Alternative water sources and the Latrobe Valley

Mine Land Rehabilitation Authority Forum 9 February 2021



Government commitment: LVRRS actions

VISION

ACTIONS

The Latrobe Valley coal mines and adjacent land are transformed to safe, stable and sustainable landforms which support the next land use

Declared Mine Regulations (Action 2):

DJPR to develop new Declared Mine regulations, to enable government, mining operators and the community to make decisions relating to declared mine land and the risks and liability attaching to it.

Guidance on climate change impacts to water availability (Action 1):

DELWP to provide guidance on climate change scenarios to be used by mine licensees when planning for projected water resource availability. Updated guidance for the Latrobe Valley context will be provided upon the release of the next iteration of the 'Guidelines for Assessing the Impact of Climate Change on Water Supplies in Victoria'. This analysis is to inform licensees' preparation of their Declared Mine Rehabilitation Plan.

Access to Latrobe River and local aquifers (Action 3):

DELWP to provide high-level guidance on how water from the Latrobe River system may be allocated and accessed for the purposes of Latrobe Valley mine rehabilitation including indicative conditions that may be placed on any water entitlements that protect the rights of existing users, like farmers, towns and businesses, the environment and values of Traditional Owners. This advice is to inform licensees' preparation of their Declared Mine Rehabilitation Plan.

Feasibility of alternative water sources – recycled water and desalinated water (Action 4):

Mine operators encouraged to collaborate with Government and stakeholders to further assess the feasibility of alternative water sources (such as recycled or desalinated water) for mine rehabilitation. This analysis should inform licensees' preparation of their Declared Mine Rehabilitation Plan.

Non-water and contingency rehabilitation options (Action 5):

Mine operators encouraged to collaborate with Government and stakeholders to identify non-water and contingency rehabilitation options to manage land stability and fire risks.

MLRA webinar

Improved information base to inform rehabilitation options

Rules

Longer-term & ongoing research

MLRA webinar 1

Address mine-scale knowledge gaps (Action 6):

DJPR to support the Integrated Mines Research Group in identification of investigations to bridge rehabilitation knowledge gaps, with oversight from the Mine Land Rehabilitation Authority

Mine rehabilitation: what we heard



Desire to ensure rehabilitation doesn't come at a cost to taxpayers



Concern about water availability





Consideration of non-pit lake options



Need for **partnership** between government, industry and community to deliver optimal outcomes



Desire for positive legacy with sites offering amenity

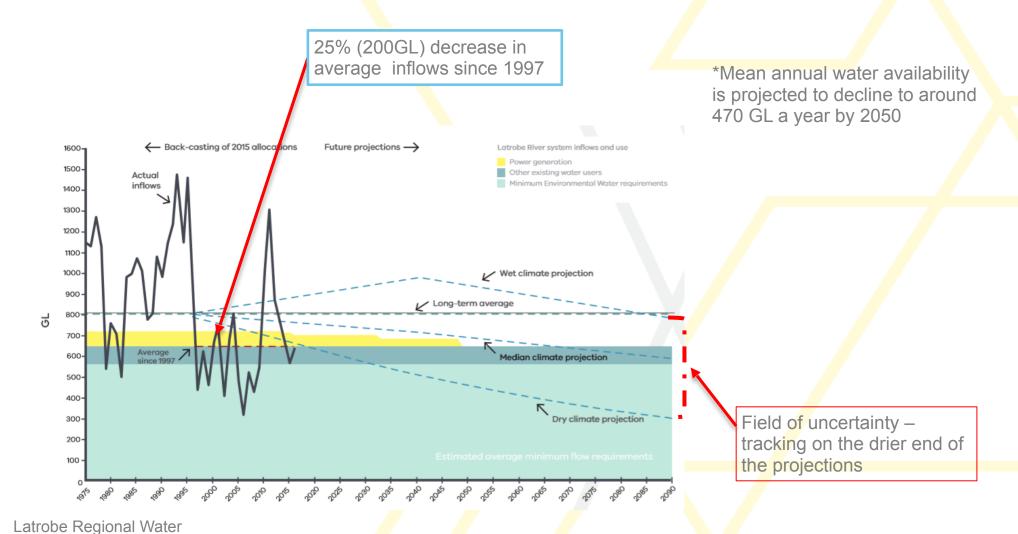


Feasibility of alternative water: scope of this presentation

- 1. Key considerations why alternative water?
- 2. What is alternative water? Examples of where alternative water is used elsewhere
- 3. Assessing feasibility for mine rehabilitation and next steps

Rationale for considering alternative water

Study (DELWP: 2019)



Rationale for considering alternative water

A mine rehabilitation approach that is not dependant on rainfall is more resilient to:

Risks of extended dry periods

Declines in water availability





Alternative water sources are climate resilient creating certainty that safe and stable mine voids can be achieved and maintained into the future

Characteristics of alternative water

- Climate resilient water from sources other than the Latrobe River system or Latrobe Valley aquifers
- Water is fit-for-purpose or an acceptable water quality for its intended end use
 - Likely to require treatment to ensure no negative environmental impacts and allow for passive or active recreation etc.
- Volumes that can make a material difference to hasten mine rehabilitation on a regional scale
 - >> 10 GL but more like 50 100 GL per year.

Examples of alternative water



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Integrating feedback into the assessment approach

We've heard from:

- Water corporations
- Mine licensees and power generators
- Community groups
- Irrigators
- Government departments
- Regulatory bodies

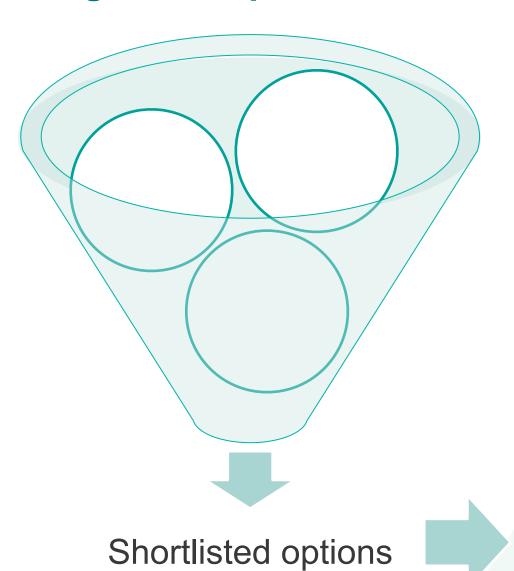
- We need to coordinate and collaborate with stakeholders and be mindful of broader regional programs
 - ✓ We are taking a coordinated approach to ensure aligned and consistent outcomes across LVRRS implementation actions and water resource and economic planning in the region
- It is important to consider a broad range of climate resilient alternative water options
 - ✓ All ideas have been noted as part of an extensive process, starting a longlist and narrowing down to a short-list
- Water quality is a key consideration when assessing alternative water options
 - ✓ Understanding water quality is a key component of technical feasibility. We will assess water quality risks to a range of beneficial uses

Implementation Action 4

Further assess the feasibility of alternative water sources that could be used for mine rehabilitation

- 1. Identify potentially feasible alternative water source options (complete)
- 2. Options development, including investigation of water quality implications and estimated costs (underway)
- Assessment the risks and opportunities of different options and how these might impact different stakeholders
- 4. Options comparison using the findings of the technical feasibility assessment alongside the risk and opportunity analysis.

Examples of long list of options – not exhaustive



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Concept designs and cost estimates to inform rehabilitation planning

Next Steps FFICIAL

Questions?

