on the consultation undertaken and any submissions received together with an assessment of how the plan will meet the rehabilitation outcomes in the plan.¹⁸⁴ The engagement plan should also include a process for ongoing engagement with those persons during rehabilitation and closure.¹⁸⁵ The MRSD Act and Regulations prescribe in detail the process for the Department Head considering an application for approval and amendment of a DMRP, with details on consultation and factors for consideration in giving an approval.¹⁸⁶ The DMRP approval procedures build on the integrated decision-making described above for approval of work plans.

The ultimate aim of the DMRP for the declared mine licensee is to achieve mine closure. Again, the MRSD Act and Regulations provide a detailed process for how a licensee may apply to the Minister for a determination that the closure criteria for the declared mine land covered by the licensee's licence have been met.¹⁸⁷ Without clarity on the details of the closure criteria, a well-informed decision of closure of a declared mine cannot be taken. An application for closure determination must include an assessment of whether the closure criteria have been met,¹⁸⁸ an assessment of community and stakeholder engagement,¹⁸⁹ information to enable the Minister to determine the amount (if any) that the declared mine licensee must contribute to the Declared Mine Fund¹⁹⁰ and information relating to the declared mine land recorded by the MLRA on the declared mine register.¹⁹¹ Once a closure application has been made, the Minister must consult with a range of relevant stakeholders¹⁹² to determine the closure application taking into account the closure application and any comments received as part of the consultation process¹⁹³ and to decide whether the licensee has or has not met the closure criteria.¹⁹⁴ The Minister must notify the licensee of the decision and give reasons if the decision is that the licensee has not meet the closure criteria.

¹⁷⁸ Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 50

¹⁷⁹ MRSD Act s 84AZU(4).

¹⁸⁰ MRSD (Mineral Industries) Regulations 2019, r 64F(1)(b).

¹⁸¹ MRSD (Mineral Industries) Regulations 2019, r 64G(1).

¹⁸² MRSD (Mineral Industries) Regulations 2019, rr 64F(1)(b) and 64G(2)(a) & (b).

¹⁸³ MRSD (Mineral Industries) Regulations 2019, r 64H.

¹⁸⁴ MRSD (Mineral Industries) Regulation r 64J.

¹⁸⁵ MRSD (Mineral Industries) Regulations 2019, r 64F(1)(b)(ii).

¹⁸⁶ MRSD Act ss 84AZV & 84AZW, and MRSD (Mineral Industries) Regulations 2019, rr 64K – 64M.

¹⁸⁷ MRSD Act s 84AZY, 84AZZ, 84AZZA, 84AZZB; and MRSD (Mineral Industries) Regulations 2019, rr 64N-64P.

¹⁸⁸ MRSD (Mineral Industries) Regulation r 64N(a).

¹⁸⁹ MRSD (Mineral Industries) Regulation r 64N(b).

¹⁹⁰ MRSD (Mineral Industries) Regulation r 64N(c).

¹⁹¹ MRSD (Mineral Industries) Regulation r 64N(c)(iii).

¹⁹² MRSD (Mineral Industries) Regulation r 64P.

¹⁹³ MRSD (Mineral Industries) Regulation r 640.

¹⁹⁴ MRSD Act s 84AZZA.

It appears that the Minister's decision can result in mine closure, whether or not the closure criteria have been met. What follows is post-closure management of the mine. If the closure criteria have been met, the Minister *may* return the rehabilitation bond to the licensee, consent to the surrender of the declared mine licence and direct the MLRA to register the land and post-closure plan in the declared mine land register.¹⁹⁵ However, if a declared mine licensee has not met the closure criteria of the DMRP, the Minister may cancel the mining licence and pay the balance of the bond into a 'Declared Mine Fund', whereupon the MLRA must register the declared mine land (or any part of it) in the declared mine land register.¹⁹⁶ It is intended that balance of the bond will be allocated to manage risks of that specific mine rather than cross-subsidising other liabilities.¹⁹⁷ At this point, it is not so clear what will happen to the post-closure plan. The licensee may seek to transfer the land to the MLRA or the Minister may seek to rehabilitate the land after requesting the licensee or former licensee to do so.¹⁹⁸

Thus, the government and the community may become liable for the ongoing risks associated with the declared mines, which may involve significant costs. The statutory creation of the Declared Mine Fund **(DMF)** is an acknowledgement that there will be ongoing risks and liability because rehabilitation of these mines is likely to leave a need for ongoing monitoring and maintenance.¹⁹⁹ The amount of the balance of the bond to be paid into the DMF is determined by the Minister having regard to the information about post-closure costs submitted by the licensee in the application for a determination that the closure criteria have been met.²⁰⁰

Finally, declared mines are subject to (additional) biannual reporting on the implementation of a work plan,²⁰¹ and there is a further annual reporting requirement for DMRPs.²⁰² These reports will give government and the community a more up to date understanding of rehabilitation activities of a declared mine. The information to be provided includes details of progress on aspects of the DMRP that require the submission of additional information,²⁰³ reasons for non-compliance with rehabilitation or closure milestones and remedial action,²⁰⁴ a summary of any environmental audits and contamination assessments²⁰⁵ and a report on the progressive rehabilitation of declared mine land.²⁰⁶

2.2.3 Role of the MLRA

The key regulatory provisions of the MRSD Act outlined in 2.2.1 and 2.2.2 above are administered by the Minister for Resources and the Department Head. A key 2019 MRSD Act reform was the creation of a new

¹⁹⁵ MRSD Act s 84AZZB(1).

¹⁹⁶ MRSD Act ss 38(1B)(ab), 83A and 84ZZC(b). Note MRSD Act s.38(1B)(ab) is a separate power of the Minister to cancel a declared mine licence if the licensee has not complied with a DMRP.

¹⁹⁷ Victoria, Parliamentary Debates, Legislative Assembly, 5 June 2019, Second Reading speech (Hon Tim Pallas, Werribee—Minister for Economic Development, Minister for Industrial Relations) 1942 – 1944.

¹⁹⁸ MRSD Act s 84ZZF and s 83(1)(ac) and (3). The Minister may also recover rehabilitation costs from the licensee or former licensee if the costs exceed the amount of the bond: s.83(4).

¹⁹⁹ Regulatory Impact Statement - Mineral Resources (Sustainable Development)((Mineral Industries) Amendment Regulations 2022, https://www.engage.vic.gov.au/draft-declared-mine-regulations-ris p 32

²⁰⁰ MRSD (Mineral Industries) Regulation r 64Q.

²⁰¹ MRSD (Mineral Industries) Regulation Part 5, r 64.

²⁰² MRSD Regulation 57A, inserted by the Mineral Resources (Sustainable Development) (Mineral Industries) Amendment Regulations 2022, r 9. The requirement to submit the annual DMRP report to the Minister is added by an amendment to MRSD (Mineral Industries) Regulation 2019 r 53(4) para (c) inserted by MRSD (Mineral Industries) Amendment Regulations 2022 r 8.

²⁰³ MRSD (Mineral Industries) Regulation r 57A(b)(i).

²⁰⁴ MRSD (Mineral Industries) Regulation r 57A(b)(iii) and (iv).

²⁰⁵ MRSD (Mineral Industries) Regulation r 57A(b)(vii).

²⁰⁶ MRSD (Mineral Industries) Regulation r 57A(b)(ix).

statutory authority, the MLRA, to replace the Latrobe Valley Mine Rehabilitation Commissioner established in 2017.²⁰⁷

The MLRA is constituted under Part 7A of the MRSD Act and commenced on 30 June 2020.²⁰⁸ It has five statutory objectives: 1) public assurance of the rehabilitation planning, implementation and management of declared mines; 2) community and stakeholder participation in the implementation of the LVRRS; 3) promotion of effective mine rehabilitation consistent with the LVRRS; 4) promotion of 'sustainable and beneficial use of coal mine land' in accordance with the LVRRS; and 5) promote rehabilitation of declared mine land in accordance with any Ministerial direction.²⁰⁹

The MLRA's rehabilitation oversight relates to declared mine licensees and declared mine land.²¹⁰ The MLRA's functions include the monitoring and evaluation of:

- the implementation and effectiveness of rehabilitation planning and the LVVRS;²¹¹
- the 'risks posed by geotechnical, hydrogeological, water quality or hydrological factors for declared mine land in relation to public safety, the environment and relevant infrastructure';²¹² and
- LVRRS implementation, including reporting on its effectiveness.²¹³

The MLRA also has the responsibility to provide rehabilitation coordination and advice, which includes: 1) reviewing and making recommendations for declared mines' land rehabilitation research plans submitted by mine licensees;²¹⁴ and 2) coordinating Latrobe Valley rehabilitation planning (which includes the preparation of research plans, conducting research or technical investigations, conducting a rehabilitation trial or preparing a declared mine rehabilitation plan).²¹⁵ The MLRA is required to undertake stakeholder engagement in relation to rehabilitation of the Latrobe Valley mines, which specifically include the Victorian community; other stakeholders; public sector bodies; and declared mine licensees.²¹⁶ This can involve conducting meetings with the Victorian community in relation to rehabilitation planning activities that promote communication and the resolution of issues.²¹⁷

Consistently with these functions, the MLRA may need to advise the Minister on work plan variations for declared mine land. If a mining licensee proposes a declared mine work plan variation, the Department Head must lodge a copy of the application with the MLRA,²¹⁸ which must give comments to the Minister where it identifies any mining hazards, or identifies and assesses risks on the declared mine land or with the risk management plan in relation to the end of mining and the rehabilitation of the mine site.²¹⁹ An application for a work plan variation cannot be granted by the Department Head until the MLRA has provided its

²⁰⁷ Mineral Resources (Sustainable Development) Amendment (Latrobe Valley Mine Rehabilitation Commissioner) Act 2017 (Vic).

²⁰⁸ Mineral Resources (Sustainable Development) Amendment Act 2019 (Vic), No. 32/2019, s 2(3).

²⁰⁹ MRSD Act s 84AE.

²¹⁰ MRSD Act s 84AL(1).

²¹¹ MRSD Act s 84AL(1)(c); see also MRSD Act s 79 and s. 84AZC.

²¹² MRSD Act s 84AL(1)(ka).

²¹³ MRSD Act s 84AL(1)(a), (o).

²¹⁴ MRSD Act s 84AL(1)(d)(1).

²¹⁵ MRSD Act s 84AL(1)(d)(2); see also definition of 'rehabilitation planning' at MRSD Act s 84AA.

²¹⁶ MRSD Act s 84AL(1)(f).

²¹⁷ MRSD Act s 84AL(1)(g).

²¹⁸ MRSD Act section 41(4A).

²¹⁹ MRSD Act section 41(7)(a)(iii) – (v).

comments.²²⁰ The MLRA may also recommend changes to be made to the proposed variation before it is approved or conditions to be imposed on an approval.²²¹

The MLRA has several other powers that facilitate the performance of its oversight functions.

- It may conduct strategic audits 'of public sector bodies and declared mine licensees' in relation to rehabilitation plan activities and the LVRRS.²²²
- It may advise the Minister on any aspect of regional, local or environmental planning that may be impacted by or will impact on declared mine land.²²³
- It manages a 'register of declared mine land'.²²⁴ The MLRA must include any declared mine land on the register at the direction of the Minister or if the Minister pays any rehabilitation bond into the Declared Mine Fund on the cancellation of a mining licence.²²⁵
- It monitors registered declared mine land with the powers to a) 'obtain and hold any entitlement, licence or permission required for the purpose of rehabilitating, monitoring and maintaining [it]';²²⁶ and b) 'rehabilitate, monitor, maintain and manage' it in accordance with the registered post-closure plan.²²⁷
- On the registration of a post-closure plan in the declared mine land register, the MLRA must as soon as practicable lodge with the Registrar of Land notice of any land, other than unalienated Crown land, affected by the registered post-closure plan, and a similar notice must be lodged on the removal of a registered post closure plan.²²⁸
- The MLRA may also become a landowner of Declared Mine Land and adjacent land. The holder of declared mine land that is on the declared mine register may transfer the land to the MLRA 'whether or not for valuable consideration'.²²⁹ This would allow the mine licensee to transfer ongoing liability to the MLRA.²³⁰

In summary, the MRSD Act Part 7A affirms that the MLRA has 'all the powers that are necessary or convenient to perform [its statutorily granted] functions'.²³¹ However, where the MLRA is required, under a registered post-closure plan for registered mine land, to carry out ongoing monitoring and maintenance of the land that it does not own, the MLRA may exercise any function or power authorised under Part 7A other than the investigatory functions or powers under Division 4 of that Part.²³² The logic is that the MLRA should not be investigating its own monitoring and maintenance.

- ²²² MRSD Act s 84AL(1)(b).
- ²²³ MRSD Act s 84AL(1)(e), s 84AL(1)(kj)(ii)
- ²²⁴ MRSD Act s.84AZZL.
- ²²⁵ MRSD Act s.84AZZC.
- ²²⁶ MRSD Act s 84AL(1)(kg).
- ²²⁷ MRSD Act s 84AL(1)(kh).
- ²²⁸ MRSD Act s 84AZZD(1); s 84AZZE.

²³⁰ Mine Land Rehabilitation Authority, 'Mine Rehabilitation: An Inter-generational Process' (Webinar Transcript, 28 July 2021) 13 https://www.mineland.vic.gov.au/wp-

 $content/uploads/2021/09/MLRA_28_July_2021_webinar_transcript.pdf>.$

²²⁰ MRSDA section 41AAB(2)(ea).

²²¹ MRSD Act section 41(7)(b).

²²⁹ MRSD Act s 84AZZF.

²³¹ MRSD Act s 84AL(2).

²³² MRSD Act s 84AZZK.

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2.3 Summary of Latrobe Valley Mine Rehabilitation Regulation

Between 2014–2016, the Hazelwood Mine Fire and subsequent Inquiry heralded significant reforms for the operation of the Latrobe Valley mines. The MRSD Act reforms between 2015–2022 have been driven by a recognition that market forces for the mining industry, ageing infrastructure, the impact of climate change and the fragility of our environment and natural resources require a radical shift in approach to the final rehabilitation of the coal mines. The future is now,²³³ even though rehabilitation will take decades to achieve a safe, stable and sustainable land-form following closure of the coal mines.

The reforms affirm that the MRSD Act and Regulations provide the key regulatory framework for the rehabilitation of the coal mines. The approach to tackling the complexity of rehabilitation issues and risks is the creation of a more sophisticated and layered framework, designed to be adaptable to the energy and environmental challenges facing Victoria, the mine licensees and the community. The focus of rehabilitation now stretches beyond the operational phase of the Latrobe Valley mines to the future of their closure and beyond to a final legacy of a safe, stable and sustainable landform. The standard mine work plans have been re-engineered to require plans for rehabilitation to include proposed land uses, a 'safe, stable and sustainable' land form supporting those uses, completion criteria and a rehabilitation schedule, and an assessment of risks and projected costs to manage them. However, the 2019 reforms with the 2022 regulation amendments go further to introduce bespoke DMRPs to focus on a range of risk assessments, further rehabilitation bonds, closure criteria, a post closure plan and a fire management plan as part of the approved work plan, plus enhanced procedures for consultation and annual reporting. The process of approving and amending a standard work plan and the enhanced DMRP has also been reformed to integrate approval by the Department Head with the procedures under the PE Act and the EE Act, including for the process of determining a declared mine licensee's closure application – that is, the determination of an application that the licensee has met the closure criteria. Failure to meet the closure criteria leaves the Minister with a discretion to cancel the licence, direct payment of the balance of the bond into the new Declared Mine Fund and direct the MLRA to register the declared mine land, leading to public management of the land.

The MLRA, as a new governance entity, sits beside the Department Head's administration of the regulation of the coal mines under the MRSD Act. The MLRA provides oversight of the regulation of the rehabilitation by declared mine licensees of declared mine land by providing advice on proposed work and rehabilitation plans. The MLRA also has the powers to take over declared mine land rehabilitation if the licensee transfers the licence (and liability) to the MLRA or if the Minister cancels a declared mine land licence and directs the MLRA to place that land on the register of declared mine land.

Importantly, the MLRA also monitors the implementation and effectiveness of rehabilitation planning and reporting on the implementation and effectiveness of the LVRRS. The LVRRS provides the primary strategic vision for the MRSD declared mine rehabilitation framework. It guides the engagement between the coal mine licensees, communities and government agencies in relation to the exercise of regulatory powers and decision making for a final safe, stable and sustainable land-form and post rehabilitation monitoring and evaluation. The LVRRS also integrates the mine rehabilitation framework with the administration of regional land and water use planning. Mine rehabilitation regulation necessarily interacts with post mining land use planning under the PE Act and water use planning under the Water Act. Section 3 explores how the LVRRS attempts to share common considerations for decision making about mine rehabilitation by government, mine licensees and the community.

²³³ The closure of remaining two coal mines will commence in 6 years time with the Yallourn mine (2028) followed by the Loy Yang mine 7 years later (2035).

3 The Latrobe Valley Regional Rehabilitation Strategy – the Vision

As observed in the Foreword to the LVRRS, when mining ends 'the focus will turn to mine rehabilitation and finding positive and practical solutions for an area where some of the largest, open cut coal mines in the country are located, in close proximity to communities'.²³⁴

The LVRRS is an integrated, regional rehabilitation strategy for the Latrobe Valley that has been informed by technical studies and stakeholder inputs.²³⁵ It provides the strategic vision for the coal mining and power generation industries and communities to engage with government agencies in relation to the exercise of regulatory powers described above. Crucially, it also provides an integrative mechanism to link the regulatory frameworks for land and water use planning to the administration of the MRSD Act. This section 3 explores the interaction of the regional land and water use planning with the strategic vision of the LVRRS.

3.1 The LVRRS as a Statutory Instrument

The MRSD Act requires the Minister to prepare the LVRRS by 30 June 2020; it was published on the Departmental website on 26 June 2020.²³⁶ The Minister must review it every three years, may amend it at any time, and must publish the amended version on the website. The Minister must consult the MLRA before publishing the LVRRS (in its original or amended form) and must publish a notice of the date of publication in the Government Gazette as soon as practicable after publishing it (in its original or amended form).

The content of the LVRRS must relate to:

'(a) the safety, stability and sustainability of coal mine land and any adjacent land;

(b) the planning for the Latrobe Valley region in relation to the rehabilitation of coal mine land and any adjacent land, and the relationship between each mine void;

(c) the development of a plan for the monitoring and evaluation of coal mine land after rehabilitation of that land is complete'.²³⁷

That is all the MRSD Act says about the LVRRS.²³⁸ The modest statutory provisions for the LVRRS suggest that it is intended to be a flexible, responsive and evolving document. To the authors' knowledge, this form of statutory integrative instrument is unprecedented in Australian natural resources law.

The LVRRS sets out the vision for the transformation of the Latrobe Valley mines and adjacent land to safe, stable and sustainable landforms that support the next land use by stipulating six regional mine rehabilitation outcomes and eight implementation principles.²³⁹ The LVRRS includes context by reference to the HMFI and water based options for the rehabilitation of the Latrobe Valley coal mines,²⁴⁰ to the

²³⁴ Victoria State Government, Latrobe Valley Regional Rehabilitation Strategy (2020) 1.

²³⁵ Victoria State Government, *Latrobe Valley Regional Rehabilitation Strategy* (2020) 7.

²³⁶ Victoria State Government, Department of Jobs, Precincts and Regions, 'Latrobe Valley Regional Rehabilitation Strategy', at <u>https://earthresources.vic.gov.au/projects/lvrrs</u>. See also MRSD Act ss 84AZM and 84AZN.

²³⁷ MRSD Act s 84AZM.

²³⁸ MRSD Act ss 84AZO – 84AZR.

²³⁹ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government, 8.

²⁴⁰ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 9.

Government's Implementation Plan (which includes the Latrobe Valley Regional Geotechnical Study and Regional Land Use Study) and to public consultation on the LVRRS.²⁴¹

It then discusses eight principles to guide rehabilitation planning²⁴² together with the process for integrated rehabilitation planning²⁴³ and a list of implementation actions that identify tasks for each of the two key agencies: Earth Resources Regulation of the Department of Jobs, Precincts and Regions and the water and land use portfolios of the Department of Environment, Land, Water and Planning.²⁴⁴ There is a brief outline for the development of a plan for monitoring and evaluation of coal mine land after rehabilitation is complete.²⁴⁵ An initial evaluation of the LVRRS may suggest that its current content gives more attention to the first and second elements prescribed by the MRSD Act and that, perhaps unsurprisingly, little attention has so far been given to the third element – the preparation of a plan to monitor and evaluate the coal mine land after rehabilitation of that land is complete.

The preparation of the LVRRS was informed by technical studies to assess considerations for water, geotechnical and post-mining land use aspects of the pit lake rehabilitation option but consideration of alternative rehabilitation options is still open.²⁴⁶ Numerous community and stakeholder engagements were also conducted to develop the LVRRS, including community sessions and events and meetings.²⁴⁷

The statutory intent is that the Minister will take into account the views of the MLRA, which may or may not lead to changes before the final LVRRS document is published. We assume that the MLRA was consulted on a draft LVRRS, though we have no evidence of the outcomes of such consultation. It is unclear whether a failure by the Minister to consult with the MLRA *prior* to publication could lead to invalidity of the LVRRS. It is doubtful that a failure to gazette notification of the LVRRS or an amendment would do so.

The MRSD Act does not specify the legal effect given to the LVRRS. At the very least, the statutory objectives of the MLRA will give some weight to the content of the LVRRS because they include:

- to provide assurance to the Victorian community that the public sector bodies and mine licensees 'are implementing the [LVRRS]',
- to promote the participation of the Latrobe Valley community and stakeholders 'in the implementation of the [LVRRS]',
- to 'promote the effective and consistent rehabilitation of coal mine land in accordance with the [LVRRS]', and
- to 'promote the sustainable and beneficial use of coal mine land in accordance with the [LVRRS]'.²⁴⁸

It is doubtful that these general statements of objectives for the MLRA would provide any justiciable standard for adjudicating compliance with the LVRRS unless it could be shown that the MLRA was completely abdicating the exercise of its functions.

The LVRRS is more than a mere informational vision statement disconnected from the broader regulatory framework of the MRSD Act. The LVRRS is further integrated as a mandatory relevant consideration for the

²⁴¹ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 11 - 15.

²⁴² Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 16 - 24.

²⁴³ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 27 - 29.

²⁴⁴ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 28 - 30.

²⁴⁵ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 25.

²⁴⁶ Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (Fact Sheet, 2019) <<u>https://www.water.vic.gov.au/ data/assets/pdf_file/0021/436440/LVRWS_Fact-Sheet-.pdf</u>>.

²⁴⁷ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 67.

²⁴⁸ MRSD Act s 84AE(a)-(d).

MLRA in the exercise of its powers.²⁴⁹ Examples of this range from the MLRA monitoring and evaluating the implementation of rehabilitation planning activities and the strategy²⁵⁰ to conducting strategic audits of public service bodies and declared mine licensees regarding the rehabilitation planning activities and the LVRRS.²⁵¹ The MLRA can also provide advice and recommendations to the Minister in relation to the LVRRS²⁵² and monitor and report on the implementation by public bodies and the Latrobe Valley licensees of the LVRRS.²⁵³

Further, if the Minister refers to the MLRA for investigation a matter relating to the LVRRS²⁵⁴ the MLRA, has for example, powers of entry and inspection without consent, to take samples and audio-visual recordings²⁵⁵ and the ability to require a licensee²⁵⁶ or a public sector body²⁵⁷ to give the MLRA documents or any other thing. In relation to a non-investigatory function, the MLRA has the power to obtain documents or information that could relate to the evaluation of the LVRRS or a strategic audit.²⁵⁸

Despite these powers of the MLRA, the LVRRS is not directly enforceable.

If the issue relates to a Latrobe Valley licensee's implementation of the LVRRS, there is nothing in the LVRRS or in the powers and functions of the MLRA to require the licensee to address the issue. Perhaps indirectly, enforcement action could be taken in the broader regulatory framework through the means of cancellation of the licence by the Minister²⁵⁹ or the issue of a remedial notice to the licensee.²⁶⁰ However, there is no statutory language that suggests the implementation of the LVRRS by a Latrobe Valley licensee can be addressed in this way. To the extent that the LVRRS is reflected in a DMRP, it would be enforceable through the issue of a remedial notice for failure to comply with the DMRP.²⁶¹

If the issue relates to actions or omissions by a public sector body with the implementation of the LVRRS, similarly, there is nothing in the LVRRS or the functions and powers of the MLRA to address such issues. It may be that any required action would need to rely on the Minister's general directions to the Department Head to consider the issues and any recommendations made by the MLRA to take the necessary action. This in turn could result in an amendment to the LVRRS.

As a result of the statutory framework, the LVRRS is clearly not directly enforceable under the MRSD Act, and relies on indirect implementation by decisions of the Department Head, MLRA advice and mine licensees operating under licence conditions and approved work plans, including the DMRPs. Is this a sufficient legal effect for the LVRRS for the future?

We turn next to consider how the LVRRS addresses the integration of the MRSD Act regulation of mine rehabilitation with land and water use planning.

- ²⁵³ MRSD Act s 84AL(1)(o).
- ²⁵⁴ MRSD Act s 84AQ(1)(b).

²⁵⁹ MRSD Act s 38.

²⁴⁹ MRSD Act s 84AM(b).

²⁵⁰ MRSD Act s 84AL(1)(c).

²⁵¹ MRSD Act s 84AL(1)b).

²⁵² MRSD Act s 84AL(1)(h)(v).

²⁵⁵ MRSD Act s 84AR

²⁵⁶ MRSD Act s 84AW.

²⁵⁷ MRSD Act s 84AX.

²⁵⁸ MRSD Act ss 84AZA (public sector body), 84AZB (Latrobe Valley licensee).

²⁶⁰ MRSD Act s 110.

²⁶¹ MRSD Act ss 38(1B)(ab) and 110(1)(b)(vi).

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3.2 The LVRRS and Land Use Planning

The LVRRS, like the Latrobe Planning Scheme, shares a common purpose of mine rehabilitation – a safe, stable and sustainable landform to support the next land use.²⁶² Thus, there are various integrative propositions that may be drawn from each of these documents.

First, planning for mine rehabilitation should be linked to planning for the use of land both during and after the transition to a rehabilitated state.²⁶³ Post-mining landforms, including ground movements, should feature minimum reasonable risks to public health and safety within and beyond the mine boundaries, at the time the mining licence expires and beyond. Future ground movements of these landforms should be understood, predictable and controllable, having regard to their proposed post-mining land use(s).²⁶⁴

Secondly, proposals for the rehabilitation of mined land should identify both practicable and intended land uses for the rehabilitated landform, having regard to various factors including the relevant objectives and strategies in the Latrobe Planning Scheme and assessment of land development under the existing zones and overlays applying to mine areas. Innovation and emerging technologies and opportunities for environmental enhancement are also recognised as important features for the post mining rehabilitation phase.²⁶⁵ As part of the MLRA plan to monitor and evaluate coal mine land after completed rehabilitation, consideration will be given to changing hazards arising from evolving climate conditions, surface and sub-surface (coal) fire hazards and ground movement and stability hazards.²⁶⁶

Thirdly, the LVRRS recommends that the Latrobe Planning Scheme be amended to incorporate strategic actions relating to structure planning for post-mining land use and development of rehabilitated mines and adjoining lands. It notes the need for appropriate coordination of the Planning Scheme with the rehabilitation planning under the MRSD Act and acknowledges that updates may take time to achieve and the timeframe for these are not clear. This could be a risk to achieving planning outcomes.

Another issue for land use planning and mine rehabilitation is enabling alternative land uses to support postmining economic opportunities. This includes resolving conflicting land uses and addressing future employment and industries.²⁶⁷ For example, the 2017 Victorian Productivity Commission Inquiry into Transforming Regional Economies observed that:

'Planning and zoning regulations also often fail to meet their objectives because they are not sufficiently adaptable for managing changing agricultural land uses. The quarantining of land for coal mining in the Latrobe Valley is another example of where planning regulation may be impeding development and adaptation in regional Victoria'.²⁶⁸

The first response to this observation is that post-mine land use planning for rehabilitation of the Latrobe Valley mines should account for the region's historic and possible future in providing energy security. However, it does not appear that 'energy security' is a planning scheme objective, although energy projects are recognised as possible alternative use options and sources for future jobs.

<https://www.pc.gov.au/ data/assets/pdf file/0020/214931/sub035-transitioning-regions-attachment.pdf>.

²⁶² Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 17.

²⁶³ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 17.

²⁶⁴ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 17

²⁶⁵ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 24

²⁶⁶ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 25.

²⁶⁷ See, e.g., Latrobe City Council, submission 35 (attachment) 'Barriers to Growth in Latrobe City: Absence of Energy and Coal Policy Impeding Economic Diversification of the Latrobe Valley' to Australian Government Productivity Commission Inquiry into Transitioning Regional Economies (March 2017)

²⁶⁸ Australian Government, Productivity Commission, *Transitioning Regional Economies: Productivity Commission Study Report* (December 2017) 24.

Further, the *Climate Change Act 2017* (Vic) has established a net zero greenhouse gas emissions target for 2050. To achieve this, Victoria will have to transition to clean electricity sources.²⁶⁹ This is a significant challenge. In 2015, over 80% of Victoria's electricity was generated from brown coal.²⁷⁰ Presently, the coal-fired power stations at Loy Yang and Yallourn provide half of Victoria's base load electricity.²⁷¹ From an energy security perspective, once the Yallourn power station is closed in 2028, the AEMO estimates 300–500 MW of new firm capacity will be needed to meet Victoria's reliability standard.²⁷²

There are a number of energy supply proposals but it is not clear that these have yet been incorporated into the LVRRS. EnergyAustralia (owner of Yallourn) has committed to construct a 350MW four-hour utility-scale battery project, which is scheduled to be commissioned in 2026.²⁷³ It will be built at AGL's Jeeralang gas-fired power station in the Latrobe Valley.²⁷⁴ The Jeeralang Battery project could provide some of this new capacity and support integration of renewable energy into the centralised grid, which would improve energy security.²⁷⁵ Another possibility for closing the electricity capacity gap (and improving energy security) after Yallourn's closure is the 2200 MW Star of the South offshore wind farm presently in the feasibility phase.²⁷⁶ Alternatively, 'coal-derived energy projects'²⁷⁷ and links to carbon capture and storage are noted as future use possibilities in the *Draft Preliminary Land Use Vision* (**PLUV**), which informed development of the LVRRS.²⁷⁸ One of the LVRRS integrated implementation actions is for the planning portfolio to provide advice to stakeholders on the 'integration of mine land use plans with the Preliminary Land Use Vision'.²⁷⁹ It is

²⁷⁴ Energy Australia, Jeeralang Battery: Fact Sheet (Fact Sheet, March 2021) <https://www.energyaustralia.com.au/sites/default/files/2021-03/EA_JeeralangBattery_vF.pdf>.

- ²⁷⁶ Angela Macdonald-Smith, 'Offshore Wind Pioneer Firms Up Grid Link' *The Australian Financial Review* (Online, 22 March 2021) https://www.afr.com/companies/energy/offshore-wind-pioneer-firms-up-grid-link-20210322-p57ctn>.
- ²⁷⁷ The State of Victoria, Department of Environment Land Water and Planning, Latrobe Valley Draft Preliminary Land Use Vision, (2019) 28 <https://www.planning.vic.gov.au/_data/assets/pdf_file/0021/436107/LatrobeValley-Draft-Preliminary-Land-Use-Vision-Oct2019.pdf>
- ²⁷⁸ The State of Victoria, Department of Environment Land Water and Planning, Latrobe Valley Draft Preliminary Land Use Vision, (2019) 11 https://www.planning.vic.gov.au/_data/assets/pdf_file/0021/436107/LatrobeValley-Draft-Preliminary-Land-Use-Vision-Oct2019.pdf>
- ²⁷⁹ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 28.

²⁶⁹ Victoria State Government, Victoria's Climate Change Framework 24 <https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0021/55254/DELWPClimateChange_Framework.pd f>

²⁷⁰ Victoria State Government, Victoria's Climate Change Framework 23 <https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0021/55254/DELWPClimateChange_Framework.pd f>

 ²⁷¹ Latrobe City Council, Latrobe City Council Submission to the Legislative Council Economy and Infrastructure Committee's Inquiry into the Closure of the Hazelwood and Yallourn Power Stations (July 2021)
https://www.latrobe.vic.gov.au/sites/default/files/2021-09/Latrobe%20City%20Council%20Submission%20-%20Inquiry%20into%20Closure%20of%20Hazelwood%20and%20Yallourn.pdf.

²⁷² AEMO, 2021 Statement of Opportunities: A Report for the National Electricity Market (Report, 2021) 62 <https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2021/2021-nemesoo.pdf?la=en&hash=D53ED10E2E0D452C79F97812BDD926ED>.

²⁷³ AEMO, 2021 Statement of Opportunities: A Report for the National Electricity Market (Report, 2021) 8 <https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2021/2021-nemesoo.pdf?la=en&hash=D53ED10E2E0D452C79F97812BDD926ED>.

²⁷⁵ AEMO, 2021 Statement of Opportunities: A Report for the National Electricity Market (Report, 2021) 8 <https://www.aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2021/2021-nemesoo.pdf?la=en&hash=D53ED10E2E0D452C79F97812BDD926ED>; Energy Australia, Jeeralang Battery: Fact Sheet (Fact Sheet, March 2021) <https://www.energyaustralia.com.au/sites/default/files/2021-03/EA_JeeralangBattery_vF.pdf>.

possible that the interaction of these two documents (the LVRRS and the PLUV) is not harmonised and that the issue of future coal derived energy projects could be the subject of amendments to the LVRRS.

3.3 The LVRRS and Water Use Planning

An equally important question is how the LVRRS integrates with water resource planning and management, especially given the legacy of pit lakes as the historically preferred mine rehabilitation method and growing concern about climate change. A Regional Geotechnical Study for the LVRRS found that coal fire risk is 'best managed by covering the exposed coal' by water and by vegetation above the water line, and that climate change projections of longer periods of dry weather could present additional challenges to managing fire risks.²⁸⁰

Climate change also presents issues for water use and management for mine rehabilitation. Reduced surface water availability associated with a drying climate could strain regional water security, affecting other water users, rivers, wetlands and lakes. Filling the mine voids with this water could exacerbate this risk.²⁸¹ For example, the LVRRS observes that:

'To protect the security of existing entitlements for other water users and prevent further environmental impacts, the maximum annual supply of water for mine rehabilitation would need to be no more than the power stations' current annual net usage, and may need to be limited to a volume smaller than this, should the Minister for Water decide to permit the take and use of water'.²⁸²

Also:

'Any filling of the mine voids with water from the Latrobe River system would need to be subject to conditions, such as restricting or halting filling when it is dry, to prevent unacceptable impacts on other water users and the environment and allow for declines in water availability to be shared between all water users'.²⁸³

Water availability and regional water security may influence the timeframes for filling the pits, requiring them to be filled slowly (over decades) or intermittently (during wetter periods).²⁸⁴ It would also affect the extent to which the pits could be filled and the use of water to counter evaporation from the pits.²⁸⁵

Thus, a common theme to emerge from LVRRS stakeholder consultation was consideration of a drying climate.

'Many stakeholders were aware of the drying climate and wanted to see this as a critical factor in decision-making. The fact that multiple users are competing for a resource that is also desirable for mine rehabilitation, such as water, was clear throughout consultation, particularly when each of these users may view the value of the resource differently'.²⁸⁶

Perhaps unsurprisingly, there has been criticism of the pit lakes rehabilitation option by some sections of the community, which raises concerns about the equity and acceptability of this option. For example, most of

²⁸⁰ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 46.

²⁸¹ Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (Fact Sheet, 2019) <<u>https://www.water.vic.gov.au/ data/assets/pdf_file/0021/436440/LVRWS_Fact-Sheet-.pdf</u>>.

²⁸² Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 20.

²⁸³ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 13.

²⁸⁴ Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (Fact Sheet, 2019) <<u>https://www.water.vic.gov.au/ data/assets/pdf_file/0021/436440/LVRWS_Fact-Sheet-.pdf</u>>.

²⁸⁵ Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Regional Water Study (Fact Sheet, 2019) <<u>https://www.water.vic.gov.au/ data/assets/pdf_file/0021/436440/LVRWS_Fact-Sheet-.pdf</u>>.

²⁸⁶ Latrobe Valley Regional Rehabilitation Strategy (2020) Victoria State Government 74.

the Victorian Farmers' Federation's (**VFF**) recommendations in its submission to the LVRRS concerned water availability.²⁸⁷ The VFF expressed concern that agriculture cannot sustain higher water costs and compete with mine operators for water.²⁸⁸ The VFF recommendations to explore alternative rehabilitation options are yet to be addressed in an updated LVRRS.

The Victorian government has suggested stakeholders collaborate to explore alternative water sources for mine rehabilitation, and that assessment of these options should 'consider co-opportunities that could be delivered for regional development, irrigation, industry and jobs from additional water being made available within the region'.²⁸⁹ This suggests water availability could support a range of future economic opportunities for stakeholders and community members. It is not known if possible future post-mining opportunities have explored water use requirements to support future energy projects.

Under the MRSD Act, the LVRRS can provide guidance to mine licensees for the transition to a safe stable and sustainable landform for the Latrobe Valley when the coal mines cease operation. This guidance includes how water may be allocated and accessed in the Latrobe Valley if it is required for mine rehabilitation, even though those water entitlements will be determined under the Water Act. The LVRRS can also assist mine licensees on the types of conditions that may be placed on any new water entitlements that may be issued in the Latrobe system for the purpose of mine rehabilitation to ensure that other users and values are not negatively impacted.²⁹⁰ If water is proven to be essential for safe and stable mine rehabilitation, the mines' rehabilitation and closure plans will need to demonstrate how water levels are to be maintained in perpetuity (accounting for evaporative loss). Conditions on water access for this purpose would apply to prevent or minimise impacts on other consumptive users, the environment, cultural and other values.²⁹¹ Interestingly, this premonition of regulating the use of water for mine rehabilitation combines or integrates the legal effect of both mining licences and water entitlements.

²⁸⁷ Victorian Farmers Federation Submission to the Latrobe Valley Regional Rehabilitation Strategy (2020) 3.

²⁸⁸ Victorian Farmers Federation Submission to the Latrobe Valley Regional Rehabilitation Strategy (2020) 3

²⁸⁹ Environment, Land, Water and Planning, Latrobe Valley Regional Rehabilitation Strategy – Alternative Water Options (Fact Sheet)<https://www.water.vic.gov.au/__data/assets/pdf_file/0030/477057/LVRRS-Alternative-Waterfactsheet.pdf>

²⁹⁰ Mine Land Rehabilitation Authority Forum, Water Sharing in the Latrobe Valley, (2021) slide 16 <u>https://www.mineland.vic.gov.au/wp-content/uploads/2021/03/MRLA-Webinar-1 Action-3 DELWP-presentation.pdf</u>

²⁹¹ The State of Victoria, Department of Environment Land Water and Planning, *Latrobe Valley Regional Rehabilitation* Strategy – Regional Water Study (2019) 2.

4 Conclusions

This case study maps the complex detail of Victoria's adaptive and integrated regulatory framework for mine rehabilitation as it applies to the Latrobe Valley coal mines, addressing the regulation of mine rehabilitation interacting with planning for land and water use in dynamic contexts. It highlighted reforms to the MRSD Act and Regulations, the central role of the MRSD Act instruments and procedures (especially the DMRPs), the important oversight role of the MLRA and the potential legal effect of the principal integrative instrument, the LVRRS. We hope that the section 2 explanation of the regulation of the Latrobe Valley mines' rehabilitation will assist the community to understand the framework to be applied in the next three years for the preparation of the DMRPs. We raise some questions about that regulatory framework and suggest areas for future research to improve the land use and water use planning processes as part of that MRSD Act regulatory framework.

In respect of land use planning, this case study identified issues in the regulatory responsiveness of Victoria's adaptive framework; in particular, there is an unclear timeframe for ongoing updates to the Latrobe Planning Scheme to incorporate strategic actions that reflect innovation in emerging energy technologies and environmental enhancement. The regulatory responsiveness of land use planning may be encumbered by the participation and coordination of regulators, policymakers and stakeholders at local, regional and state levels and the need to consider revising environmental, social and economic outcomes when some sections of the community maintain aspirations for the future of the coal industry in energy supply. For example, the interface of the PE Act with the Latrobe Valley Planning Scheme, Gippsland Regional Growth Plan and the LVRRS highlights the difficulty of achieving a more cohesive approach to land use planning for the rehabilitation of the Latrobe Valley mines. Further research could be undertaken to:

- identify the reforms needed to the land use planning framework (including the Latrobe Planning Scheme) to provide greater adaptability to changing circumstances and competing future uses of rehabilitated mine land; and
- 2. consider how the land use planning framework could be more effectively coordinated with other regulatory frameworks associated with the rehabilitation of the Latrobe Valley coal mines; for example, the MRSD Act and LVRRS, EP Act and Water Act.)

In respect of water use planning, it is clear that climate change and water scarcity present issues in managing limited water resources in the face of competing user interests and needs of the environment. Further research could be undertaken to:

- 1. identify how national, state and regional policies and law for water use planning can provide an approach that is both sufficiently flexible and transparently certain for balancing the competing interests of mine licensees in rehabilitation and protecting the rights of other (non-mine) water users; and
- 2. in implementing and reforming the mine rehabilitation planning framework, consider integrating it more efficiently with the strategic water policy documents; for example, the Central and Gippsland Region Sustainable Water Strategy that includes the Latrobe Valley water resources.

The flexibility of the LVRRS is important to the implementation of the Latrobe Valley mines rehabilitation framework. On the other hand, the case study identified several areas where decision making parameters could be unclear, including: 1) what land use planning provision could and should be made for the future use of coal resources for energy and to what extent current land use planning provisions constrain future post-mine alternative land uses; 2) how will decisions be made to protect the rights and opportunities of other water users if large amounts of water are required for filling of pit lakes; 3) what would happen to the bulk water entitlements allocated to power generation if alternative methods of mine rehabilitation were to be

adopted; and 4) what will happen long-term to take and use licences for ground water extraction for mine stabilisation.

An interesting legal question for these issues is where the decision-making for the future of these land and water use decisions should sit – in mine rehabilitation planning (under the MRSD Act), in land use planning (under the PE Act) or in water use planning (under the Water Act). Is this a question for legal reform?

Any reforms must ensure the efficient provision of information to enhance discussions between stakeholders and to inform decisions about the implementation of the Latrobe Valley mines rehabilitation framework. The facility for the information to flow between regulators, policy makers and stakeholders, including local communities, is crucial to the success of future reforms and the successful rehabilitation of the Latrobe Valley mines. The LVRRS process has invaluably contributed to this information flow but we recognise that this is another issue for further research.