

Considering alternatives in the EES

ENGIE Hazelwood is progressing a comprehensive technical assessment and consultation process for the Hazelwood Rehabilitation Project Environment Effects Statement (EES).

Delivering a safe, stable, sustainable and non-polluting landform is central to the feasibility and success of the Hazelwood Mine Rehabilitation Project and the site's potential for productive future uses.

A pit lake is proposed to keep the mine void and surrounding areas stable and safe from risks of ground movement and fire.

This paper provides information on:

- How alternatives are being considered in the EES
- Alternatives that are not feasible
- How a pit lake has been identified as the preferred landform
- Why there is no 'do nothing' option

Alternatives are being considered in the Hazelwood EES

An EES is a well-established process under the Victorian Environment Effects Act 1978, that provides a comprehensive framework for assessing projects with the potential for significant environmental effects. The EES process usually requires proponents to consider alternative project scenarios.

The EES Scoping Requirements require the Hazelwood Rehabilitation Project EES to:

- describe any feasible alternatives capable of substantially meeting the project's objectives
- describe how information gathered during consultation was used to refine and inform the assessment of project alternatives
- document the assessment of likely environmental effects of feasible alternatives, particularly where these may avoid or minimise significant environmental effects.

The final EES documentation will include an Alternatives chapter and consideration of alternatives in relevant technical reports.

The consideration of alternatives will include:

- alternatives to a full lake landform
- options for water sources to fill the pit lake
- different approaches and timings for filling the pit lake
- options with and without a connection to the Morwell River

Why a full pit lake is proposed to rehabilitate the Hazelwood mine void

The size and close proximity of the Hazelwood mine void to the Princes Freeway, Morwell township and the Morwell River mean that long-term safety and stability are extremely important considerations for its rehabilitation.

If left unfilled and unmanaged, the Hazelwood mine void could lead to issues including unsafe ground movement and fire from exposed coal. These are significant risks and ENGIE Hazelwood has a legal responsibility to manage these risks.

A full pit lake is proposed because the weight of the water would push down on the floor and out on the walls of the mine. This pressure will keep the very large mine void, walls and the land around it stable and safe and achieve what's known as passive stability, or controls that will last forever without requiring ongoing intervention.

A full pit lake would not just make the site stable and safe - it would provide significant potential economic, recreational and flood mitigation benefits to the region long into the future.



Project objectives and mining licence obligations

ENGIE Hazelwood needs to deliver a safe, stable, sustainable and non-polluting landform that enables productive future uses of the site.

These are both the project’s objectives and formal requirements ENGIE Hazelwood must comply with under its Mine Licence and under Victoria’s mining and environmental laws.

All potential options for the site’s rehabilitation must be considered against these objectives.

Work to date to consider alternatives

ENGIE’s Hazelwood’s work to date has identified that some previously identified alternatives are not feasible.

Landform alternatives

Option	Description	Potential impacts
Full backfill	A full backfill option would involve filling the mine pit fully with soil to return the site to pre-mining ground levels.	<ul style="list-style-type: none"> • Around 1.2 billion cubic metres of earth and rock would be needed to fill the mine void - around 762 MCG’s worth and equal to diverting Victoria’s total quarry production for nearly 45 years. • Around 160 million truck movements would be needed to transport the soil to the site - and take around 450 years to fill the pit. • For residents living nearby that would mean 2 trucks passing their house every minute, for 10 hours per day, 6-days a week. • Taking material from an alternate location would create new environmental risks that would need to be managed.
Full backfill with waste	A full backfill with waste option would repurpose the mine void as a landfill and accept waste from Victoria and likely around Australia.	<ul style="list-style-type: none"> • Around 1.4 billion cubic metres of waste material would be required to fill the mine void - if all of Melbourne’s annual landfill waste were diverted every year for over 190 years. • Creating a mega landfill in the Latrobe Valley would negatively impact nearby communities, not deliver a stable mine, increase fire risk of the site and risk contamination of nearby soils and waterways.

Other previously identified options for rehabilitating the mine void are expected to present a range of impacts and challenges. These options will be reviewed as part of the alternatives assessment in the EES.

Water source alternatives

Option	Description	Potential impacts
Establish a connection to Wonthaggi Desalination Plant	Use desalinated water by building a pipeline connection between the Hazelwood site and Wonthaggi Desalination Plant.	<ul style="list-style-type: none"> • This option would involve building a new 90 to 130km pipeline connection between the two sites. • A new above ground pipeline connection would have a range of impacts, including private property acquisition along the route, disruption to farming practices in South Gippsland and impacts and disruption to other infrastructure along the pipeline route. • Generation of desalinated water involves intensive energy requirements and there are capacity issues of the existing plant to be managed.
Using sea water to fill the pit lake	Construct a pipeline and multiple pumping stations from the Gippsland coast to the Hazelwood site to pump seawater into the mine void.	<ul style="list-style-type: none"> • This would involve building a new pipeline of around 50km to 60km • An above ground seawater pipeline connection would have a range of impacts, including private property acquisition and disruption to farming practice and landholders. • Introducing sea water into a fresh water environment would also have impacts, potentially leading to contamination of the underlying aquifer and groundwater and the risk of leaking of saline water into the Latrobe River system.

Considering the option of a partial lake

In consultation with the Department of Transport and Planning and the EES Technical Reference Group, ENGIE Hazelwood will include consideration of a partially filled lake scenario in the EES Alternatives assessment.

Key considerations:

- Capacity of a partially filled lake to achieve geotechnical stability, a requirement under ENGIE's Mine Licence
- Whether a partial fill scenario would achieve long term 'passive' stability of batters and walls, which in some cases can only be achieved by water filling to a high level
- Ensuring the water volume provides enough weight to avoid floor heave which is a significant risk as the aquifer re-pressurises
- Potential effects on water quality, water resource use and mine fire risk.

Because of the safety risks of steep and exposed batters, a partially filled pit lake would need to be permanently fenced, would never be useable for the public or provide opportunities for future uses of the mine void.



There is no 'do-nothing' option at the Hazelwood site

An empty mine void would have substantial ongoing stability and fire risks and would require the permanent pumping of significant volumes of groundwater from below the mine. These are known as 'active' controls and are typical for operational mining environments.

How a pit lake landform has been identified

A pit lake landform has been a central element of the rehabilitation plans for the site since the mine was first developed by the State Electricity Commission of Victoria (SECV) in the 1950s.

Extensive previous technical assessments have been undertaken involving independent specialist advice, though the 2015-2016 Hazelwood Mine Fire Inquiry, the Latrobe Valley Regional Rehabilitation Strategy (LVRRS), the Integrated Mines Research Group and ENGIE Hazelwood's own studies program.

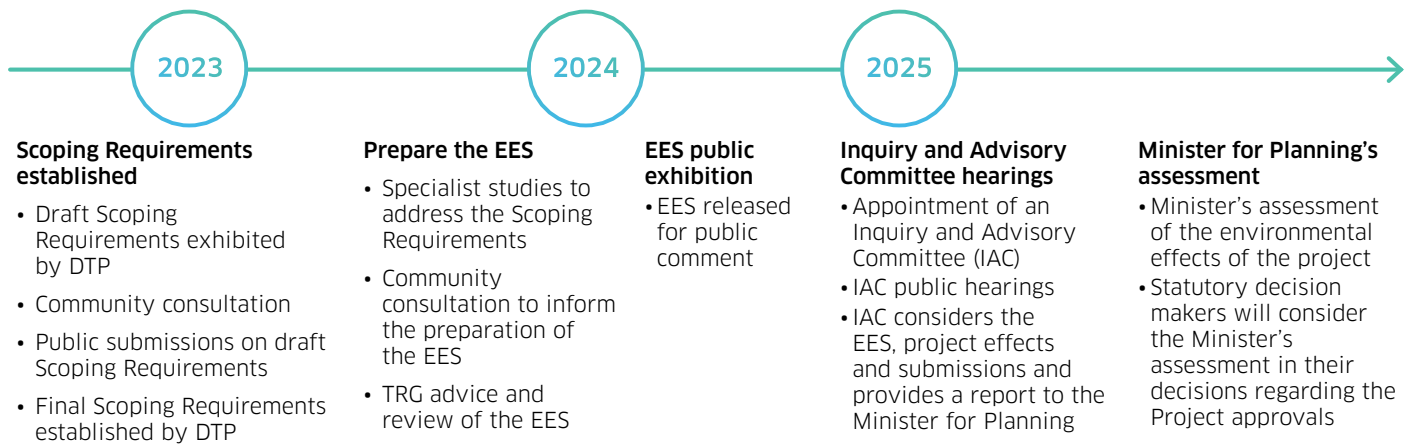
Informed by this work, ENGIE Hazelwood considers a full pit lake to be the most effective and lowest risk method for achieving a passive long-term safe, stable, sustainable and non-polluting landform.



Have your say on the Environment Effects Statement

The EES for the Hazelwood Rehabilitation Project is being prepared and is expected to be exhibited for public comment from late 2024.

Key steps to prepare the Hazelwood Rehabilitation Project EES



Community and stakeholder input plays an important role in informing the preparation of the EES, well before it is finalised for exhibition.

ENGIE Hazelwood is holding a range of consultation activities to understand community views and feedback, and you can have your say any time.



Visit our website



Ask a Question



Sign up for updates

Find out more and stay involved

@hazelwood.au@engie.com ☎ 5135 5000

ENGIE Hazelwood acknowledges that the Gunaikurnai people are the Traditional Owners and Native Title holders of lands and waters in the Latrobe Valley and broader Gippsland region in which the ENGIE Hazelwood Rehabilitation Project is located, and we pay our respects to Elders past and present.

hazelwoodrehabilitation.com.au

