

MOOLARBEN COAL COMPLEX OC3 EXTENSION PROJECT

SECOND AMENDMENT REPORT

MAIN TEXT



APRIL 2026

EXECUTIVE SUMMARY

Moolarben Coal Operations Pty Ltd (MCO) is proposing to extend open cut mining operations at the Moolarben Coal Complex immediately south of the approved OC3 open cut pit within existing mining tenements, including four new open cut pits to the east and south-east of the approved OC3 mining area (the Project). The Project represents a logical extension of existing operations within an established mining precinct.

The Project would provide continuity of open cut mining, security of employment for the existing Moolarben open cut workforce, maximise use of the existing mining fleet, and maintain steady production of run-of-mine (ROM) coal at the Moolarben Coal Complex post-completion of mining within the approved OC3 mining area. The Project would comply with all applicable statutory requirements and is consistent with relevant strategic and statutory planning policy objectives.

The New South Wales (NSW) Department of Planning, Housing and Infrastructure (DPHI) referred the Project to the NSW Independent Planning Commission (IPC) for determination on 18 December 2025. DPHI's Assessment Report and recommended draft Development Consent that accompanied the referral included:

- A recommended draft condition requiring the Habitat Enhancement Area to be extended to include additional areas based on a sketch from the Independent Expert Advisory Panel for Mining (IEAPM).
- A recommended draft condition that, if approved, mining can only commence after the collection of 12 months of baseline groundwater monitoring data from newly installed bores recommended by the IEAPM.

The recommended conditions sufficiently change the Project such that a formal amendment is required in order for all benefits to be quantified and considered when assessing the Project, and also permit the Project to be carried out under the amended development application, if approved.

On 21 January 2026, MCO advised DPHI of its intention to formally amend the development application for the Project under section 37 of the *Environmental Planning & Assessment Regulation 2021*. Specifically, the amendments proposed are:

- An approximate 625 hectare (ha) expansion of the Habitat Enhancement Area (i.e. an increase from approximately 188 ha to 813 ha), with the additional Habitat Enhancement Area extent informed by, and extending beyond, the areas identified in the IEAPM sketch.
- Revision of the Project's ROM coal production profile to reflect the delayed mining commencement date of 2027 (to allow for collection of 12 months of baseline groundwater monitoring data), whilst retaining the previously proposed mining cessation date of 2034 (i.e. shortening the Project life from approximately 10 to 8 years).

Note, the proposed amendments **would not change** other aspects of the Project, including:

- Total ROM coal extraction over the life of the Project.
- The indicative surface disturbance extent.
- Peak annual ROM coal extraction rate from the Project and cumulative ROM coal extraction limits from open cut operations at the Moolarben Coal Complex.
- Haulage of Project ROM coal to the Stage 1 infrastructure for processing and transport to market via rail.
- Final landform, rehabilitation strategy and post-mining land uses.
- Peak workforce or hours of operation.

The proposed additional amendments would materially improve the environmental outcomes of the Project and represent a substantial, voluntary and meaningful commitment by MCO to biodiversity conservation outcomes that significantly exceeds the original proposal and the recommendations of the IEAPM. These measures are additional to biodiversity offsets required for the Project.

The Project is entirely consistent with the objectives of the *NSW Coal Industry 2026-50* statement and would provide significant net benefits to NSW as:

- it is a logical extension of existing mining operations from the lowest emissions intensive Safeguard Mechanism coal mine in Australia;
- it would provide security of employment and economic benefits for the local, regional and NSW economies;
- it would continue supply of export thermal coal to international markets and contribute to the energy security of Australia's key trading partners; and
- it would be subject to the Safeguard Mechanism (as part of the Moolarben Coal Complex facility) and the NSW EPA's *Climate Change Requirements for Licensees*, that are designed to contribute to the achievement of Commonwealth and NSW emissions reduction targets.

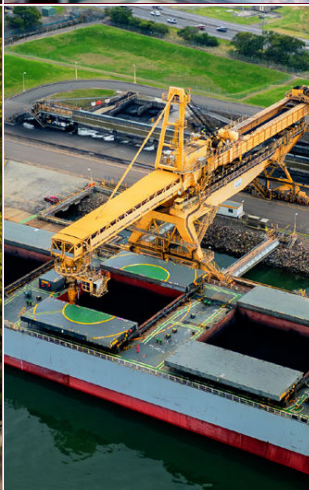
The Project presents an opportunity for MCO to maintain supply into the export thermal coal market where there continues to be strong demand for coal for electricity generation. Analysis undertaken by Wood Mackenzie Limited (2026) concludes that coal demand from MCO's current customer countries (i.e. China, South Korea, Taiwan, Thailand, Japan and Vietnam) is expected to remain resilient out to 2035.

When considering the Project's significant economic, employment and environmental benefits, together with the comprehensive measures to avoid, minimise and offset impacts, the Project's potential benefits are considered to clearly and significantly outweigh potential adverse impacts.

A summary of the Project is provided in Figures ES-1 to ES-12.



NSW Coal Industry 2026–50



nsw.gov.au

NSW Government Policy Expressly Supports this Project

The NSW Government's 'NSW Coal Industry 2026-50' statement, released on 19 March, provides contemporary, clear and unambiguous whole-of-government policy guidance that coal mine extensions such as the OC3 Extension Project are supported out to 2050.

This recognises the importance of the NSW coal mining industry in supporting regional jobs, investment and communities, while continuing to contribute to NSW's legislated emissions reduction targets.

The Project is entirely consistent with the objectives of the 'NSW Coal Industry 2026-50' statement and would provide significant net benefits to NSW as:

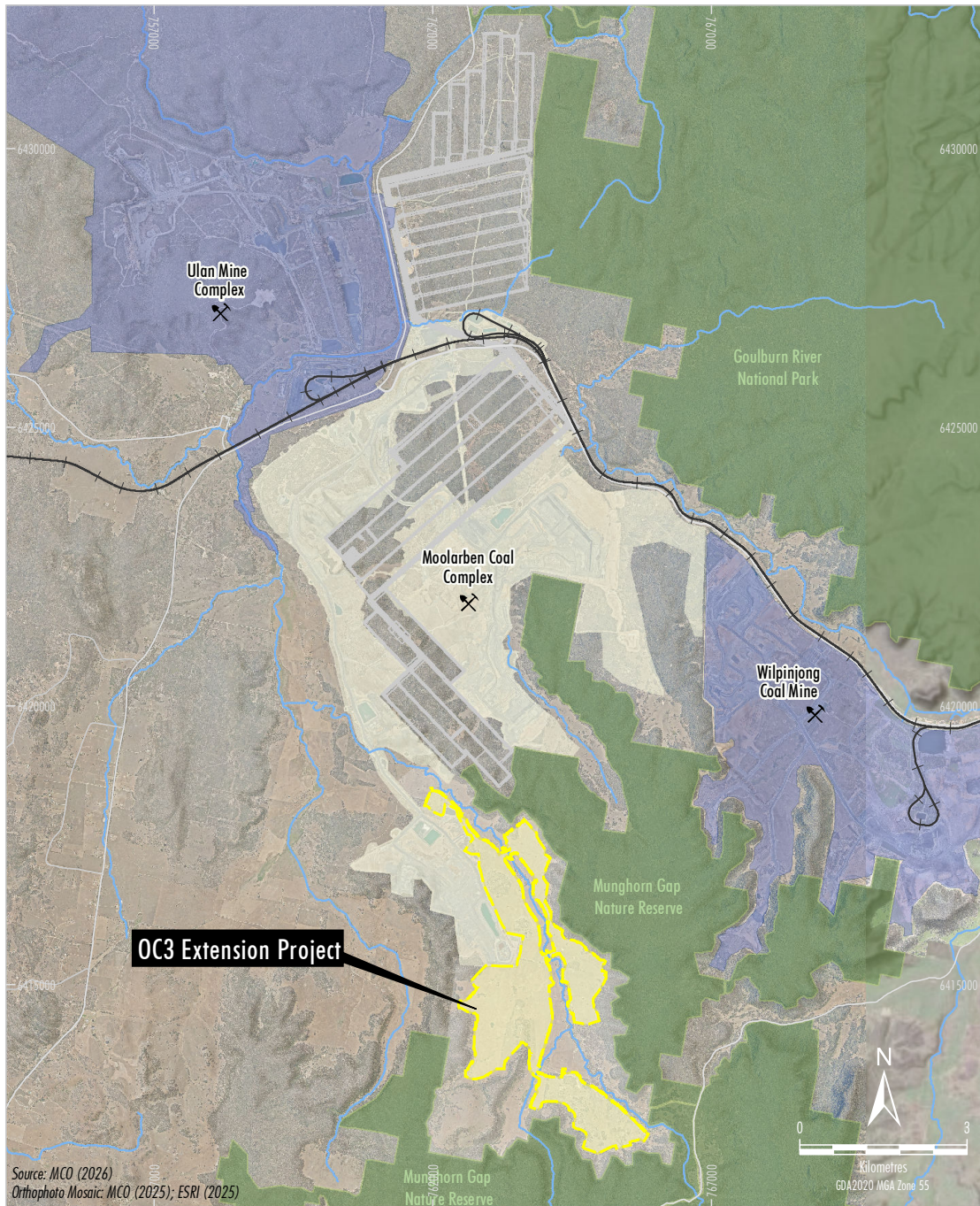
- it is a logical extension of existing mining operations from the lowest emissions intensive Safeguard Mechanism coal mine in Australia;
- it would provide security of employment and economic benefits for the local, regional and NSW economies;
- it would continue supply of export thermal coal to international markets and contribute to the energy security of Australia's key trading partners; and
- it would be subject to the Safeguard Mechanism (as part of the Moolarben Coal Complex facility) and the NSW EPA's 'Climate Change Requirements for Licensees', that are designed to contribute to the achievement of Commonwealth and NSW emissions reduction targets.



MOOLARBEN COAL COMPLEX

NSW Government
'NSW Coal Industry 2026–50' Statement

Figure ES-1



Overview of OC3 Extension Project

The OC3 Extension Project:

- Represents a modest extension to the existing Moolarben Coal Complex, while delivering substantial net benefits to NSW, valued at \$245 million (NPV, 2026 dollars).
- Complies with all applicable statutory requirements and is consistent with relevant strategic and statutory planning policy objectives.
- Would use existing coal handling, processing and transport infrastructure, maximise use of the existing mining fleet and maintain steady production of ROM coal at the Moolarben Coal Complex, providing continuity of employment for the existing open cut workforce.
- Is consistent with surrounding land uses as it is located in an existing mining precinct.
- Would provide a net increase in native woodland in the Moolarben Valley of 557 ha due to revegetation and rehabilitation works.
- Maintains the currently approved cumulative ROM coal production limits and mine life of the Moolarben Coal Complex.
- Is visually isolated from private residences by intervening elevated topography (associated with nearby ridgelines), minimising amenity impacts (i.e. visual, noise and dust).
- Would facilitate an improved final landform, including backfill of the approved OC3 final void, resulting in no final voids in the Moolarben Valley.

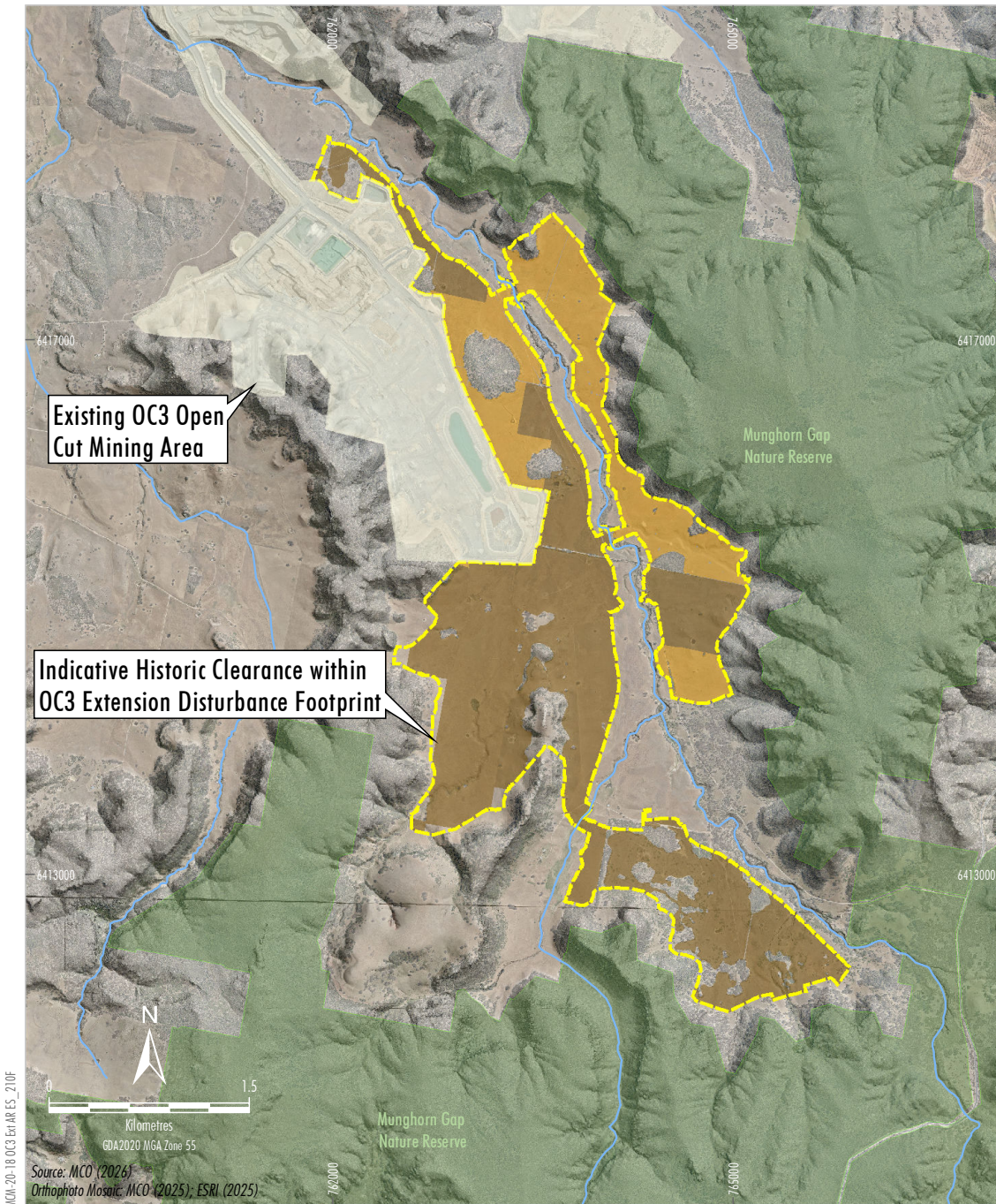
LEGEND

- National Park/Nature Reserve
- Other Mining Operations
- Moolarben Coal Complex Approved Underground Longwall Layout
- Moolarben Coal Complex Approved Disturbance Footprint
- Indicative Project Surface Disturbance Extent



MOOLARBEN COAL COMPLEX
OC3 Extension Project Overview

Figure ES-2



Project Area Previously Cleared for Cropping and Grazing

The Project has been designed to utilise land historically cleared for cropping and grazing.

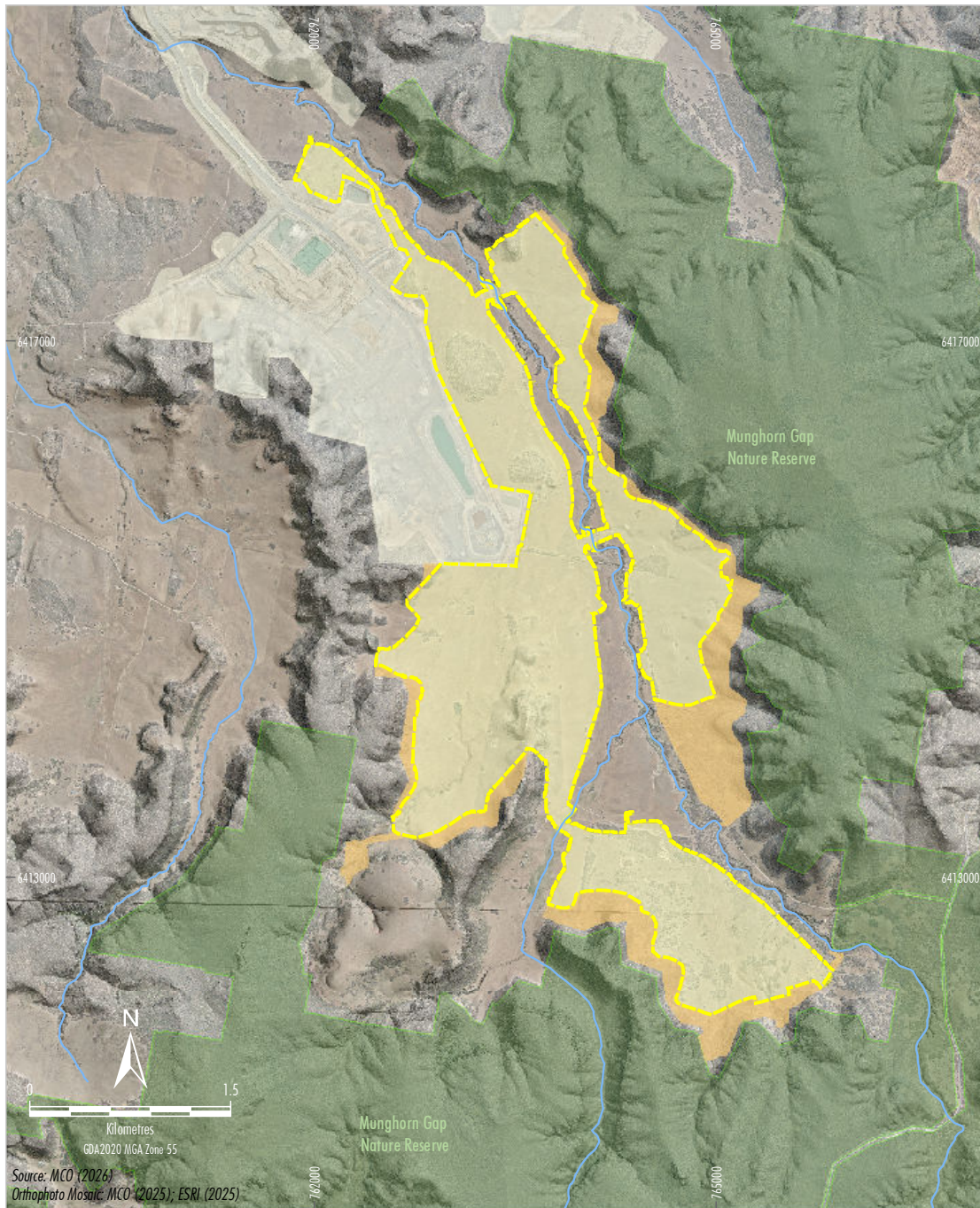
~60% of the Project disturbance footprint was cleared for agriculture prior to 1955, and ~80% was cleared by 1990.

- LEGEND
- National Park/Nature Reserve
 - Moolarben Coal Complex Approved Disturbance Footprint
 - Indicative Project Surface Disturbance Extent
 - Indicative Extent of Historic Clearance
 - Prior to 1955
 - Between 1955 to 1990



MOOLARBEN COAL COMPLEX
Project Context -
Existing and Historic Land Use

Figure ES-3

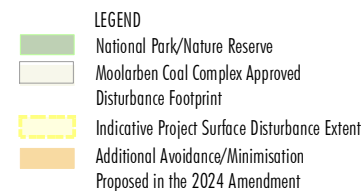


The Project Adopts Well-established Hierarchy of “Avoid and Minimise” for Environmental Impacts

The Project design has been progressively finessed to incorporate significant environmental impact avoidance and minimisation measures.

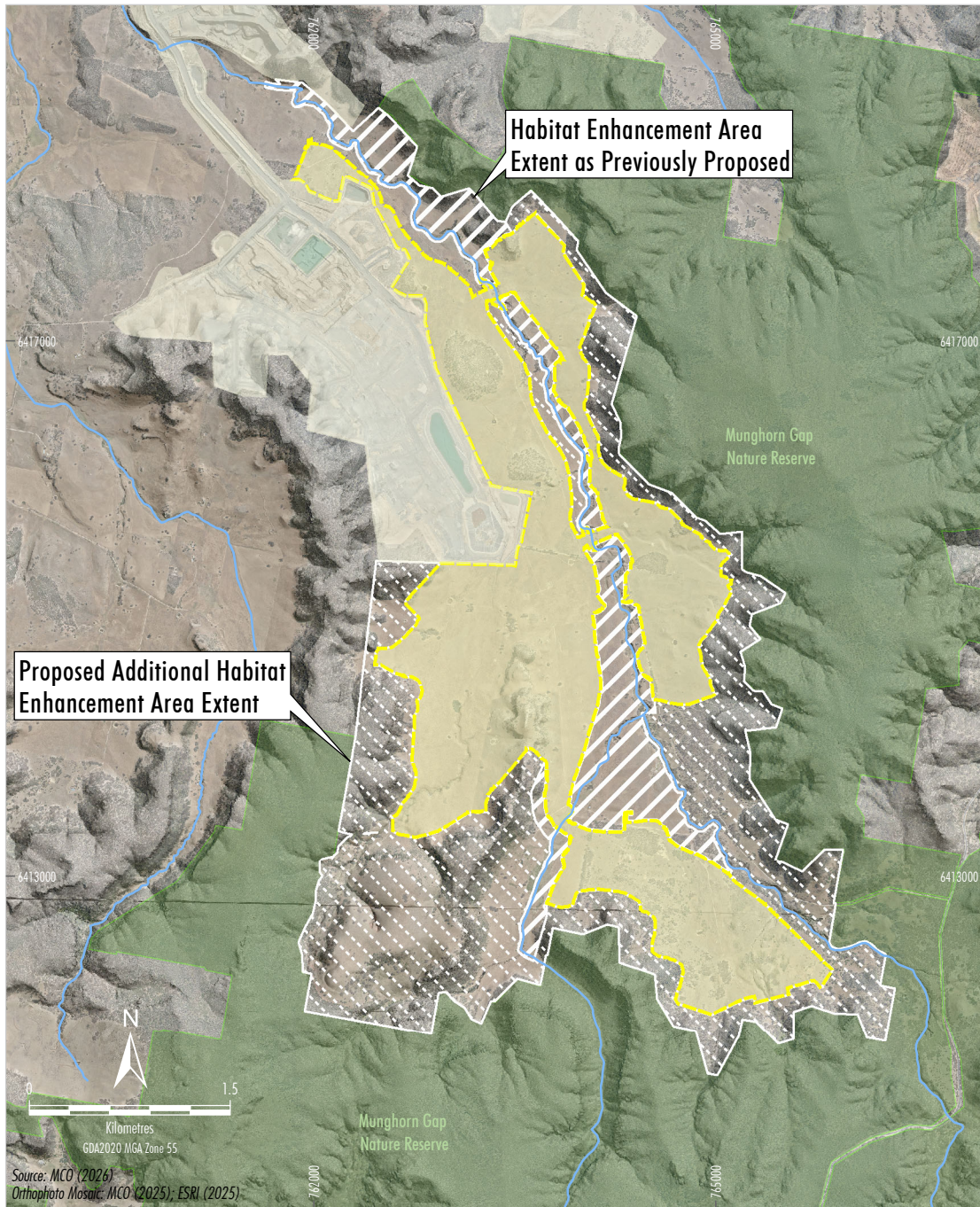
Compared to the (2023) EIS, the previous (2024) amendments to the Project include:

- **Avoidance:**
 - 18% reduction in the extent of proposed disturbance (from ~825 ha to ~675 ha).
 - 27% reduction in the extent of proposed open cut mining (from ~596 ha to ~435 ha).
 - 25% reduction in total resource extracted over the life of the Project (from ~40 Mt to ~30 Mt).
 - 5.5% reduction in the peak annual ROM extraction rate (from ~9 Mt to ~8.5 Mt).
 - 59% reduction in impact to the woodland component of Box-Gum Woodland Critically Endangered Ecological Community (CEEC) (from ~84 ha to ~34 ha).
 - 56% reduction in impact to Regent Honeyeater Mapped Important Habitat (from ~184 ha to ~81 ha).
 - 100% avoidance of mapped rocky habitat and breeding habitat for Threatened Bats and Broad-Headed Snake.
- **Minimisation:**
 - 43% increase in areas of native woodland rehabilitation to be established on the final landform (from ~375 ha to ~535 ha).
 - 18% increase to the Habitat Enhancement Area extent (from ~160 ha to ~188 ha).



MOOLARBEN COAL COMPLEX
Project Avoidance and Minimisation
Measures - EIS and 2024 Amendment

Figure ES-4



This Amendment Includes a 433% Increase to the Habitat Enhancement Area

This Amendment (April 2026) proposes to add a further ~625 ha to the Habitat Enhancement Area, increasing the total area subject to protection, enhancement and management measures to ~813 ha.

*The increased Habitat Enhancement Area includes habitat for the **Regent Honeyeater, Eastern Cave Bat, Large-eared Pied Bat, Broad-headed Snake, Pink-tailed Legless Lizard, Squirrel Glider and Koala** and would be subject to protection, enhancement and management measures under Development Consent conditions if the Project is approved.*

This voluntary commitment by MCO to biodiversity conservation outcomes would preserve an equivalent extent of Box-Gum Woodland CEEC to that which would be disturbed.

*These measures are additional to progressive **rehabilitation** of the final landform to native woodland.*

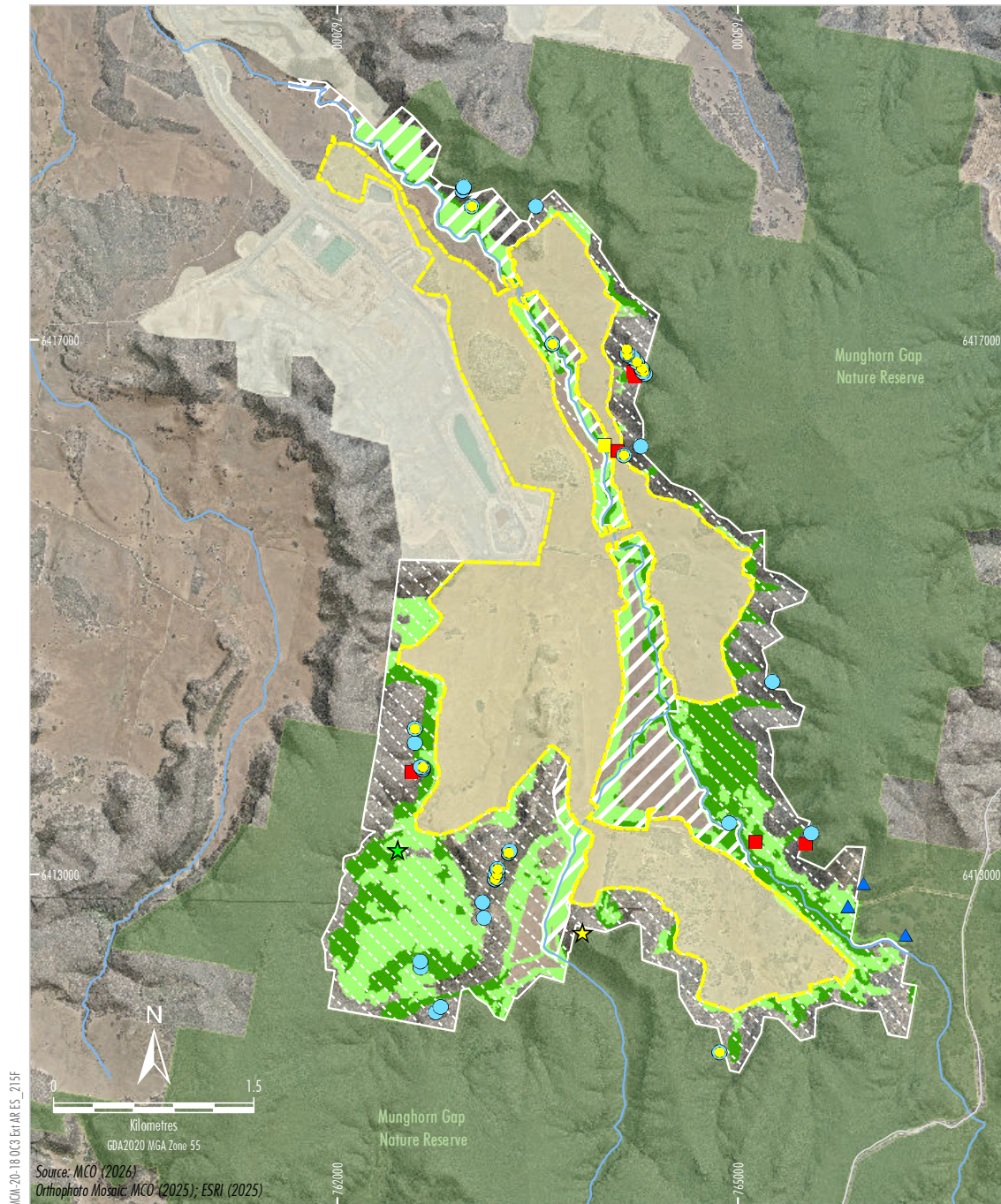
*The increased Habitat Enhancement Area is also in addition to (i.e. over and above) biodiversity **offset** requirements for the Project.*

- LEGEND**
- National Park/Nature Reserve
 - Moolarben Coal Complex Approved Disturbance Footprint
 - Indicative Project Surface Disturbance Extent
 - Habitat Enhancement Area
 - As Previously Proposed
 - Proposed Additional Extent



MOOLARBEN COAL COMPLEX
Additional Minimisation Measures -
Extension to Habitat Enhancement Area

Figure ES-5



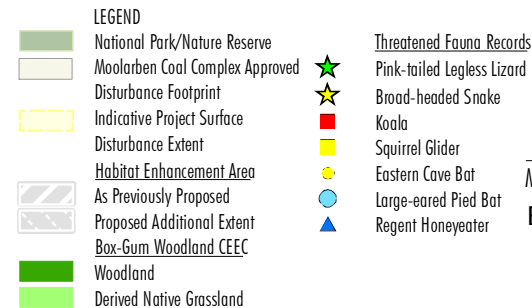
The ~813 ha Increased Habitat Enhancement Area Provides Protection for all Potential SAI Entities

The increased Habitat Enhancement Area (on a “species by species” basis) matches or substantially exceeds the area of potential habitat for SAI entities proposed to be disturbed for the Project.

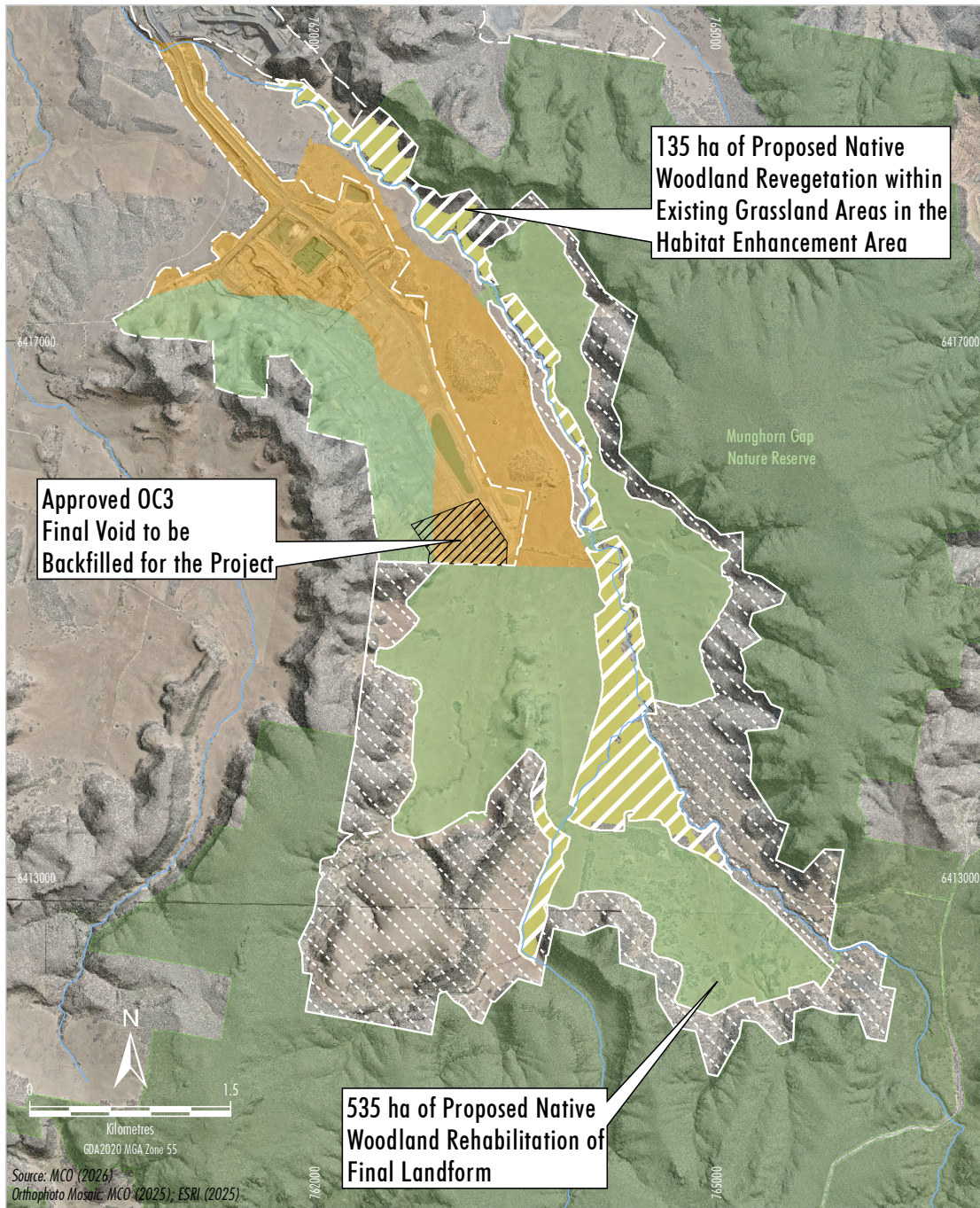
SAII Entity	Total Habitat within Project Indicative Surface Disturbance Extent	Total Habitat within Increased Habitat Enhancement Area
Box-Gum Woodland CEEC	401 ha (34 ha woodland + 367 ha DNG)	401 ha (171 ha woodland + 229 ha DNG)
Regent Honeyeater	81 ha	469 ha
Large-eared Pied Bat Breeding Habitat	Complete Avoidance	317 ha
Eastern Cave Bat Breeding Habitat	Complete Avoidance	317 ha
Broad-headed Snake Breeding Habitat	Complete Avoidance	328 ha

The increased Habitat Enhancement Area also contains potential habitat for other listed threatened fauna species (i.e. Pink-tailed Legless Lizard, Squirrel Glider and Koala) which would be subject to protection, enhancement and management measures.

Note: this protection is additional to (i.e. over and above) biodiversity offset requirements for the Project.



MOOLARBEN COAL COMPLEX
Biodiversity Enhancement and Conservation
Outcomes for SAI Entities and
Threatened Species
Figure ES-6



Final Landform Outcomes – No Final Voids, and 557 ha Increase in Native Woodland

The Project proposes to backfill the currently approved OC3 void, resulting in **no** residual final voids in the Moolarben Valley (i.e. reduction from one approved final void to zero final voids with the Project).

The proposed final landform and post-mining land uses for the Project would integrate with the approved OC3 mining area.

The Project would deliver an additional ~535 ha of native woodland.

With the addition of the proposed revegetation of approximately 135 ha of existing grassland in the Habitat Enhancement Area to native woodland, the Project would achieve an overall **net gain of 557 ha** of native woodland in the Moolarben Valley.

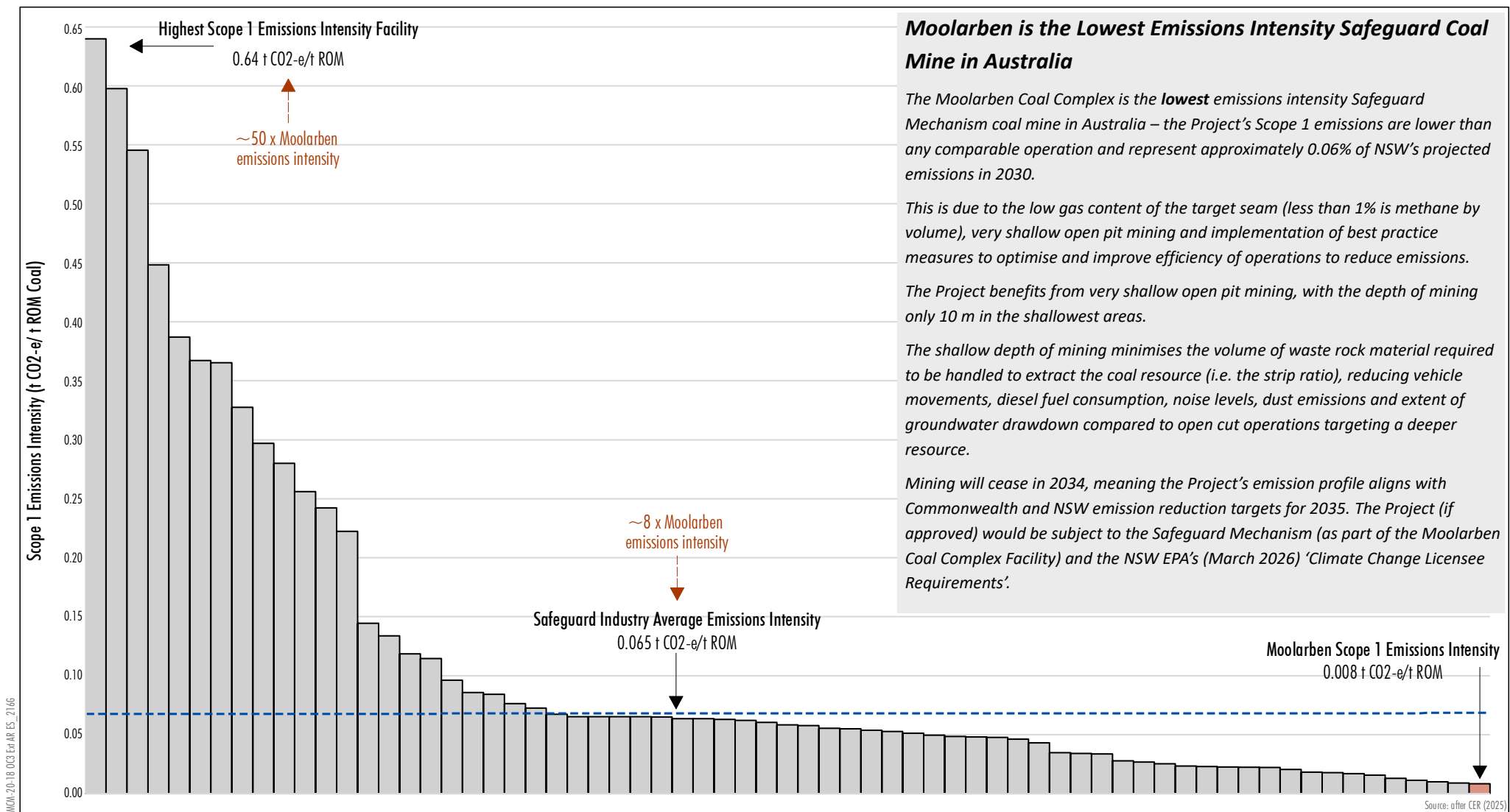
Native Woodland Area	OC3 Extension Project
Native Woodland Vegetation Clearance (A)	(113 ha)
Total Revegetation during Mining (within Habitat Enhancement Area) (B)	135 ha
Net Increase in Woodland in Study Area during Mining (A) + (B)	+22 ha
Native Woodland Rehabilitation (C)	535 ha
Net Increase in Woodland in Study Area Following Completion of Mining and Rehabilitation (A) + (B) + (C)	+557 ha

- LEGEND**
- National Park/Nature Reserve
 - Moolarben Coal Complex Approved Disturbance Footprint
 - Approved OC3 Final Void Proposed to be Backfilled for the Project
 - Conceptual Post-mining Land Uses
 - Agricultural Pasture
 - Native Woodland
 - Habitat Enhancement Area
 - As Previously Proposed
 - Proposed Additional Extent
 - Indicative Revegetation Area



MOOLARBEN COAL COMPLEX
Integrated and Improved Final
Landform and Post-mining Land Uses

Figure ES-7



Moolarben is the Lowest Emissions Intensity Safeguard Coal Mine in Australia

The Moolarben Coal Complex is the **lowest** emissions intensity Safeguard Mechanism coal mine in Australia – the Project’s Scope 1 emissions are lower than any comparable operation and represent approximately 0.06% of NSW’s projected emissions in 2030.

This is due to the low gas content of the target seam (less than 1% is methane by volume), very shallow open pit mining and implementation of best practice measures to optimise and improve efficiency of operations to reduce emissions.

The Project benefits from very shallow open pit mining, with the depth of mining only 10 m in the shallowest areas.

The shallow depth of mining minimises the volume of waste rock material required to be handled to extract the coal resource (i.e. the strip ratio), reducing vehicle movements, diesel fuel consumption, noise levels, dust emissions and extent of groundwater drawdown compared to open cut operations targeting a deeper resource.

Mining will cease in 2034, meaning the Project’s emission profile aligns with Commonwealth and NSW emission reduction targets for 2035. The Project (if approved) would be subject to the Safeguard Mechanism (as part of the Moolarben Coal Complex Facility) and the NSW EPA’s (March 2026) ‘Climate Change Licensee Requirements’.

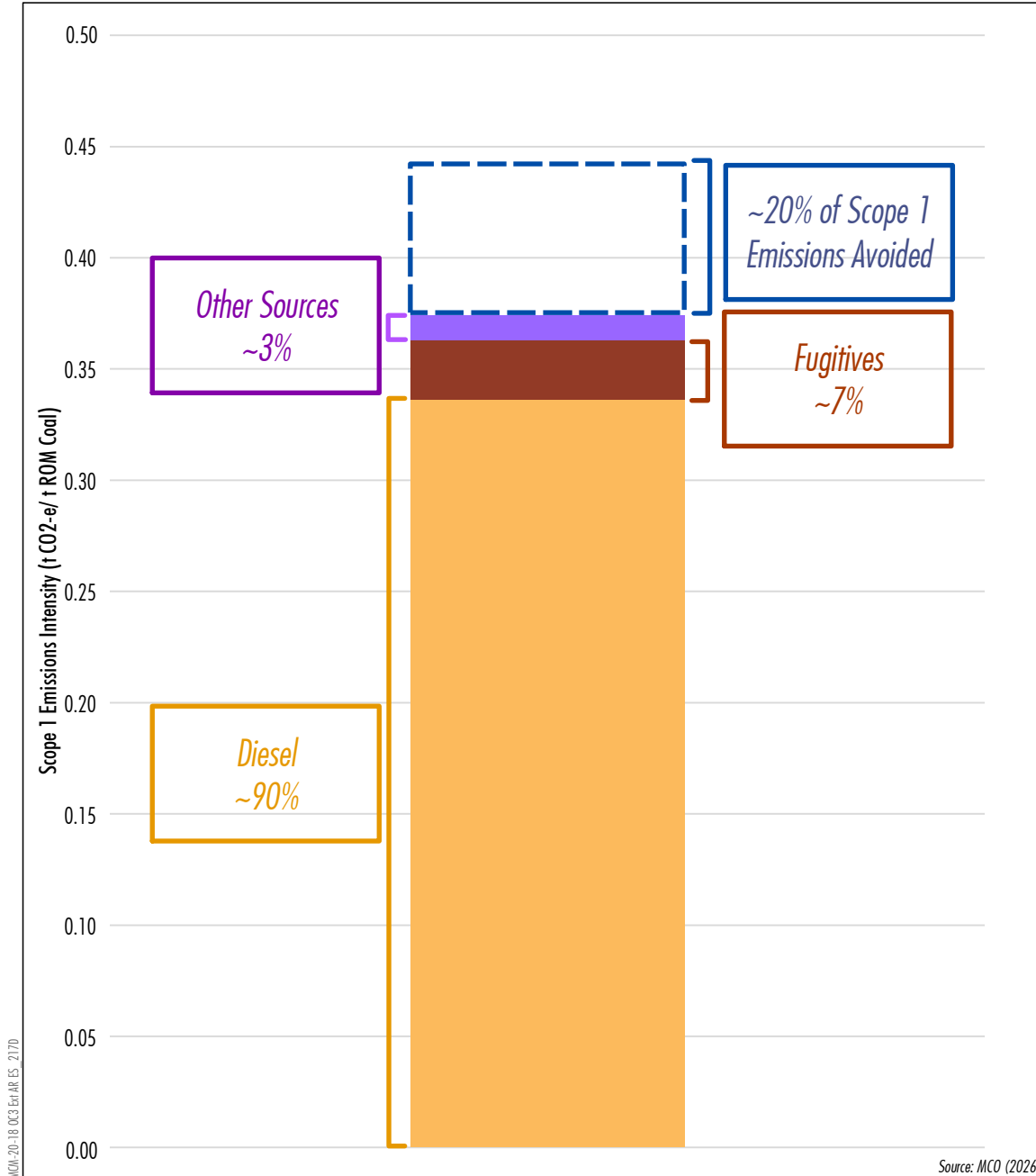
MOCL-20-18-013 EIR AR ES_2166

LEGEND
- - - Safeguard Mechanism Industry Average Emissions Intensity



MOOLARBEN COAL COMPLEX
Greenhouse Gas Emissions -
Safeguard Mechanism Emissions Intensity

Figure ES-8



Project Clearly Demonstrates Adherence to the NSW EPA Emissions Mitigation Hierarchy

The NSW EPA's 'NSW Guide for Large Emitters' does not apply to the Project as it was released in January 2025 after the Project EIS was submitted. Notwithstanding, the Project has considered the NSW EPA's emissions mitigation hierarchy of "avoid, reduce, substitute":

- **Avoid** – previous (2024) Amendment Report proposed ~25% reduction in total resource extracted over the life of the Project, which has resulted in avoidance of ~20% of Scope 1 emissions compared to the EIS.
- **Reduce** – ~90% of residual Scope 1 emissions from the Project are associated with diesel fuel consumption. As recognised by the NSW EPA, there are currently limited proven abatement opportunities for diesel use, however MCO implements best practice measures to optimise and improve efficiency of operations to reduce heavy vehicle emissions.
- **Reduce** – ~7% of residual Scope 1 emissions from the Project are associated with fugitive emissions (of which less than 1% is methane by volume). There is currently no technology capable of reducing these fugitive emissions.
- **Substitute** – the Climate Change Mitigation and Adaptation Plan (CCMAP) to be developed for the Moolarben Coal Complex will commit to investigation and trials of alternative fuels and fleet electrification to reduce emission, in close consultation with equipment manufacturers and fuel suppliers.

The NSW EPA's recently released 'Climate Change Requirements for Licensees' will apply to the Project (if approved), including preparation of a CCMAP to outline ongoing mitigation measures for greenhouse gas emissions. The CCMAP will be a requirement of the existing Environment Protection Licence for the Moolarben Coal Complex, which would be varied to incorporate the Project (if approved). MCO will finalise and submit a CCMAP for the Moolarben Coal Complex by 31 March 2027.



MOOLARBEN COAL COMPLEX

Greenhouse Gas Emissions -
Mitigation Measures

Figure ES-9

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NSW Coal Mining Sector is on Track to Achieve 2030 Target, with Moolarben at the Forefront

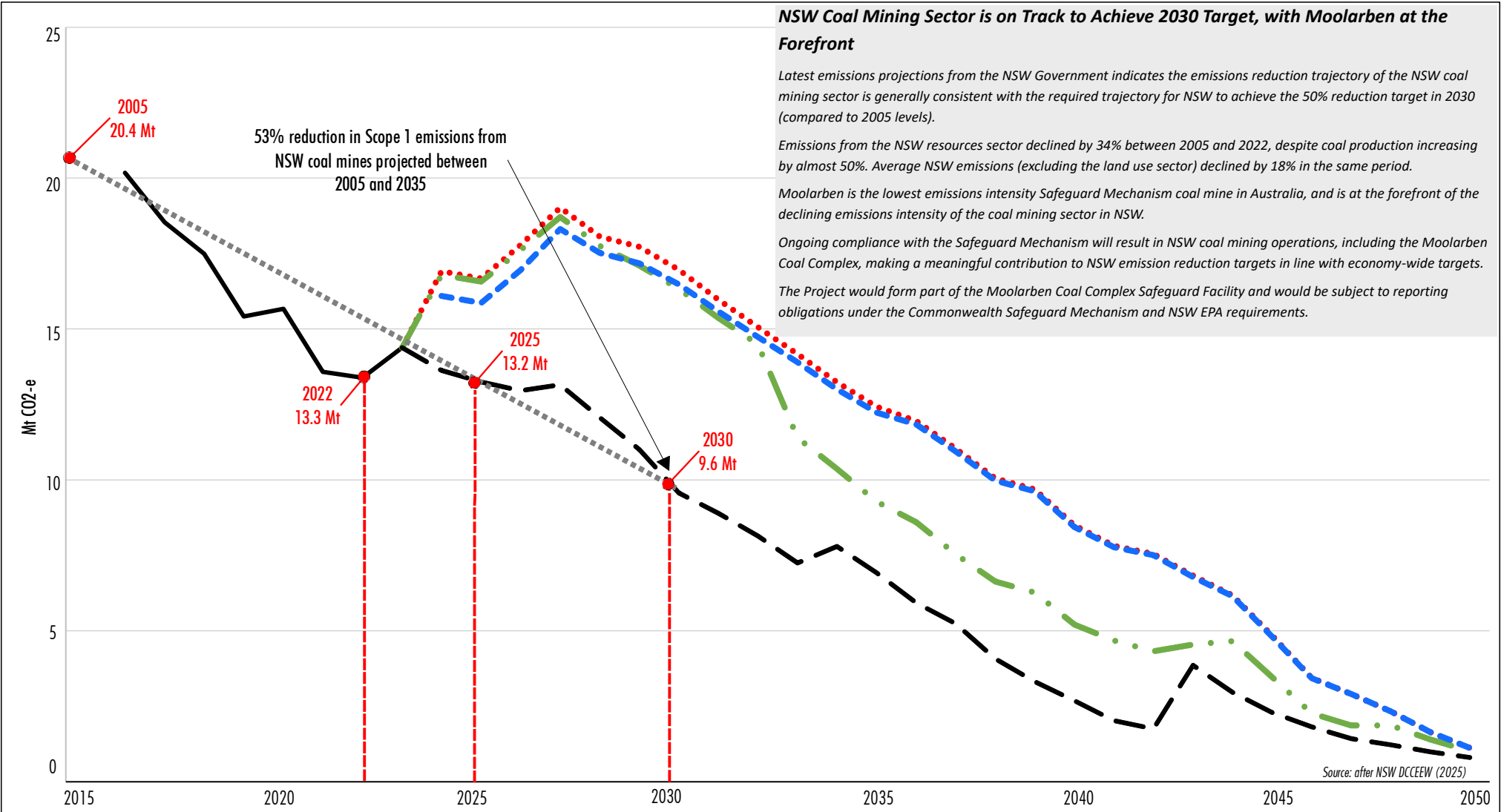
Latest emissions projections from the NSW Government indicates the emissions reduction trajectory of the NSW coal mining sector is generally consistent with the required trajectory for NSW to achieve the 50% reduction target in 2030 (compared to 2005 levels).

Emissions from the NSW resources sector declined by 34% between 2005 and 2022, despite coal production increasing by almost 50%. Average NSW emissions (excluding the land use sector) declined by 18% in the same period.

Moolarben is the lowest emissions intensity Safeguard Mechanism coal mine in Australia, and is at the forefront of the declining emissions intensity of the coal mining sector in NSW.

Ongoing compliance with the Safeguard Mechanism will result in NSW coal mining operations, including the Moolarben Coal Complex, making a meaningful contribution to NSW emission reduction targets in line with economy-wide targets.

The Project would form part of the Moolarben Coal Complex Safeguard Facility and would be subject to reporting obligations under the Commonwealth Safeguard Mechanism and NSW EPA requirements.



- LEGEND**
- Actual
 - Total Scope 1 Emissions - Current Policy
 - Safeguard Facility Declining Baseline Emissions
 - Total Scope 1 Emissions - BAU
 - Total Scope 1 Emissions - BAU Safeguard Facilities Only



MOOLARBEN COAL COMPLEX
Greenhouse Gas Emissions -
NSW Coal Mining Sector Projections

Figure ES-10



Surface Water and Groundwater Impacts are Minimal

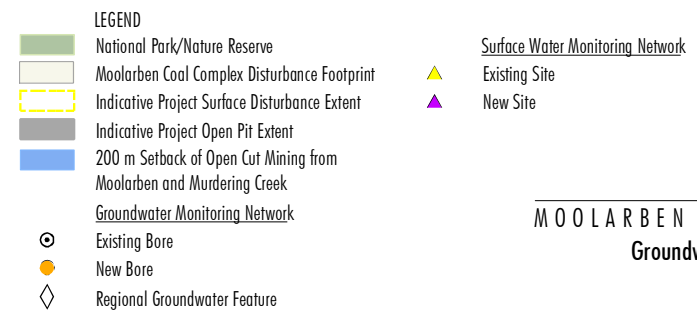
The shallow depth of mining and progressive and complete backfill of open cut pits within the Project area would limit groundwater drawdown and facilitate recovery of groundwater levels post-mining.

In addition, the major surface water drainage lines are predicted to experience negligible change in baseflow and stream flows due to the Project as a result of the 200 m minimum setback of open cut pits from Moolarben Creek and Murdering Creek (in accordance with the NSW Aquifer Interference Policy).

MCO has **already** completed installation of all new surface water monitoring sites and groundwater bores proposed in the EIS, as well as the additional groundwater monitoring bores recommended by the Independent Expert Advisory Panel for Mining.

The groundwater model predictions have also been reviewed by both lead co-authors of the 'Australian Groundwater Modelling Guidelines':

- Dr Brian Barnett peer reviewed the Groundwater Assessment for the EIS.
- More recently, Dr Lloyd Townley has undertaken an independent groundwater review for the Project, and supports the conclusions of the EIS Groundwater Assessment that the regional scale model is "fit for purpose" and the Project would not cause significant deterioration of potential groundwater dependent ecosystems.



MOOLARBEN COAL COMPLEX
Groundwater and Surface Water
Monitoring Network

Figure ES-11



Pump Track in Mudgee supported by Planning Agreement Contribution for the Project



Source: MCO (2026); Mid-Western Regional Council (2026)

The Project would Provide Significant Economic, Biodiversity and Community Benefits

- *Employment and economic certainty, supporting the long-term future of a sector that provides significant jobs and flow-on economic benefits to the region.*
- *Extraction of 30 Mt of ROM coal.*
- *Net benefits of ~\$245 million (NPV, 2026 dollars) to the State of NSW.*
- *~813 ha of enhancement areas and net gain of ~557 ha of native woodland in the Moolarben Valley from rehabilitation and revegetation.*
- *Backfilling of the currently approved OC3 void.*
- *Biodiversity offsets equating to approximately 3,000 ha to 4,000 ha of land-based offset areas.*
- *Co-funding of the Mudgee Pump Track (paid by MCO in advance and on account) which was constructed in 2024.*

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1 INTRODUCTION

1.1 BACKGROUND

The Moolarben Coal Complex is an existing mining operation located approximately 40 kilometres (km) north of Mudgee, New South Wales (NSW) (Figure 1-1). The Moolarben Coal Complex is operated by Moolarben Coal Operations Pty Ltd (MCO) on behalf of the Moolarben Joint Venture. MCO is a wholly owned subsidiary of Yancoal Australia Limited (Yancoal).

Mining operations at the Moolarben Coal Complex are currently approved until 31 December 2038 with a combined coal production rate of 22 Million tonnes per annum (Mtpa) in accordance with Project Approval (05_0117) (Stage 1) (as modified) and Project Approval (08_0135) (Stage 2) (as modified). The Moolarben Coal Complex comprises four approved open cut mining areas (OC1 to OC4), three approved underground mining areas (UG1, UG2 and UG4) and other mining related infrastructure (including coal processing and transport facilities) (Figure 1-2).

The Moolarben Coal Complex is regulated as a single facility under the Safeguard Mechanism and has the lowest Scope 1 emissions intensity of all Safeguard Mechanism coal mines in Australia. This is due to the low gas content of the target seam (of which less than 1% is methane by volume), very shallow open pit mining and implementation of best practice measures to optimise and improve efficiency of operations and reduce heavy vehicle emissions.

MCO is proposing to extend open cut mining operations immediately south of the approved OC3 open cut pit within existing mining tenements, including four new open cut pits to the east and south-east of the approved OC3 mining area (the Project) (Figure 1-2).

The Project would provide continuity of open cut mining, security of employment for the existing open cut workforce, maximise use of the existing mining fleet, and maintain steady production of run-of-mine (ROM) coal at the Moolarben Coal Complex post-completion of mining within the approved OC3 mining area. The Project would comply with all applicable statutory requirements and is consistent with relevant strategic and statutory planning policy objectives.

1.2 PROJECT ASSESSMENT UNDERTAKEN TO DATE

Environmental Impact Statement

The *Moolarben Coal Complex OC3 Extension Project Environmental Impact Statement* (MCO, 2022a) (Project EIS) was placed on public exhibition from 17 November to 14 December 2022. During this period, government agencies, organisations and members of the public were invited to provide submissions on the EIS.

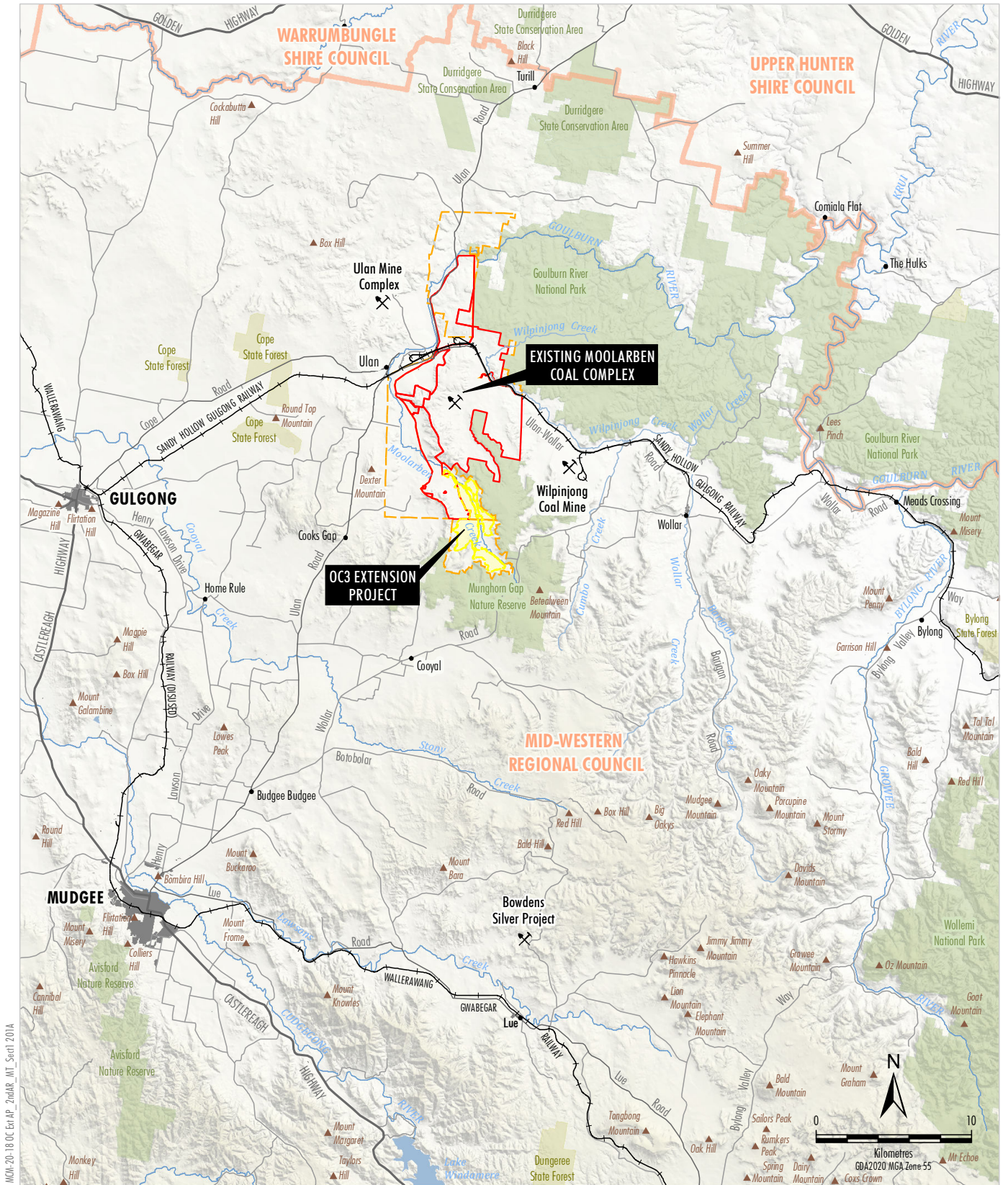
Submissions Report and Previous (2024) Amendment Report

In response to submissions received on the Project EIS, MCO reduced the Project indicative surface disturbance extent and total coal resource proposed to be mined, and also incorporated further avoidance, minimisation and mitigation measures in addition to those adopted for the EIS.

The *Moolarben Coal Complex OC3 Extension Project Amendment Report* (MCO, 2024a) (previous [2024] Amendment Report) and the *Moolarben Coal Complex OC3 Extension Project Submissions Report* (MCO, 2024b) were lodged with the NSW Department of Planning, Housing and Infrastructure (DPHI) in March 2024.

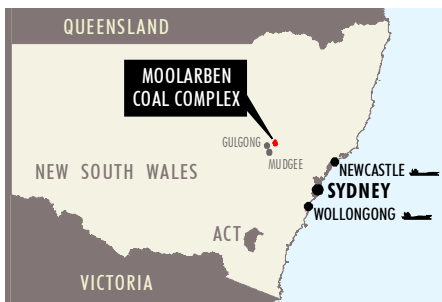
Compared to the EIS, the previous (2024) amendments to the Project include:

- An 18% reduction in the extent of proposed disturbance (from approximately 825 hectares [ha] to 675 ha).
- A 27% reduction in the extent of proposed open cut mining (from approximately 596 ha to 435 ha).
- A 25% reduction in total coal resource extracted over the life of the Project (from approximately 40 Mt to 30 Mt).
- A 6% reduction in the peak annual ROM mining rate for the Project (from 9 Mt to 8.5 Mt).



MCO-20-18 OC Exp AP_2ndAR_MIT_Sect 201A

Source: MCO (2026); NSW Spatial Services (2026)

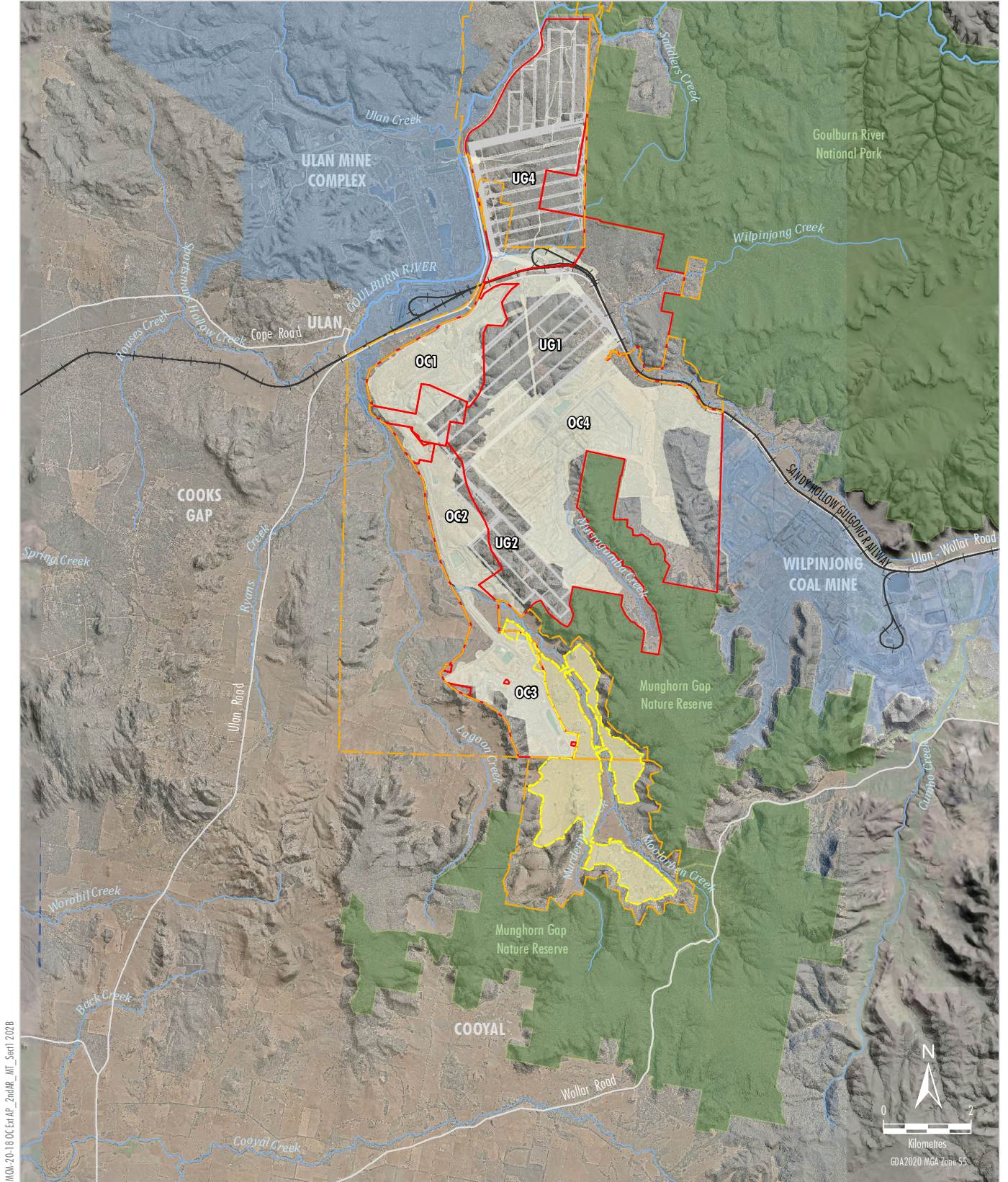


- LEGEND**
- State Forest
 - National Park/Nature Reserve
 - Local Government Boundary
 - Exploration Licence Boundary
 - Mining Lease Boundary
 - Mining Operation
 - Indicative Project Surface Disturbance Extent



MOOLARBEN COAL COMPLEX
Project Location

Figure 1-1



MON-20-18 OC Exp AP_2ndAR_INT_Sent1_2028

LEGEND

- National Park/Nature Reserve
- Exploration Licence Boundary
- Mining Lease Boundary
- Existing/Approved Development
- Moolarben Coal Complex Approved Underground Longwall Layout
- Moolarben Coal Complex Approved Disturbance Footprint
- Other Mining Operations
- OC3 Extension Project
- Indicative Project Surface Disturbance Extent

Source: MCO (2026); NSW Spatial Services (2026)
Orthophoto: MCO (2025)



MOOLARBEN COAL COMPLEX
Approved Moolarben Coal Complex and
Proposed OC3 Extension Project

Figure 1-2

- A 43% increase in areas of native woodland rehabilitation to be established on the final landform (from approximately 375 ha to 535 ha).
- An 18% increase to the extent of the Habitat Enhancement Area (from approximately 160 ha to 188 ha).
- No change to the duration of the mine life (i.e. cessation of mining in 2034), peak workforce, or hours of operation of the mine.
- No change to the proposed final landform integration with the approved OC3 mining area (including backfilling the approved OC3 void and leaving no final voids in the Project rehabilitated final landform).

The previous (2024) Amendment Report application was accepted by DPHI¹.

Independent Expert Advisory Panel for Mining and DPHI Assessment Report

During the assessment process, DPHI requested the Independent Expert Advisory Panel for Mining (IEAPM) provide targeted advice on the Project.

The IEAPM Advice Report (issued June 2025) included conclusions and recommendations on the Project for consideration by DPHI (IEAPM, 2025a).

MCO provided DPHI with responses to the IEAPM Advice Report (correspondence dated 20 June 2025² and 16 July 2025³), which noted that the majority of the IEAPM's recommendations were considered generally consistent with conditions of approval for the existing Moolarben Coal Complex operation and/or reflected commitments already made by MCO for the Project.

MCO's responses to the IEAPM (2025a) conclusions and recommendations also provided:

- Justification that further avoidance and/or minimisation measures were not considered to be warranted, given the conclusions of the IEAPM that the Project would not result in serious and irreversible impacts (SAII) and that additional measures to avoid and minimise impacts are limited and may not be feasible.
- Additional input from technical specialists regarding the residual groundwater matters to further justify confidence in the groundwater predictions.

Further advice from the IEAPM in response to the additional groundwater information provided by MCO was issued in August 2025 (IEAPM, 2025b).

DPHI Assessment Report and Referral to the IPC

DPHI referred the Project to the NSW Independent Planning Commission (IPC) for determination on 18 December 2025.

Habitat Enhancement Area

In relation to avoidance and minimisation measures, DPHI's Assessment Report concluded MCO has incorporated "*reasonable, feasible and genuine avoidance and minimisation measures for impacts on other threatened flora and fauna*" for the Project, and agreed with the conclusion of the IEAPM that the Project is unlikely to cause SAII.

However, the draft conditions as proposed by DPHI would further extend the Habitat Enhancement Area to include recommended additional areas sketched by the IEAPM in its Advice Report (IEAPM, 2025a) (refer to Figure 7 of the IEAPM Advice Report, reproduced below as Plate 1-1).

¹ Correspondence from DPHI dated 19 March 2024. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-33083358%2120240319T024053.065%20GMT>

² Correspondence from MCO dated 20 June 2025. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-33083358%2120251021T211153.815%20GMT>

³ Correspondence from MCO dated 16 July 2026. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-33083358%2120251021T211154.130%20GMT>

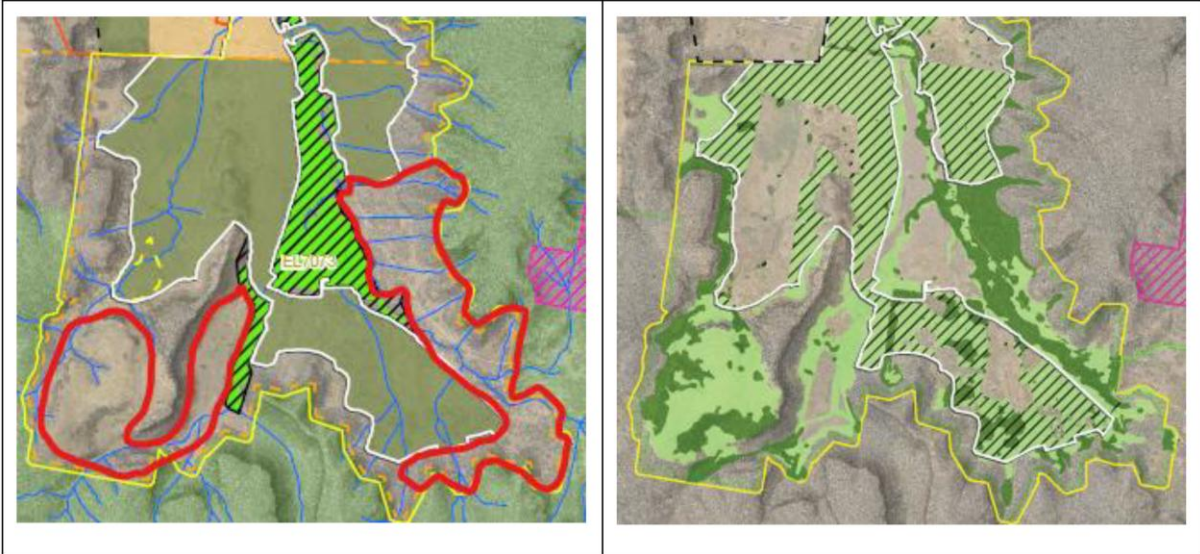


Figure 7: Potential additional areas for inclusion in the Habitat Enhancement Areas (shown in red on the left) resulting in improved management and revegetation of large areas of Box Gum Woodland (shown on the right)

Plate 1-1: Recommended Additional Habitat Enhancement Areas ‘Sketched’ by the IEAPM

Source: IEAPM (2025a)

These recommended additional areas suggested by the IEAPM and imposed by DPHI’s draft Development Consent conditions raised a number of concerns for MCO, as follows:

- The recommended additional areas had not been formally incorporated as a component of the Project. MCO considers it necessary to formalise the recommended additional areas as part of the Habitat Enhancement Area in order for all benefits to be quantified and considered when assessing the Project, and also to permit the Project to be carried out under the amended development application, if approved.
- The sketched boundaries of the recommended additional areas are an approximate depiction and require some refinement to avoid impractical overlaps with the disturbance footprint and Munghorn Gap Nature Reserve.
- The recommended additional areas were suggested by the IEAPM to provide an equivalent area of Box-Gum Woodland Critically Endangered Ecological Community (CEEC) to that within the disturbance footprint (i.e. approximately 401 ha). However, upon review by MCO, it has been identified the recommended additional areas contain only approximately 196 ha of Box-Gum Woodland CEEC. Therefore, more area is required to satisfy the equivalence statement.

Groundwater Bores and Revised Mine Life

In relation to groundwater matters, DPHI included a draft condition which addressed the IEAPM’s recommendation for the installation of additional groundwater monitoring bores and update of the groundwater model. The recommended condition was worded such that, if approved, mining can only commence after the collection of 12 months of baseline groundwater monitoring data from the newly installed bores.

The draft condition as proposed by DPHI would delay the planned commencement of mining operations for the Project, with mining only able to commence in 2027 at the earliest.

In the EIS and the previous (2024) Amendment Report, a 10 year duration of Project mining operations was assumed (i.e. ROM coal production for the Project would occur from 2025 to 2034).

Other impact assessment conclusions reflected the cessation of Project mining activities in 2034. In particular, assessment of the Project’s Scope 1 greenhouse gas emissions against NSW and Commonwealth emissions reduction targets in 2035 assumed cessation of mining in 2034.

To confirm that MCO's intention is for the Project mining operations to be completed by the end of 2034, MCO is proposing to formalise a shortened Project mine life from approximately 10 years (i.e. 2025 to 2034) to 8 years (i.e. 2027 to 2034) as part of this Project amendment.

1.3 PROPOSED ADDITIONAL PROJECT AMENDMENTS

This Amendment Report has been prepared to formalise the proposed amendments to the Project based on DPHI's recommended draft Development Consent conditions. Specifically, the amendments proposed are:

- An approximate 625 ha expansion of the Habitat Enhancement Area (i.e. an increase from approximately 188 ha to 813 ha), with the additional Habitat Enhancement Area extent informed by, and extending beyond, the recommended additional areas identified in the IEAPM sketch.
- Shortening of the Project mine life from approximately 10 years to 8 years, with associated revision of the Project's ROM coal production profile to reflect the mining commencement date of 2027 (to allow for collection of 12 months of baseline groundwater monitoring data), whilst retaining the previously proposed mining cessation date of 2034.

On 21 January 2026, MCO advised DPHI of its intention to formally amend the development application for the Project under section 37 of the *Environmental Planning & Assessment Regulation 2021*.

The recommended conditions sufficiently change the Project such that a formal amendment is required in order for all benefits to be quantified and considered when assessing the Project, and also to permit the Project to be carried out under the amended development application, if approved.

Note, the proposed additional amendments **would not change** other aspects of the Project, including:

- Total ROM coal extraction over the life of the Project (i.e. 30 Mt).
- The indicative surface disturbance extent.
- Peak annual ROM coal extraction rate from the Project and cumulative ROM coal extraction limit from open cut operations at the Moolarben Coal Complex.
- Haulage of Project ROM coal to the Stage 1 infrastructure for processing and transport to market via rail.
- Final landform, rehabilitation strategy and post-mining land uses.
- Peak workforce or hours of operation.

A description of the amended Project is provided in Section 3.

1.4 ENGAGEMENT

This Amendment Report has been prepared to formalise amendments to the Project based on DPHI's recommended draft Development Consent conditions. Key stakeholders have been informed of the amendments through notification by MCO (including via the Moolarben website) and also via the NSW Planning Portal and IPC websites.

1.5 APPLICANT DETAILS

MCO (ABN: 59 077 939 569) is the applicant for the Project. The contact details for MCO are:

Moolarben Coal Operations Pty Ltd
Postal: Locked Bag 2003
Mudgee NSW 2850
Phone: +61 2 6376 1500

The Moolarben Coal Complex is located at 12 Ulan-Wollar Road, Ulan NSW 2850.

Further information on MCO and its mining operations can be found at:

<https://www.yancoal.com.au/our-sites/moolarben/>

1.6 STRUCTURE OF THIS DOCUMENT

This Amendment Report has been prepared in consideration of the *State significant development guidelines – preparing an amendment report* (Department of Planning and Environment [DPE], 2022). The remainder of this document is structured as follows:

- Section 2 Details the strategic context of the amended Project.
- Section 3 Provides a detailed description of the proposed additional amendments.
- Section 4 Details the statutory context of the amended Project.
- Section 5 Details the revised environmental outcomes of the amended Project.
- Section 6 Provides a justification and evaluation of the amended Project merits.
- Section 7 Lists the documents referenced in the Amendment Report.

Appendices A to H contain supporting information, including:

- Appendix A Updated Project Description
- Appendix B Updated Summary of Mitigation Measures
- Appendix C Independent Review of Habitat Enhancement Area Calculation (Niche Environment and Heritage Pty Ltd [Niche], 2026)
- Appendix D Review of Updated Greenhouse Gas Calculations (Todoroski Air Sciences Pty Ltd [TAS], 2026)
- Appendix E Moolarben Extension Market Analysis (Wood Mackenzie Limited [Wood Mackenzie], 2026)
- Appendix F Updated Economic Assessment (AnalytEcon Pty Ltd [AnalytEcon], 2026)
- Appendix G Review of Groundwater Model Predictions for New Monitoring Bores (Australasian Groundwater and Environment Consultants Pty Ltd [AGE], 2026)
- Appendix H Independent Groundwater Review (Dr Lloyd Townley, 2026)

2 STRATEGIC CONTEXT

On 19 March 2026, the NSW Government released the *NSW Coal Industry 2026-50* statement which recognises the importance of the NSW coal mining industry in supporting regional jobs, investment and communities, while continuing to contribute to NSW’s legislated emissions reduction targets:

Coal continues to play a vital role in the regional economies of the Hunter, Central West, Illawarra and North West, supporting about 23,800 jobs. The coal sector also underpins a broader coal mining value chain of businesses and industries that support mining through the provision of equipment, technology and services, as well as coal-fired power generation; representing over 90,000 indirect jobs.

Coal mining is important in supporting the economy and local jobs. Proposals to extend coal mining can support continuation of these economic benefits in the short to medium term.

Regarding future coal mining development in NSW, the statement provides that:

The NSW Government will:

...

- *continue to allow approvals for mining operations other than new standalone greenfield coal mines where it can be demonstrated that environmental impacts of the project can be managed, to support ongoing job and energy security. This will include extensions of time and extensions of area of existing mines, as well as restarts of former operations associated with an existing mining lease, including mines that have suspended operations*

...

The Project is entirely consistent with the objectives of the *NSW Coal Industry 2026-50* statement and would provide significant net benefits to NSW as:

- it is a logical extension of existing mining operations from the lowest emissions intensive Safeguard Mechanism coal mine in Australia;
- it would provide security of employment and economic benefits for the local, regional and NSW economies;
- it would continue supply of export thermal coal to international markets and contribute to the energy security of Australia’s key trading partners; and
- it would be subject to the Safeguard Mechanism (as part of the Moolarben Coal Complex facility) and the NSW EPA’s *Climate Change Requirements for Licensees*, that are designed to contribute to the achievement of Commonwealth and NSW emissions reduction targets.

2.1 OVERVIEW

The strategic context of the Project, which includes the benefits of the Project to NSW and the region, is provided in Section 2 and Attachment 6 of the EIS and Section 2 of the previous (2024) Amendment Report.

The overall strategic context of the Project remains unchanged in consideration of the proposed additional amendments. In summary:

- The Project is a logical extension of existing mining operations within existing mining tenements and company-owned freehold land.
- The Project presents an opportunity for MCO to maintain supply into the export thermal coal market where there continues to be strong demand for coal for electricity generation. Analysis undertaken by Wood Mackenzie (2026) concludes that coal demand from MCO’s current customer countries (i.e. China, South Korea, Taiwan, Thailand, Japan and Vietnam) is expected to remain resilient out to 2035 and estimates the Project’s annual average product coal could supply electricity equivalent to the annual energy demand from over two million people in Southeast Asia.
- The Project has the benefit of using existing coal handling, processing and transport infrastructure at the Moolarben Coal Complex, while also extending employment opportunities for the existing open cut workforce.

- The Project would maintain the currently approved mine life of the Moolarben Coal Complex and the cumulative approved annual ROM coal and product coal transport rates.
- The resource can be recovered at a generally low depth of cover, allowing for economically efficient extraction with reduced potential for significant environmental impact compared to higher strip ratio operations.
- Land in the Project area has largely been historically cleared for agricultural uses.
- The Project is visually isolated from private residences by intervening elevated topography (associated with nearby ridgelines) which minimises potential amenity impacts.
- The Project is consistent with surrounding land uses as the local area is an existing mining precinct.

The proposed revegetation and rehabilitation strategy for the Project also remains unchanged in consideration of the proposed additional amendments. If approved, the Project would result in:

- A net gain in native woodland in the Moolarben Valley of approximately 22 ha during mining due to revegetation within the Habitat Enhancement Area (i.e. approximately 113 ha of woodland to be cleared for the Project versus 135 ha of revegetation within the Habitat Enhancement Area).
- An overall net gain in native woodland in the Moolarben Valley of approximately 557 ha post-mining when considering revegetation during mining and rehabilitation of the final landform.
- A reduction in the number of voids in the Moolarben Valley from one to zero, as the Project proposes to backfill the currently approved OC3 final void and provide a final landform with no residual voids.

The proposed additional amendments to the Project represent a substantial, voluntary and meaningful additional commitment by MCO to biodiversity conservation outcomes that significantly exceeds both the original proposal and the recommendations of the IEAPM, through the incorporation of an additional 625 ha (i.e. increase from approximately 188 ha to 813 ha in total) in the Habitat Enhancement Area extent.

Approval of the Project (incorporating the proposed additional amendments) would result in an area of remnant Box-Gum Woodland CEEC equivalent to that proposed to be disturbed for the Project (i.e. approximately 401 ha) being retained in the Moolarben Valley and subject to enhancement and management measures during mining.

The additional Habitat Enhancement Area extent would also increase the area of existing potential habitat for other SAIL-listed entities (i.e. Regent Honeyeater, Eastern Cave Bat, Large-eared Pied Bat and Broad-headed Snake) and other listed threatened fauna species (i.e. Pink-tailed Legless Lizard, Squirrel Glider and Koala) which would be subject to protection, enhancement and management measures under Development Consent conditions if the Project is approved.

The Project (incorporating proposed additional amendments) would provide significant economic, biodiversity and community benefits, including:

- Employment and economic certainty, supporting the long-term future of a sector that provides significant jobs and flow-on economic benefits to the region
- Extraction of 30 Mt of ROM coal from the Project area.
- Net benefits of \$245 million (\$AU2026) in net present value (NPV) terms to the State of NSW.
- Approximately 813 ha of enhancement areas and net gain of approximately 557 ha of native woodland in the Moolarben Valley from rehabilitation and revegetation.
- Backfilling the currently approved OC3 void.
- Biodiversity offsets equating to approximately 3,000 ha to 4,000 ha of land-based offset areas.
- Co-funding of the Mudgee Pump Track (paid by MCO in advance and on account) which was constructed in 2024.

2.2 JUSTIFICATION OF PROPOSED ADDITIONAL AMENDMENTS

2.2.1 Increased Habitat Enhancement Area

Habitat Enhancement Area as Proposed

The Project EIS proposed to establish a Habitat Enhancement Area of approximately 160 ha within riparian zones along Moolarben Creek and Murdering Creek, outside the Project indicative surface disturbance extent.

The Habitat Enhancement Area was proposed in the EIS to improve the condition of remnant vegetation, enhance habitat connectivity with the Munghorn Gap Nature Reserve.

To further mitigate potential impacts to threatened species habitat, the previous (2024) Amendment Report incorporated an increase to the extent of the Habitat Enhancement Area of approximately 28 ha (i.e. a total of approximately 188 ha). The Habitat Enhancement Area as proposed in the previous (2024) Amendment Report is shown as the white hatched area on Figure 2-1 and includes approximately 108 ha of Box-Gum Woodland CEEC (Figure 2-2).

Further Recommended Increase to Habitat Enhancement Area

Regarding potential impacts to SAI-listed entities Box-Gum Woodland CEEC and Regent Honeyeater, the IEAPM concluded (IEAPM, 2025a) (emphasis added):

*The project will result in impacts to both the Box Gum Woodland Critically Endangered Ecological Community (CEEC) and mapped important habitat for the Regent Honeyeater. **The Panel does not view that these impacts will contribute “significantly” to the risk of extinction and the Panel concludes that the project will not result in SAI for the Box Gum Woodland CEEC or Regent Honeyeater.***

...

The ability to apply additional measures to avoid and minimise impacts are, in the opinion of the Panel, limited within the current design due to the fragmented nature of patches which have not been avoided (i.e. they are isolated from other patches of the CEEC) and the location of the resource....

With regard to SAI, the DPHI Assessment Report concludes (DPHI, 2025) (emphasis added):

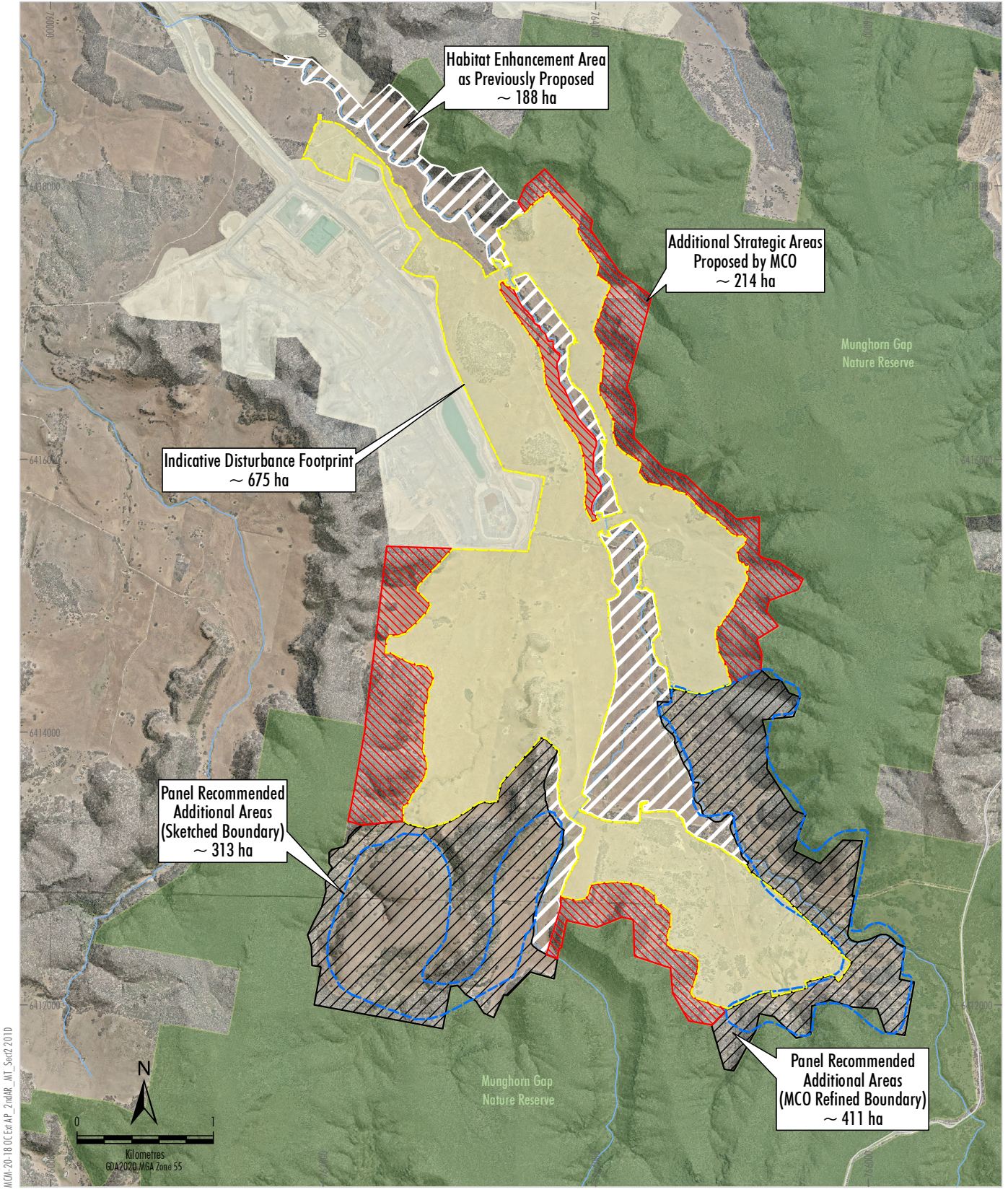
222. *The project would have impacts on habitat for two SAI entities, being Box-Gum Woodland CEEC and the Regent Honeyeater. The Department has thoroughly considered the potential impacts on these SAI entities having regard to Guidance to assist a decision-maker to determine a serious and irreversible impacts (DPIE 2019). This consideration was informed by positions and supporting information provided by CPHR, MCO and the Mining Panel.*

223. ***The Department does not consider that the residual impacts of the project would be SAI.** However, recommendations have been made by the Mining Panel to ensure all reasonable minimisation measures are implemented ...*

The IEAPM Advice Report included the following recommendation (IEAPM, 2025a) (emphasis added):

To make a meaningful contribution to recovery of the community, the Minister may wish to seek rehabilitation of 401.12 ha of Box Gum Woodland in addition to offsets required. This approach

- *would ensure that the project does not result in a reduction in geographic range of the CEEC or the further environmental degradation or disruption of biotic processes for the CEEC.*
- *The improved management of 32.6 ha and rehabilitation of 75.5 ha of Box Gum Woodland within the Habitat Enhancement Areas should count towards this goal.*
- ***The residual could very likely be partially or even fully acquitted by the inclusion of the areas shown in Figure 7 within the Habitat Enhancement Areas.***
- *Whilst an admirable goal, there is no certainty that the proposed rehabilitation of mined areas to woodland using species characteristic of the Box Gum Woodland CEEC will result in a functional and self-sustaining form of the CEEC.*
- *Whilst the project will result in impacts which contribute to the loss of the community (i.e. it is “likely to contribute”) these losses are negligible (<0.01%) when considered in the context of the community as a whole. Thus, these impacts do not meet the definition of “significantly” as per the definition provided above. The Panel concludes that the impacts to Box Gum Woodland do not pass the penultimate test for SAI and that the project will not result in SAI for the Box Gum Woodland CEEC.*



MCK-20-18-00-ENR-AP_2-narr_MNT_Sec2 201D

- LEGEND**
- National Park/Nature Reserve
 - Moolarben Coal Complex Approved Disturbance Footprint
 - Indicative Project Surface Disturbance Extent
 - Habitat Enhancement Area as Previously Proposed
 - Additional Habitat Enhancement Area Extent
 - Panel Recommended Areas ('Sketched' Boundary)
 - Panel Recommended Areas (MCO Refined Boundary)
 - Additional Strategic Areas Proposed by MCO

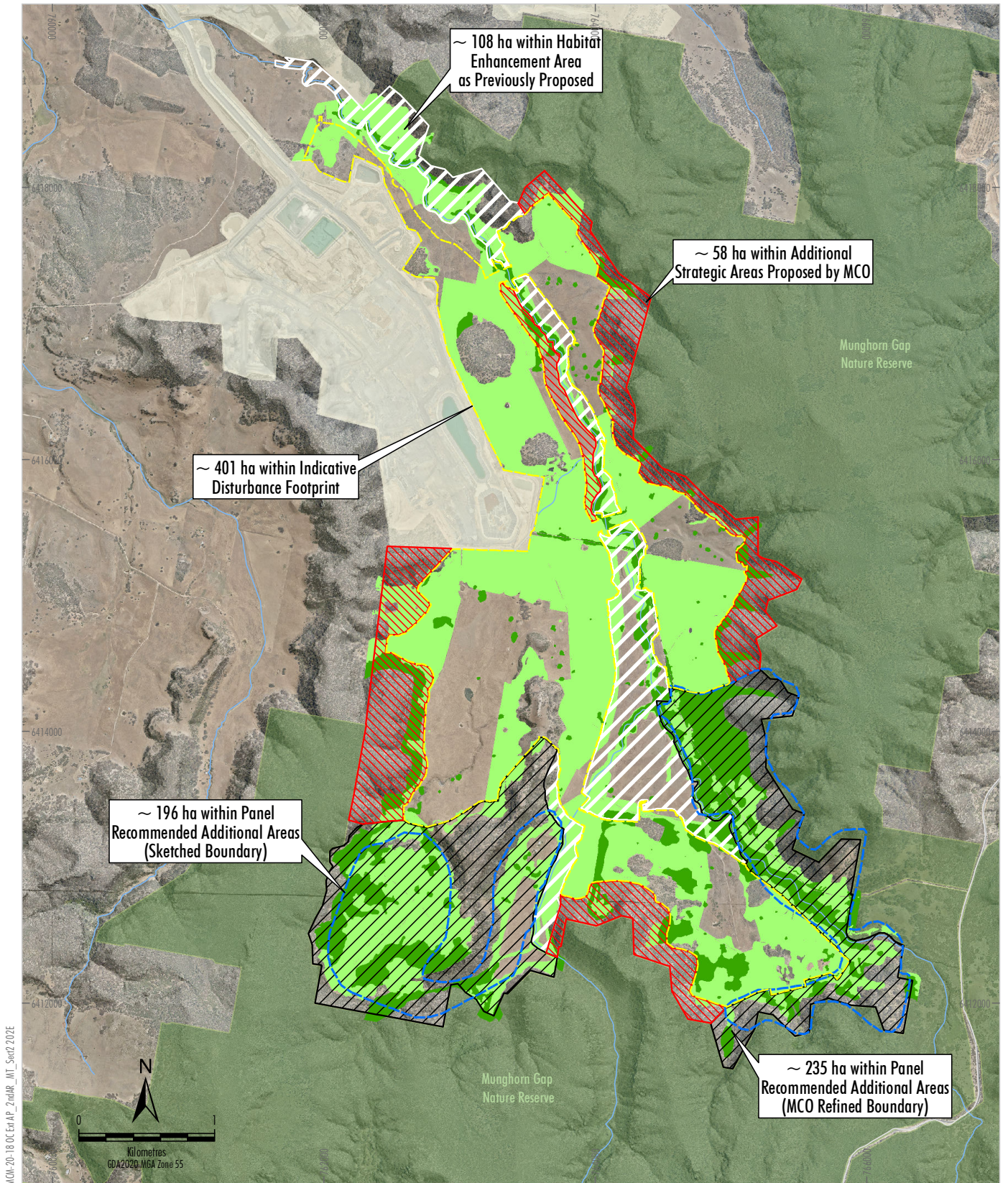
Source: MCO (2026); NSW Spatial Services (2026); Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX

Habitat Enhancement Area as Previously Proposed and Proposed Additional Extent

Figure 2-1



MCK-20-18-00-ENR-AP_2-narr_ML_Sec2 2022

LEGEND

- National Park/Nature Reserve
- Moolarben Coal Complex Approved Disturbance Footprint
- Indicative Project Surface Disturbance Extent
- Habitat Enhancement Area as Previously Proposed
- Additional Habitat Enhancement Area Extent
- Panel Recommended Areas ('Sketched' Boundary)
- Panel Recommended Areas (MCO Refined Boundary)
- Additional Strategic Areas Proposed by MCO

- Box-Gum Woodland CEEC
- Woodland
- Derived Native Grassland

Source: MCO (2026); NSW Spatial Services (2026); Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX

Extent of Box-Gum Woodland CEEC within Indicative Disturbance Footprint and Increased Habitat Enhancement Area

Figure 2-2

DPHI's Assessment Report incorporated this advice from the IEAPM to extend the Habitat Enhancement Area. Specifically, the Assessment Report states (DPHI, 2025):

150. **The Department considers that the inclusion of these areas could be considered reasonable, however only for enhancement of the CEEC in its existing form. This is because:**

- *their inclusion would provide a good outcome for the valley by retaining connectivity of Box Gum Woodland across the valley floor, post mining;*
- ***their inclusion would result in an equivalent amount of Box Gum Woodland retained within the valley to that which would be disturbed by the project. This would be additional to offsetting requirements;***
- *further minimisation measures appear to be warranted as they would over time potentially provide a net positive outcome for the SAll entities, consistent with recent reforms to the BC Act; and*
- *their inclusion provides an additional level of habitat protection in the unlikely event that rehabilitation is not successful*

The recommended additional areas identified by the IEAPM are presented as a sketch in the Advice Report (IEAPM, 2025a) (refer to Plate 1-1) and amount to approximately 313 ha in area, which would increase the total Habitat Enhancement Area extent to approximately 501 ha, compared to approximately 188 ha as proposed in previous (2024) Amendment Report. The IEAPM's sketch is shown as the blue dashed outline on Figure 2-1.

The sketched boundaries cross into the Munghorn Gap Nature Reserve (i.e. outside the development application area) and also the Project indicative surface disturbance extent in some areas and therefore require some refinement to avoid these impractical overlaps.

The recommended additional areas were suggested by the IEAPM to “*partially or even fully*” provide an equivalent amount of Box-Gum Woodland CEEC within the Habitat Enhancement Area to that within the disturbance footprint (i.e. approximately 401 ha). However, upon review by MCO, it has been identified that the recommended additional areas contain only approximately 196 ha of Box-Gum Woodland CEEC (Figure 2-2).

Inclusive of the recommended additional areas, the Habitat Enhancement Area would only contain a total of approximately 304 ha of Box-Gum Woodland CEEC, which would not achieve an equivalent area of Box-Gum Woodland CEEC to that within the Project indicative surface disturbance extent (i.e. approximately 401 ha).

Project Amendment – Increased Habitat Enhancement Area

To address ambiguity with the recommended additional areas sketched by the IEAPM, MCO has refined the areas to align with MCO property and tenement boundaries (i.e. to avoid any overlap with the Munghorn Gap Nature Reserve) and the Project disturbance footprint. This is represented by the black hatched area on Figure 2-1 and contains approximately 235 ha of Box-Gum Woodland CEEC (i.e. a total of 343 ha inclusive of the Habitat Enhancement Area as previously [2024] proposed) (Figure 2-2).

Both the IEAPM's sketched and MCO's refined versions of the recommended additional areas do not achieve DPHI's statement that the areas would “*result in an equivalent amount of Box-Gum Woodland CEEC retained within the valley to that which would be disturbed by the project*”.

To address the shortfall, MCO is proposing to include additional strategic areas around the perimeter of the Project area targeting the buffer between the Project disturbance footprint and the Munghorn Gap Nature Reserve (refer to red hatched areas on Figure 2-1).

Cumulatively, the additional Habitat Enhancement Area extent (i.e. MCO's refined version of the recommended additional areas and the additional strategic areas proposed by MCO) results in an increase to the Habitat Enhancement Area of approximately 625 ha, bringing it to a total of approximately 813 ha (Figure 2-1).

MCO's refined version of the recommended additional areas (black hatched areas) and the additional strategic areas proposed by MCO (red hatched areas) would bring the total Box-Gum Woodland CEEC within the increased Habitat Enhancement Area (inclusive of the previously [2024] proposed Habitat Enhancement Area) to an 'equivalent' area to that within the disturbance footprint (i.e. approximately 401 ha).

It is noted that the condition of Box-Gum Woodland CEEC within the disturbance footprint is significantly lower than the condition of Box-Gum Woodland CEEC in the Habitat Enhancement Area.

A breakdown of the area of Box-Gum Woodland CEEC (including the woodland and derived native grassland [DNG] components) within the increased Habitat Enhancement Area compared to the disturbance footprint is provided in Table 2-1.

**Table 2-1
Box-Gum Woodland CEEC within the Project Disturbance Footprint and the Increased Habitat Enhancement Area**

Area Category	Total Area (ha)	Box-Gum Woodland CEEC (ha)		
		Woodland	DNG	Total ¹
Indicative Disturbance Footprint (A)	675	34	367²	401
Habitat Enhancement Area as Previously Proposed by MCO (B)	188	33	76	108
Panel Recommended Additional Areas ('Sketched' Boundary) (C)	313	91	105	196
Panel Recommended Additional Areas (Refined Boundary) (D)	411	111	124	235
Other Additional Strategic Areas Proposed by MCO (E)	214	28	30	58
Total Increased Habitat Enhancement Area (B)+(D)+(E)=(F)	813	171	229	401

¹ Totals do not equal the sum of each row/column due to rounding.

² Including approximately 136 ha of low-quality DNG that is below the vegetation integrity threshold that requires offsets as a result of historic clearing for agriculture and ongoing agricultural activities.

The additional Habitat Enhancement Area extent would also address a recommendation provided by the Conservation Programs, Heritage and Regulation Group (CPHR) in its February 2025 advice on the Project⁴ that, if a 500 metre (m) setback from the Munghorn Gap Nature Reserve was not applied, a 100 m buffer from Munghorn Gap Nature Reserve should be conditioned and included within the Habitat Enhancement Area:

Residual Matter 6

- 6.1 Apply a standard 500 metre buffer from the outer boundary of the MOC 3 Extension to Munghorn Gap Nature Reserve to ensure adequate protection of land reserved under the National Parks and Wildlife Act 1974.
- 6.2 Alternatively, if the consent authority decides to grant the MCO extension the 100 metre minimum buffer, the approval be conditioned:
 - a. to establish and maintain the minimum 100 metre buffer, but allow for variable buffer applications where permitted, ensuring no encroachment of any MCC OC3 operations into the established 100 metre buffer, and
 - ...
- 6.3 Include the approved buffer zone within the new habitat enhancement area, allowing for the restoration and management of the plant community types adjoining Munghorn Gap Nature Reserve to improve the effectiveness of the buffer and reduce the impacts of MCC operations on Munghorn Gap Nature Reserve.

The increased Habitat Enhancement Area (cumulatively 813 ha, including approximately 401 ha of Box-Gum Woodland CEEC) represents a substantial, voluntary and meaningful additional commitment by MCO to biodiversity conservation outcomes that significantly exceeds both the original proposal and the recommendations of the IEAPM. This is in addition to (i.e. over and above) offsets required for the Project as per the biodiversity credit requirement for Box-Gum Woodland CEEC outlined in Table 5 (Condition B44) of the recommended Development Consent conditions.

Further detail regarding other biodiversity values within the increased Habitat Enhancement Area is provided in Section 5.1.

⁴ Correspondence from CPHR dated 12 February 2025. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PAE-78226233%2120250212T063700.052%20GMT>

2.2.2 Revised ROM Coal Production Schedule

The IEAPM Advice Report (IEAPM, 2025a) included the following statement (emphasis added):

*It is critical that the installation of new monitoring bores to collect baseline data occurs **prior to the commencement of the first open cut pit in Stage 1. The Panel recommends that all new monitoring sites be installed at least 12 months in advance of the commencement of mining in the Stage 1 area to capture sufficient baseline information.***

In response to the IEAPM's recommendations, MCO agreed to install the additional groundwater monitoring bores recommended by the IEAPM before commencement of mining, however requested this not delay commencement of mining by 12 months.

This is consistent with comments from the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water Group on the Project⁵ which agreed with the selection of proposed groundwater monitoring sites (as originally recommended by AGE [2022; 2024]) and supported the installation of these sites post-approval:

2.1 Recommendation – post approval

Develop a water management plan (WMP) including the construction & placement of new monitoring sites, frequency of monitoring, water quality analyte suites and trigger action response plan. Performance against this plan should be reported annually.

DPHI's Assessment Report concluded (DPHI, 2025) (emphasis added):

315. *The Department has carefully considered the project's potential impacts on water resources, including concerns raised in public submissions and advice from government agencies and experts. The Department considers that the water-related impacts of the project could be appropriately managed through conditions of consent, should the IPC determine to approve the project, which incorporate recommendations from the Mining Panel. Key recommended conditions include:*

- *strict water performance measures, including no material harm on alluvial aquifers and groundwater dependent ecosystems beyond predictions in the EIS;*
- ***the collection of at least 12 months of baseline data from the extended monitoring network prior to the commencement of mining.***
- *updated groundwater modelling and predictions within 18 months of the establishment of the expanded monitoring network; and*
- *an extensive water management plan, including trigger action response plans for groundwater dependent ecosystem and alluvial aquifers.*

The recommended draft Development Consent for the Project also included an associated condition:

Monitoring and Modelling Requirements

B37. *Prior to the commencement of mining, the Applicant must collect at least 12 months of baseline data from the surface water and groundwater monitoring network detailed in the documents in condition A2(c), as well as supplementary groundwater monitoring sites recommended by the Mining Panel in Report IEAPM 202504-01. The specific location of monitoring sites must be detailed in the Water Management Plan (see condition B45).*

MCO commenced installation of additional surface water and groundwater monitoring sites in 2023 in accordance with the recommendations of technical specialists in their assessments for the Project EIS. The IEAPM's recommendation for additional monitoring sites was provided in its Advice Report in April 2025, and DPHI's Assessment Report (including recommended draft Development Consent) was issued in December 2025.

Following MCO's commitment to install groundwater monitoring bores as recommended by the IEAPM, works to establish the additional bores were completed in early 2026. However, based on timing imposed by DPHI's recommended draft Development Consent conditions, Project operations could only commence in Q1 2027 at the earliest (to allow for collection of 12 months of data).

⁵ Correspondence from NSW DCCEEW Water Group dated 16 April 2024. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PAE-68741738%2120240416T023250.202%20GMT>

It is noted that a number of conclusions in DPHI's Assessment Report are based on completion of Project mining operations in 2034. In particular, assessment of the Project's Scope 1 greenhouse gas emissions against NSW and Commonwealth emissions reduction targets in 2035 assumed cessation of mining in 2034 (DPHI, 2025):

357. MCO estimate that the project scope 1 emissions would account for 0.04% of NSW emissions in 2030. Mining in the project area is schedule for completion in 2034 and therefore lesser amounts of emissions are predicted to contribute in 2035 during decommissioning. ...

To confirm that MCO's intention is for the Project mining operations to be completed by the end of 2034, MCO is therefore proposing to revise the ROM coal production schedule to reflect mining commencing in 2027 (to allow for the collection of 12 months of baseline data) whilst retaining the previously proposed mining completion date of 2034.

The amended Project would shorten the Project mine life from approximately 10 to 8 years, however would not result in any change to the total ROM coal (i.e. 30 Mt), total waste rock (i.e. 111.5 million bulk cubic metres [Mbcm]) or peak extraction rate (i.e. 8.5 Mtpa) for the Project, or any change in the cumulative ROM coal extraction limit for open cut operations at the Moolarben Coal Complex (i.e. 16 Mtpa).

The revised ROM coal production schedule for the Project would not result in any additional environmental impacts to those assessed in the EIS or the previous (2024) Amendment Report.

3 DESCRIPTION OF THE AMENDED PROJECT

3.1 OVERVIEW

Table 3-1 provides a summary of the proposed additional amendments compared to the Project as previously amended in 2024. A consolidated updated Project Description which incorporates the additional amendments described in Table 3-1 is provided as Appendix A of this Amendment Report.

**Table 3-1
Project Summary Comparison Table**

Project Component	Summary of the Project as Previously Amended	Summary of the Proposed Additional Amendments to the Project
Mine Life	<p>Approximately 10 years (i.e. 2025 to 2034).</p> <p>Mining activities for the Project would be carried out until approximately 2034 (i.e. within the approved mine life of the existing Moolarben Coal Complex).</p> <p>Landform profiling and rehabilitation activities would continue following cessation of mining activities.</p>	<p>Approximately 8 years (i.e. 2027 to 2034).</p> <p>Revision of the Project's mine life to reflect the delayed mining commencement date of 2027, whilst retaining the previously proposed mining cessation date of 2034, and associated updates to the indicative mine schedule.</p> <p>Landform profiling and rehabilitation activities would continue following cessation of mining activities.</p>
Project Indicative Surface Disturbance Extent	<p>Approximately 675 ha of disturbance associated with the Project, including open cut pits, internal haul roads and associated creek crossings, internal access roads, mine infrastructure area, water management infrastructure, ROM pads, waste rock emplacement areas and temporary rehabilitation and construction material stockpiles.</p>	Unchanged.
Open Cut Mining Areas	<p>Mining within existing mining and exploration tenements and on Moolarben-owned freehold land, via conventional open cut mining methods (as per Moolarben Coal Complex Stages 1 and 2) within an extension to the approved OC3 open cut pit, as well as four new open cut pits.</p>	Unchanged.
Open Cut Coal Extraction Limits	<p>Up to 8.5 Mt of ROM coal would be extracted from the Project in any calendar year.</p>	Unchanged.
	<p>An average of approximately 3 Mtpa of ROM coal would be extracted over the life of the Project.</p>	<p>An average of approximately 3.7 Mtpa of ROM coal would be extracted over the life of the Project due to the revised mine life and mine schedule.</p>
	<p>Up to 16 Mt (total) of ROM coal extracted cumulatively from the open cut operations at the Moolarben Coal Complex in any calendar year.</p>	Unchanged.
Total ROM Coal Extraction	<p>Approximately 30 Mt over the life of the Project.</p>	Unchanged.
Total Waste Rock Extraction	<p>Approximately 112 Mbcm of waste rock extracted over the life of the Project.</p>	Unchanged.
Coal Processing and Offsite Transport	<p>All ROM coal extracted from the Project would be hauled to the existing Stage 1 infrastructure for processing and transport to market via rail. Transport would include an average of 8 trains per day and peak of 11 trains per day.</p>	Unchanged.
Coal Rejects	<p>Co-disposal of coal rejects with waste rock in the open cut voids.</p>	Unchanged.

**Table 3-1 (Continued)
Project Summary Comparison Table**

Project Component	Summary of the Project as Previously Amended	Summary of the Proposed Additional Amendments to the Project
Workforce	Peak workforce expected to be up to approximately 1,000 personnel at the Moolarben Coal Complex (with up to approximately 400 personnel required to implement Project mining operations).	Unchanged.
Hours of Operations	Mining operations and associated activities would be carried out 24 hours per day, 7 days per week, consistent with existing Moolarben Coal Complex Operations.	Unchanged.
Site Access	No direct interaction with the public road network. Employees, contractors and deliveries would access the Project area via the existing Moolarben Coal Complex main site access via Ulan-Wollar Road and internal Moolarben Coal Complex roads.	Unchanged.
Water Management	Water management strategy based on maximising the diversion of clean water runoff around disturbance areas, containing and re-using mine water (to prevent downstream contamination) as well as controlling sediment runoff from disturbed areas such as waste rock emplacements or areas cleared in advance of mining.	Unchanged.
Final Landform	Project open cut voids would be progressively backfilled to develop a free draining final landform. No final voids would remain in the rehabilitated final landform (a reduction from three to two final voids that are currently approved for the Moolarben Coal Complex).	Unchanged.
Rehabilitation and Landform	Landform profiling and rehabilitation of backfilled open cut pits would be undertaken progressively over the life of the Project. These activities would continue following cessation of mining activities.	Unchanged.
Post-mining Land Uses	The post-mining land use in the Project area would include a combination of agricultural land, native vegetation and targeted biodiversity enhancement measures.	Unchanged.
Habitat Enhancement Area	Total area of approximately 188 ha. Establishment of a Habitat Enhancement Area within riparian zones along Moolarben Creek and Murdering Creek of approximately 188 ha, which would be enhanced and/or revegetated during mining.	Total area of approximately 813 ha. Incorporation of an additional 625 ha (approximately) in the Habitat Enhancement Area.

3.2 AMENDED PROJECT DESCRIPTION

3.2.1 Indicative Mining Schedule

The Project mine life would be shortened from 10 years to 8 years, with an associated revision to the indicative mine schedule, to reflect the delayed mining commencement date of 2027 whilst retaining the previously proposed mining cessation date of 2034. The amended Project would not result in any change to the total ROM coal extraction over the life of the Project (i.e. 30 Mt).

A comparison of the indicative mine schedule for the Project as per the previous (2024) Amendment Report and considering the proposed additional amendments is provided in Table 3-2. The revised indicative mining progression for the Project is shown on Figure 3-1.

Table 3-2
Revised Indicative Mine Schedule

Nominal Calendar Year	Project as Previously Amended			Proposed Additional Amendments		
	Project Year	Waste Rock (Mbcm)	ROM Coal (Mt)	Project Year	Waste Rock (Mbcm)	ROM Coal (Mt)
2025	1	11.6	2.9	-	-	-
2026	2	17.7	5.0	-	-	-
2027	3	27.2	8.5	1	10.2	2.6
2028	4	10.8	1.5	2	34.9	8.5
2029	5	11.2	1.9	3	18.6	3.8
2030	6	10.8	1.8	4	11.7	3.2
2031	7	4.6	2.2	5	12.8	3.2
2032	8	9.9	2.2	6	10.8	3.4
2033	9	6.8	2.2	7	10.1	3.3
2034	10	1.0	1.6	8	2.3	1.9
Total¹	-	111.5	29.8	-	111.5	29.8

¹ Totals do not equal the sum of each column due to rounding.

The average annual ROM coal extraction for the amended Project would increase to 3.7 Mtpa (compared to 3.0 Mtpa for the Project as previously amended) due to the shortened mine life, reflecting a more efficient extraction profile over the Project's operational period.

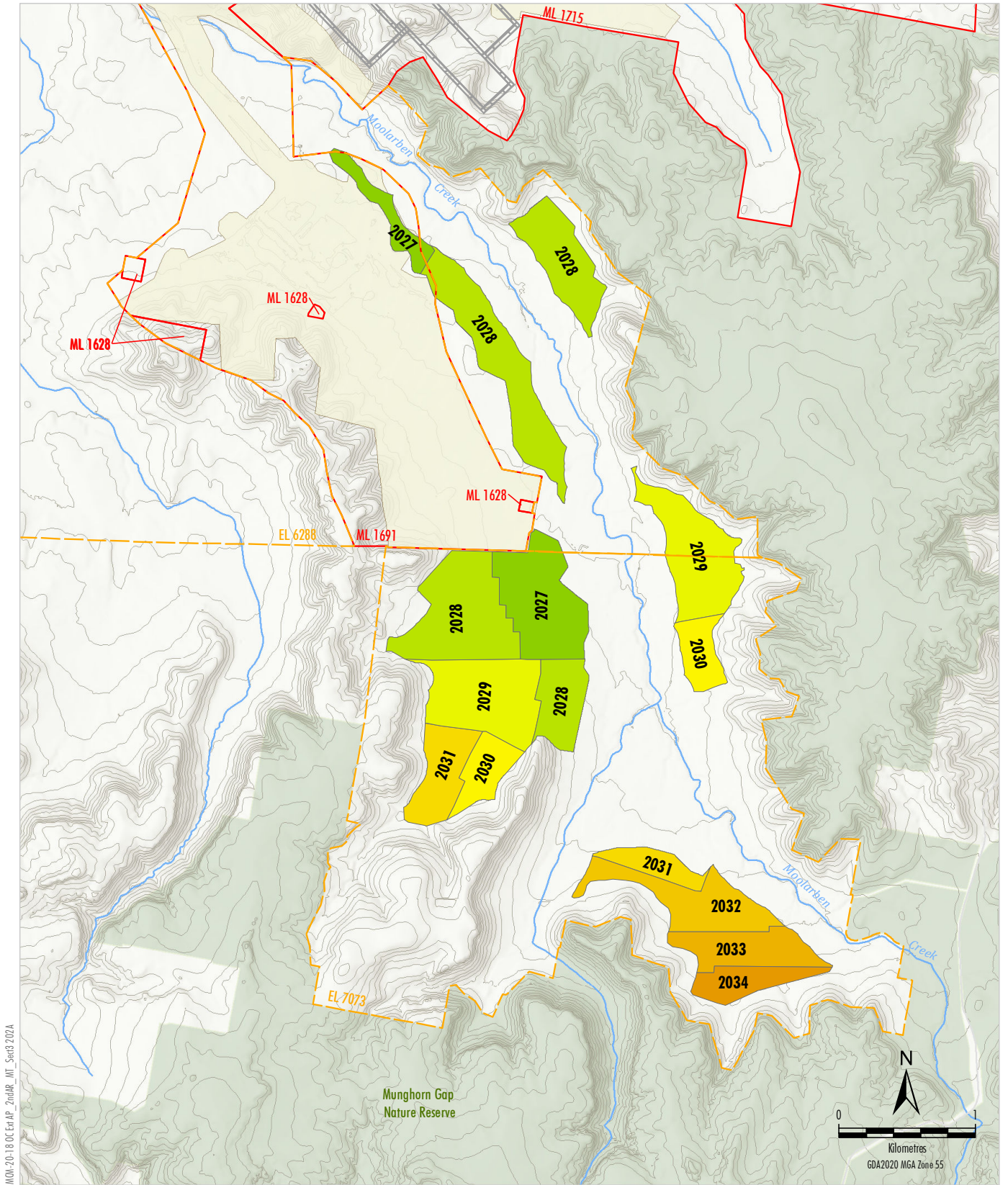
The proposed additional amendments would not change the total waste rock volume (i.e. 111.5 Mbcm) or peak ROM coal extraction rate (i.e. 8.5 Mtpa) for the Project, or the cumulative ROM coal extraction limit for open cut operations at the Moolarben Coal Complex (i.e. 16 Mtpa).

3.2.2 Habitat Enhancement Area






The Habitat Enhancement Area proposed within riparian zones of Moolarben Creek and Murdering Creek would be expanded to include an additional 625 ha (approximately) in areas surrounding the Project indicative surface disturbance extent. This results in an increased total extent for the Habitat Enhancement Area to approximately 813 ha (i.e. 188 ha as previously [2024] proposed plus the 625 ha of additional Habitat Enhancement Area extent proposed in this amendment) (Figure 3-2).

Specific areas have been strategically targeted for inclusion in the increased Habitat Enhancement Area, such as areas of remnant Box-Gum Woodland CEEC to include an equivalent amount to that within the disturbance footprint, as well as the buffer areas between the Project indicative surface disturbance extent and the Munghorn Gap Nature Reserve (i.e. areas within the minimum 100 m setback from the Munghorn Gap Nature Reserve) (Figure 3-2).

Installation of any required monitoring sites within the Habitat Enhancement Area (e.g. blast monitoring locations) and ongoing access to these sites would continue during mining, once the Habitat Enhancement Area has been established and in accordance with MCO's Ground Disturbance Protocol. Further detail regarding biodiversity values within the increased Habitat Enhancement Area is provided in Section 5.1.



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LEGEND	
	National Park/Nature Reserve
	Exploration Licence Boundary
	Mining Lease Boundary
	Moolarben Coal Complex Approved Disturbance Footprint
	Moolarben Coal Complex Approved Underground Longwall Layout
	Project Revised Mine Progression
	2027
	2028
	2029
	2030
	2031
	2032
	2033
	2034

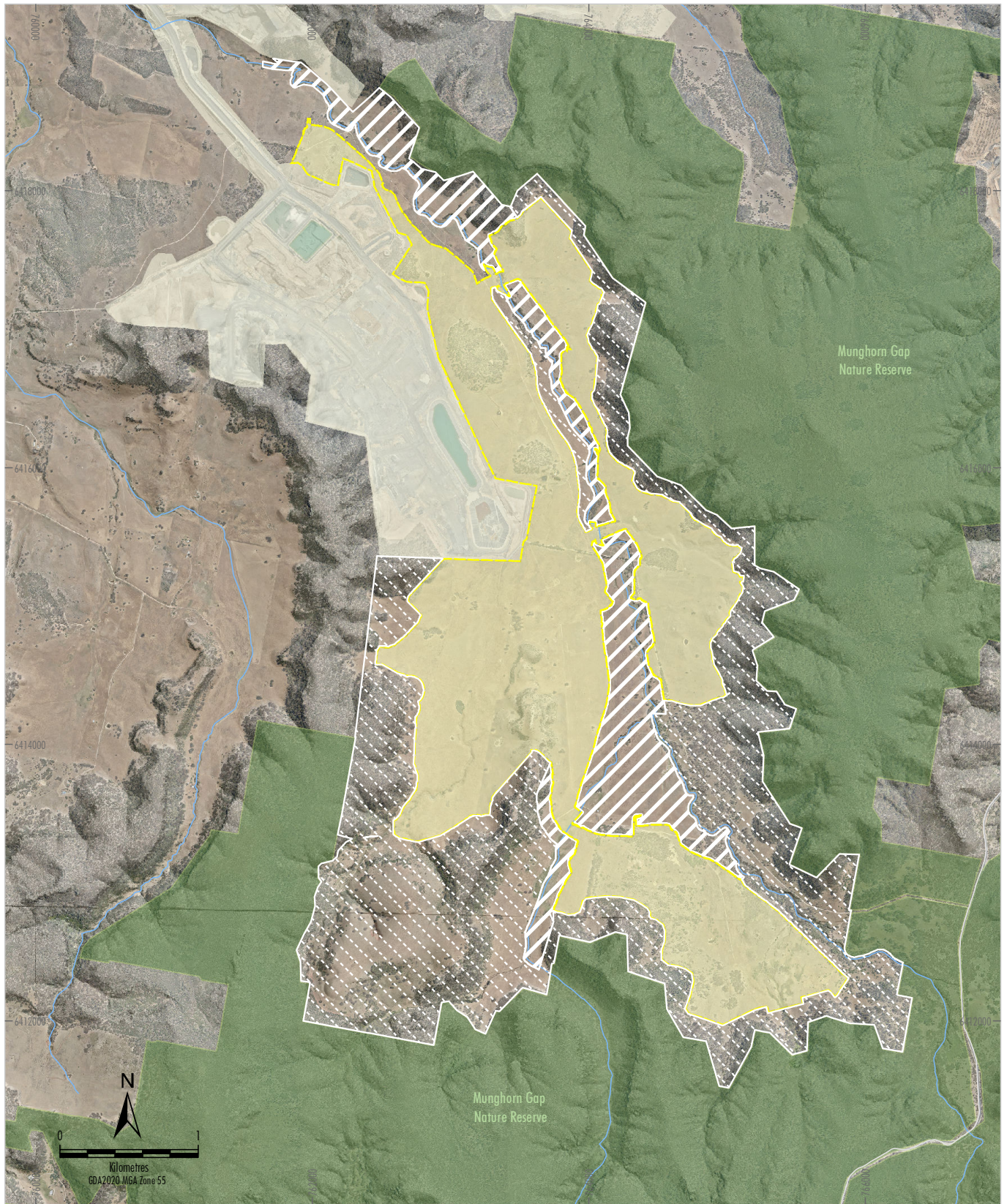
Source: MCO (2026); NSW Spatial Services (2026)








MOOLARBEN COAL COMPLEX
Revised Indicative Mine Progression

Figure 3-1

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LEGEND

-  National Park/Nature Reserve
-  Moolarben Coal Complex Approved Disturbance Footprint
-  Indicative Project Surface Disturbance Extent
-  Habitat Enhancement Area As Previously Proposed
-  Proposed Additional Extent

Source: MCO (2026); NSW Spatial Services (2026); Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX
Increased Habitat Enhancement Area

Figure 3-2

4 STATUTORY CONTEXT

In accordance with section 37 of the *Environmental Planning & Assessment Regulation 2021*, an applicant may, at any time before a development application is determined, apply to the consent authority for an amendment to the development application.

On 23 January 2026, DPHI provided to the IPC an acknowledgement of MCO's request to amend the Project and advised that the public hearing process for the Project be paused until this Amendment Report is submitted. DPHI will make a decision to approve or reject the amendment application, and provide the IPC with updated assessment advice (if the amendment application is approved) or advise the IPC to continue with the public hearing process (if the amendment application is refused).

The updated statutory compliance table for the Project was provided in the previous (2024) Amendment Report. The statutory compliance of the Project would not be changed by the proposed additional amendment described in this Amendment Report.

5 REVISED ENVIRONMENTAL OUTCOMES

MCO has undertaken a review of the potential environmental impacts of the amended Project to identify key changes relative to the EIS and previous (2024) Amendment Report. Where outcomes are unchanged relative to the previous assessments, these assessments have not been repeated in this Amendment Report.

The key revised environmental outcomes for the amended Project are summarised in Table 5-1 and addressed in Sections 5.2 to 5.6. Additional assessment of the revised environmental outcomes has been undertaken by specialists where relevant and is presented in Appendices C to H. Updated mitigation and management measures for the amended Project are included in Appendix B.

5.1 BIODIVERSITY

The proposed additional amendments to the Project relevant to biodiversity outcomes include incorporation of an additional Habitat Enhancement Area extent of approximately 625 ha (i.e. increase of total extent of the Habitat Enhancement Area from approximately 188 ha to 813 ha) (Figure 3-2).

There would be no change to the Project indicative surface disturbance extent and therefore no change to the biodiversity offset credit requirements for the Project outlined in Table 5 (Condition B44) of the recommended draft Development Consent conditions, consistent with the Updated Biodiversity Development Assessment Report (Niche, 2024).

5.1.1 Increased Habitat Enhancement Area

The proposed additional amendments would incorporate an additional Habitat Enhancement Area extent of approximately 625 ha, cumulatively increasing the Habitat Enhancement Area to approximately 813 ha in total (i.e. the increased Habitat Enhancement Area).

As described in Section 2.2.1, the increased Habitat Enhancement Area (inclusive of the previously [2024] proposed Habitat Enhancement Area) contains an equivalent area of Box-Gum Woodland CEEC to that within the disturbance footprint (i.e. approximately 401 ha) (Figure 5-1; Table 5-2).

The increased Habitat Enhancement Area also includes records of and existing potential habitat for other threatened species and ecological communities, including (Figure 5-1; Table 5-2):

- Regent Honeyeater Mapped Important Habitat (SAIL entity).
- Eastern Cave Bat and Large-eared Pied Bat mapped rocky habitat and breeding habitat (SAIL entities), and foraging habitat.
- Broad-headed Snake mapped rocky habitat and breeding habitat (SAIL entity).
- Pink-tailed Legless Lizard habitat.
- Squirrel Glider habitat.
- Koala habitat.

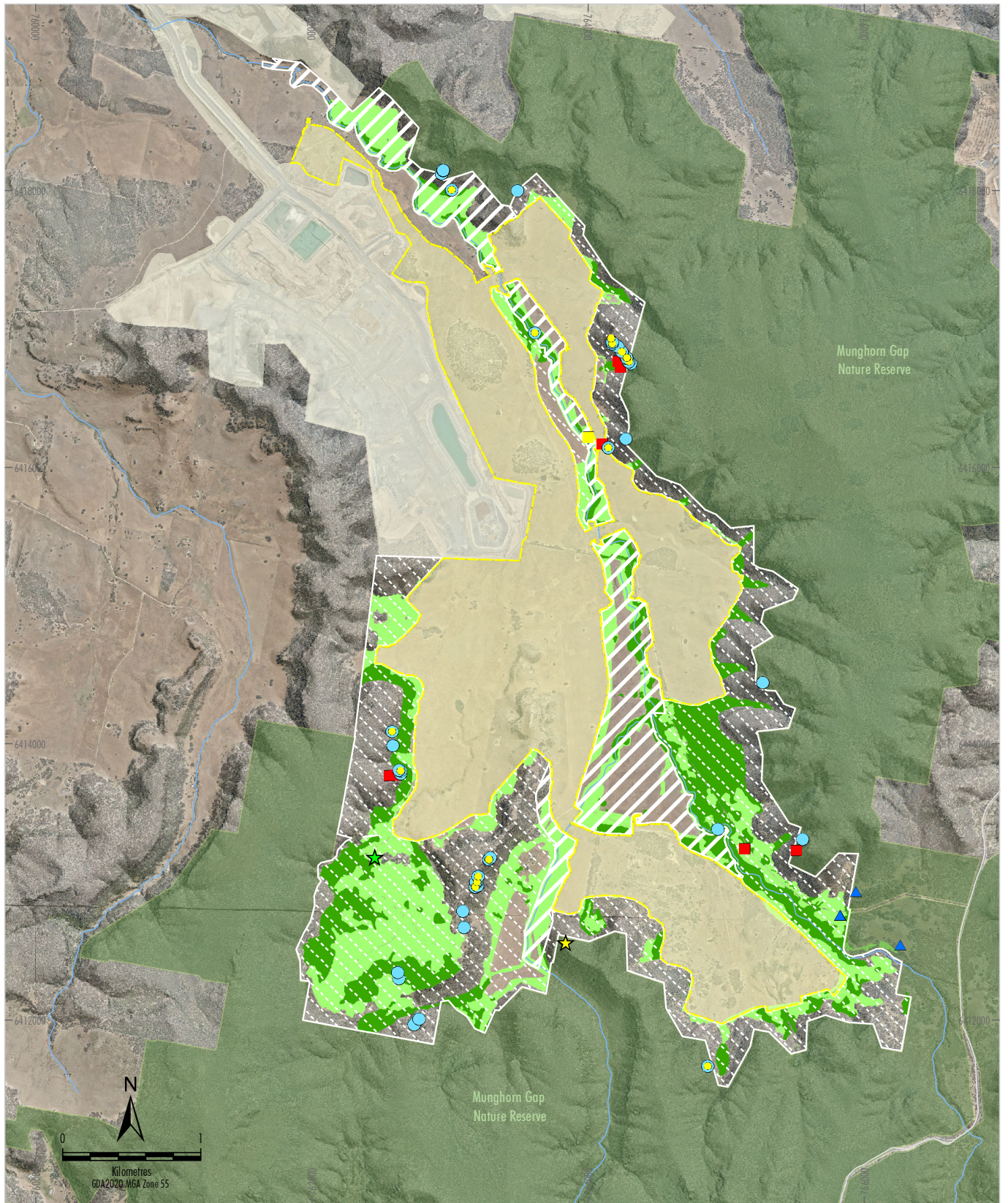
Existing potential habitat for SAIL entities and other threatened species within the Habitat Enhancement Area would be subject to enhancement measures, including ecological restoration, ongoing maintenance (e.g. fencing and weed/pest controls) and regular monitoring measures.

The increased Habitat Enhancement Area would improve the environmental outcomes of the Project and represents a substantial, voluntary and meaningful additional commitment by MCO to biodiversity conservation outcomes that significantly exceeds both the original proposal and the recommendations of the IEAPM. These measures are additional to offsets required for the Project.















Table 5-1
Summary of Revised Environmental Outcomes due to the Proposed Additional Amendments

Environmental Aspect	Revised Environmental Outcomes	Section Addressed
Biodiversity	<p>The amended Project would increase the Habitat Enhancement Area by 625 ha to a total extent of approximately 813 ha. Calculation of biodiversity values associated with the increased Habitat Enhancement Area has been reviewed by Niche (2026).</p> <p>The increased Habitat Enhancement Area represents a substantial, voluntary and meaningful additional commitment by MCO to biodiversity conservation outcomes that significantly exceeds both the original proposal and the recommendations of the IEAPM. This is additional to biodiversity offset credit requirements outlined in Table 5 (Condition B44) of the recommended Development Consent conditions.</p>	Section 5.1 and Appendix C
Greenhouse Gas Emissions and Climate Change	<p>The Moolarben Coal Complex has the lowest Scope 1 emissions intensity of all Safeguard Mechanism coal mines in Australia.</p> <p>The amended Project would result in changes to the greenhouse gas emissions profile due to the shortened mine life and revised ROM coal production schedule. Updated calculation of greenhouse gas emissions has been undertaken for the revised mine schedule and peer reviewed by TAS (2026).</p> <p>Wood Mackenzie (2026) has also undertaken an analysis of the market outlook for global seaborne thermal coal demand in relation to the Project (incorporating the proposed additional amendments).</p>	Sections 5.2 and 5.3, and Appendices D and E
Economic Effects	Potential changes to economic net benefits due to the shortened mine life and revised ROM coal production schedule have been assessed by AnalytEcon (2026) for the amended Project.	Section 5.4 and Appendix F
Groundwater	<p>The proposed additional amendments would not change the Project indicative surface disturbance extent or the extent of open cut pits and therefore would not result in any changes to potential groundwater impacts as assessed in the EIS and previous (2024) Amendment Report (AGE, 2022; 2024).</p> <p>A review of baseline groundwater monitoring data from newly installed monitoring bores against model predictions has been undertaken by AGE (2026). Dr Lloyd Townley (2026) has also undertaken an additional independent review of the groundwater model and risk of impacts to potential groundwater dependent ecosystems (GDEs).</p>	Section 5.5 and Appendices G and H
Noise	No change to peak mining activity (i.e. ROM coal production and waste rock extraction rates), maximum mining fleet or locations of noise-generating activities assessed in noise modelling scenarios by SLR Consulting Australia Pty Ltd (SLR) (2024) for the Project as previously (2024) amended, and therefore no change to noise modelling.	Section 5.6
Air Quality	No change to peak mining activity (i.e. ROM coal production and waste rock extraction rates) or location of dust-generating activities assessed by TAS (2023) for the Project as previously (2024) amended, and therefore no change to air quality modelling.	
Blasting	The proposed additional amendments would not result in any changes to environmental outcomes as assessed in the EIS or the previous (2024) Amendment Report.	No further assessment required
Surface Water		
Aquatic Ecology		
Road Transport		
Aboriginal Cultural Heritage		
Non-Aboriginal Heritage		
Agricultural and Land Resources		
Landscape and Visual Character		
Social and Community Infrastructure		

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LEGEND

- | | | | |
|---|---|---|---|
|  | National Park/Nature Reserve |  | Box-Gum Woodland CEEC Woodland |
|  | Moolarben Coal Complex Approved Disturbance Footprint |  | Derived Native Grassland Threatened Fauna |
|  | Indicative Project Surface Disturbance Extent |  | Pink-tailed Legless Lizard |
|  | Habitat Enhancement Area As Previously Proposed |  | Broad-headed Snake |
|  | Proposed Additional Extent |  | Koala (Heard); Koala (Scat); Koala (Sighting) |
| | |  | Squirrel Glider |
| | |  | Eastern Cave Bat |
| | |  | Large-eared Pied Bat |
| | |  | Regent Honeyeater |

Source: MCO (2026); NSW Spatial Services (2026); Ecological Australia (2023); AMBS (2023). Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX
Increased Habitat Enhancement Area Values

Figure 5-1

Table 5-2
SAII Entities and Threatened Species Habitat within the Project Disturbance Footprint and the Increased Habitat Enhancement Area

Common Name	Scientific Name	Habitat Component	Total Habitat within Project Indicative Surface Disturbance Extent (ha)	Total Habitat within the Previously (2024) Proposed Habitat Enhancement Area (ha)	Total Habitat within Increased Habitat Enhancement Area (ha)	Additional Habitat Subject to Enhancement due to Proposed Additional Amendments (ha) ¹
			(A)	(B)	(C)	(C) - (B) = (D)
SAII Entities						
Box-Gum Woodland CEEC	White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland	Woodland	34	33	171	+139
		DNG	367	76	229	+154
		Total ¹	401	108	401	+293
Regent Honeyeater	<i>Anthochaera phrygia</i>	Mapped Important Habitat	81	52	469	+417
Large-eared Pied Bat	<i>Chalinolobus dwyeri</i>	Mapped Rocky Habitat and Breeding Habitat	Complete Avoidance	20	317	+296
		Foraging	113	50	489	+438
Eastern Cave Bat	<i>Vespadelus troughtoni</i>	Mapped Rocky Habitat and Breeding Habitat	Complete Avoidance	20	317	+296
		Foraging	113	50	489	+438
Broad-headed Snake	<i>Hoplocephalus bungaroides</i>	Mapped Rocky Habitat and Breeding Habitat	Complete Avoidance	20	328	+308
Other Threatened Species						
Pink-tailed Legless Lizard	<i>Aprasia parapulchella</i>	Total	207	38	462	+424
Squirrel Glider	<i>Petaurus norfolcensis</i>	Total	113	50	489	+438
Koala	<i>Phascolarctos cinereus</i>	Total	113	50	489	+438

¹ Totals do not equal the sum of each row/column due to rounding.

Box-Gum Woodland CEEC and Regent Honeyeater

As an outcome of the previous (2024) Amendment Report, species experts concluded that the Project would not contribute significantly to the risk of Box-Gum Woodland CEEC or the Regent Honeyeater becoming extinct (Hunter Ecology Pty Ltd [Hunter Eco], 2024; Debus, 2024).

The increased Habitat Enhancement Area contains an equivalent area of Box-Gum Woodland CEEC to that within the disturbance footprint (i.e. approximately 401 ha) (Figure 5-1; Table 5-2). It is noted that the condition of Box-Gum Woodland CEEC within the disturbance footprint is significantly lower than the condition of Box-Gum Woodland CEEC in the increased Habitat Enhancement Area.

The increased Habitat Enhancement Area also contains approximately 469 ha of Regent Honeyeater Mapped Important Habitat, which would be subject to enhancement and management measures during mining (compared to the 81 ha of Mapped Important Habitat within the disturbance footprint) (Figure 5-2; Table 5-2).

Eastern Cave Bat and Large-eared Pied Bat

Breeding habitat for the Eastern Cave Bat and Large-eared Pied Bat is defined as relevant vegetation within 100 m of 'mapped rocky habitat'. The Project would avoid 100% of mapped rocky habitat and breeding habitat for the Eastern Cave Bat and Large-eared Pied Bat (i.e. would not 'trigger' SAI assessment). As an outcome of the previous (2024) Amendment Report, Biodiversity Monitoring Services (BMS) (2024a) concluded the Project would not contribute significantly to the risk of the species becoming extinct.

The increased Habitat Enhancement Area contains approximately 489 ha of foraging habitat and 317 ha of mapped rocky habitat and breeding habitat for the Eastern Cave Bat and Large-eared Pied Bat, which would be subject to enhancement and management measures during mining (compared to the 113 ha of foraging habitat and complete avoidance of mapped rocky habitat and breeding habitat within the disturbance footprint) (Figure 5-3; Table 5-2).

Broad-headed Snake

Breeding habitat for the Broad-headed Snake is similarly defined as relevant vegetation within 100 m of 'mapped rocky habitat'. The Project would avoid 100% of mapped rocky habitat and breeding habitat for the Broad-headed Snake (i.e. would not 'trigger' SAI assessment). As an outcome of the previous (2024) Amendment Report, BMS (2024b) concluded the Project would not contribute significantly to the risk of the species becoming extinct.

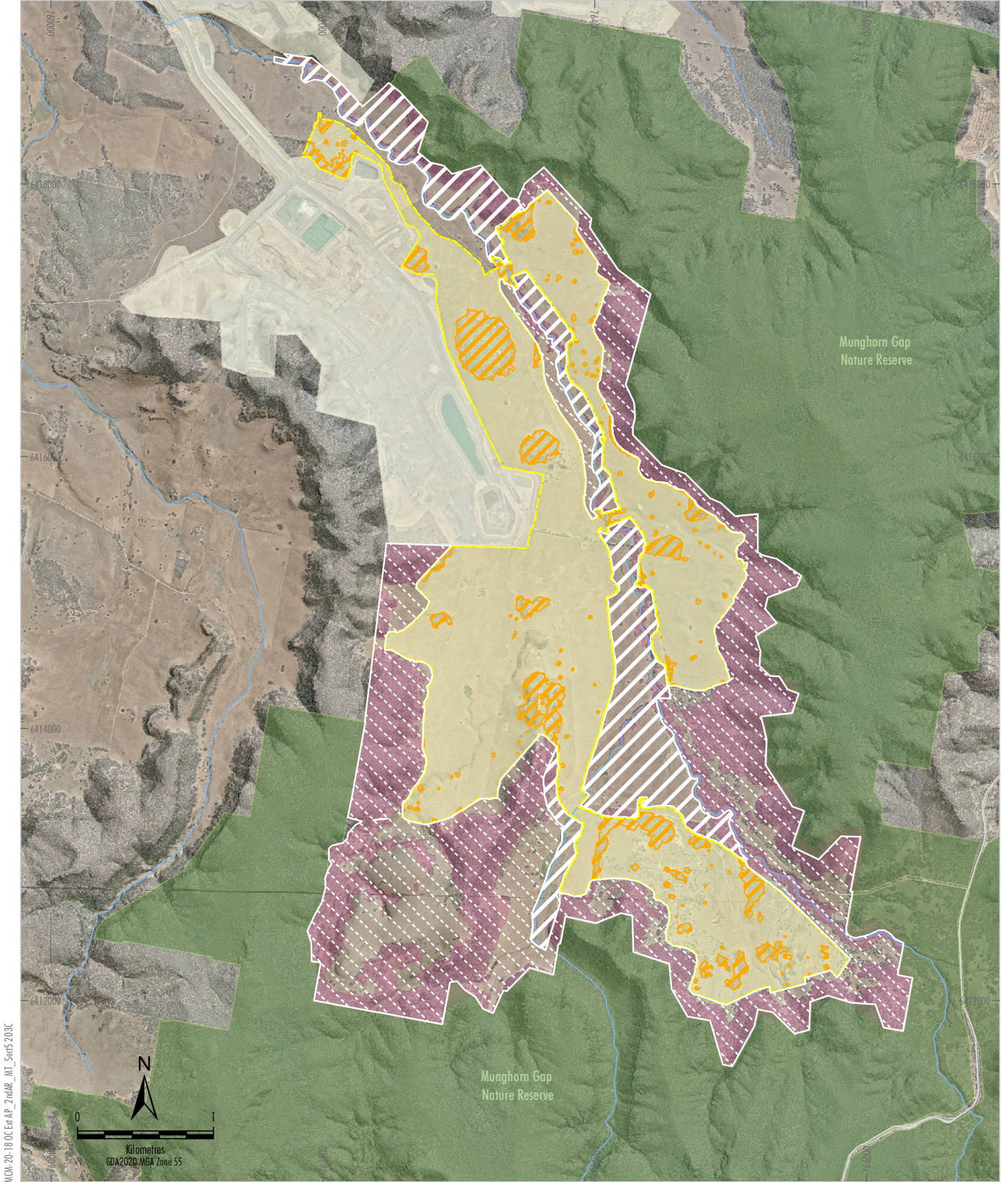
The increased Habitat Enhancement Area contains approximately 328 ha of Broad-headed Snake mapped rocky habitat and breeding habitat, which would be subject to enhancement and management measures during mining (compared to complete avoidance of mapped rocky habitat and breeding habitat within the disturbance footprint) (Figure 5-3; Table 5-2).

Other Threatened Species

Other threatened fauna species with records and/or existing potential habitat within the increased Habitat Enhancement Area include the Pink-tailed Legless Lizard, Squirrel Glider and Koala, including (Figure 5-1; Table 5-2):

- approximately 462 ha of Pink-tailed Legless Lizard habitat (compared to 207 ha of habitat within the disturbance footprint);
- approximately 489 ha of Squirrel Glider habitat (compared to 113 ha of habitat within the disturbance footprint); and
- approximately 489 ha of Koala habitat (compared to 113 ha of habitat within the disturbance footprint).

This habitat within the increased Habitat Enhancement Area would also be subject to enhancement and management measures during mining.



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Source: MCO (2026); NSW Spatial Services (2026);
Orthophoto Mosaic: MCO (2025)

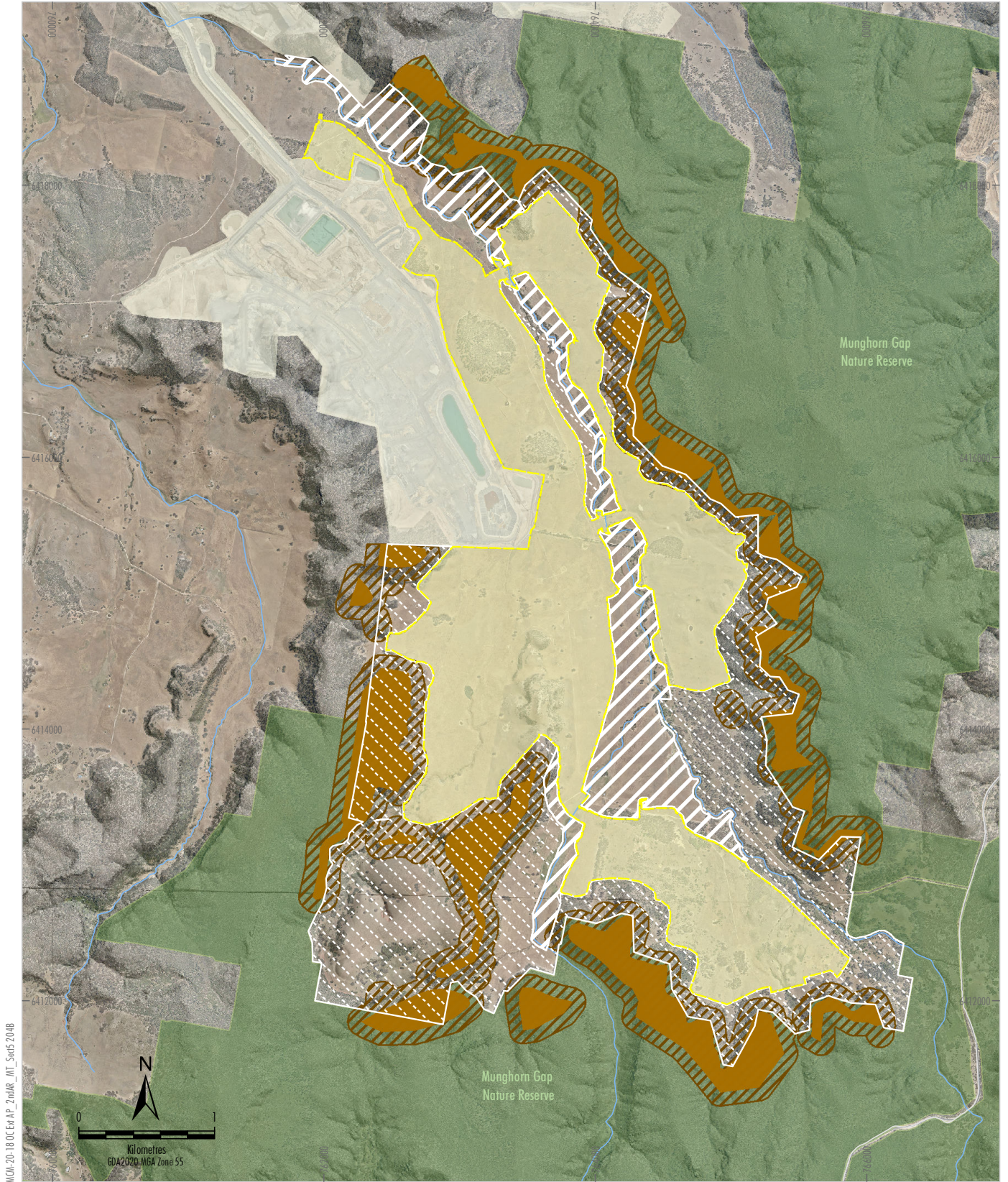
- | | |
|--|---|
| <p>LEGEND</p> <ul style="list-style-type: none"> National Park/Nature Reserve Moolarben Coal Complex Approved Disturbance Footprint Indicative Project Surface Disturbance Extent As Previously Proposed Proposed Additional Extent | <ul style="list-style-type: none"> NSW Government Regent Honeyeater Mapped Important Habitat within Increased Habitat Enhancement Area NSW Government Regent Honeyeater Mapped Important Habitat within Project Disturbance Extent |
|--|---|



MOOLARBEN COAL COMPLEX

Regent Honeyeater Mapped
Important Habitat within Increased
Habitat Enhancement Area

Figure 5-2



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- | | |
|---|--|
| <p>LEGEND</p> <ul style="list-style-type: none"> National Park/Nature Reserve Moolarben Coal Complex Approved Disturbance Footprint Indicative Project Surface Disturbance Extent Habitat Enhancement Area As Previously Proposed Proposed Additional Extent | <ul style="list-style-type: none"> Mapped Rocky Habitat Breeding Habitat - 100 m Buffer from Mapped Rocky Habitat |
|---|--|

Source: MCO (2026); NSW Spatial Services (2026); AMBS (2023).
Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX

Mapped Rocky Habitat and
Breeding Habitat within Increased
Habitat Enhancement Area

Figure 5-3

5.1.2 Habitat Enhancement and Revegetation Measures

The increased Habitat Enhancement Area (incorporating the proposed additional amendments) would facilitate the ecological restoration and ongoing maintenance of retained areas of native vegetation, threatened ecological communities, and threatened species habitat outside of the indicative surface disturbance extent, including facilitation of movement for threatened species through the Project site during mining (Niche, 2024).

During the Project mine life, the Habitat Enhancement Area would improve the condition of remnant vegetation through enhancement and management measures, enhance habitat connectivity with the Munghorn Gap Nature Reserve and provide a net increase in woodland in the Moolarben Valley of approximately 22 ha as a result of proposed revegetation of approximately 135 ha of DNG and cleared land.

In addition to revegetation, enhancement measures to be implemented within the Habitat Enhancement Area would include construction of fencing to exclude livestock and minimise vehicle and personnel access (as required), weed control, animal (vertebrate) pest management, bushfire management and regular monitoring.

A draft Habitat Enhancement Plan has been prepared by MCO which outlines the objectives and proposed revegetation and management activities to be undertaken within the Habitat Enhancement Area. The draft Habitat Enhancement Plan is generally consistent with the requirements of Condition B52(d) of the recommended draft Development Consent for the Project:

Biodiversity Management Plan

B52. A Biodiversity Management Plan must be prepared for the development. This plan must:

...

(d) include a Habitat Enhancement Area subplan that:

(i) describes how requirements in condition B54 will be met, including:

- identifying objectives for each management zone;*
- detailed description of the proposed enhancement, management and revegetation methods proposed;*
- identification of seed and plant selection,*
- weed and pest management controls;*
- performance indicators and completion criteria;*

(ii) describes how the progress of the area will be monitored and managed, including contingency management strategies; and

(iii) provides a clear schedule for implementation to achieve the objectives;

...

MCO would update the draft Habitat Enhancement Plan to reflect the increased Habitat Enhancement Area as proposed in this amendment.

5.2 GREENHOUSE GAS EMISSIONS

This section provides further context regarding greenhouse gas emissions for the existing Moolarben Coal Complex and the Project (incorporating the proposed additional amendments), in consideration of the current NSW and Commonwealth policy settings, programs and guidelines.

5.2.1 Legislative and Policy Context

Global Greenhouse Gas Emissions Reduction Framework

The international framework addressing greenhouse gas emissions and the global response to climate change commenced with adoption of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992.

The *Paris Agreement* was adopted in 2015 at the 21st Conference of the Parties (i.e. COP 21) with a goal of limiting global temperature increases to well below 2 degrees Celsius (°C) above pre-industrial levels (UNFCCC, 2024a). Australia is a Party to the *Paris Agreement*.

Although the *Paris Agreement* does not specify how global emissions reductions are to be achieved, Australia and all other Parties are required to prepare, communicate and maintain nationally determined contributions (NDCs) and to pursue domestic measures to achieve them (UNFCCC, 2024b; UNFCCC, 2024c).

The NDCs are to be communicated every five years, with each successive NDC to represent a progression beyond the previous NDC. This review and ratchet mechanism means that Australia's interim emissions reduction targets are likely to become more ambitious over time (NSW Office of Environment and Heritage [OEH], 2016), which is demonstrated by Australia's commitments in NDCs submitted to date:

- Australia's First NDC (submitted in 2020) – reduction in emissions of 26-28% below 2005 levels by 2030 and achieve net zero emissions by 2050.
- Update to Australia's First NDC (submitted in 2022) – reduction in emissions of 43% below 2005 levels by 2030.
- Australia's Second NDC (submitted in 2025) – reduction in emissions of 62-70% below 2005 levels by 2035.

In 2022 the Commonwealth *Climate Change Act 2022* was introduced to outline Australia's greenhouse gas emissions reduction targets.

In the *Targets, Pathways and Progress* paper, the Climate Change Authority (CCA) (2024) articulates that Australia's emissions reduction targets are not to achieve zero emissions by 2050, rather they are a commitment to achieve net zero emissions by 2050 and allow for consideration of abatement and offset opportunities.

Global Energy Security Context

The *Energy Supply and Security Study* (Electric Power Research Institute [EPRI], 2026), commissioned by the International Energy Agency's Coal Industry Advisory Board, provides the outcomes of research undertaken to examine global electricity supply and energy security challenges experienced to date and inform recommendations to improve future energy reliability.

Key findings of the *Energy Supply and Security Study* include (EPRI, 2026):

- Coal remains the largest source of electricity globally as at 2024.
- Despite increasing integration of renewable electricity generation (i.e. solar and wind) globally, 'firm capacity' requirements (i.e. from coal and nuclear sources) have remained relatively stable in some countries to ensure demand is met during periods of low output from renewable energy sources.
- Regions that have rapidly decommissioned 'firm capacity' (e.g. Germany and the UK) have experienced significant affordability deterioration due to reliance on imported power to meet demand during these periods of low output from renewable energy sources.

EPRI also relevantly conclude (2026):

Improving the environmental performance of the global coal fleet, rather than assuming its immediate disappearance, offers a more realistic pathway to meeting global climate goals without compromising regional stability.

Commonwealth Government Emissions Reduction Policy

National Greenhouse and Energy Reporting Scheme

The Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) is Australia's national framework for reporting greenhouse gas emissions, energy production and energy consumption by corporations and includes various supporting policy documents (e.g. technical implementation guidelines).

The greenhouse gas emissions and energy data reported under the NGER Act is used by the Commonwealth Government in compiling Australia's national greenhouse gas emissions inventory to meet its reporting obligations under the UNFCCC.

Reporting requirements of the NGER Act include both Scope 1 and Scope 2 emissions. The NGER Act does not cover Scope 3 emissions.

Safeguard Mechanism

The *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015* (Safeguard Mechanism) is the Australian Government’s primary policy for reducing emissions from the nation’s largest industrial facilities, covering sites that emit more than 100,000 tonnes of carbon dioxide equivalent (CO₂-e) per year. It sets legislated emissions limits (“baselines”) for these facilities, and these baselines decline over time in line with Australia’s national emissions-reduction targets of 43% below 2005 levels by 2030 and net zero by 2050.

The Safeguard Mechanism is set up to incentivise on-site abatement and least-emissions-intensive production by rewarding low emissions producers with Safeguard Mechanism Credits for their below-baseline performance and penalising high emissions producers with compliance costs.

The CCA’s *2025 Annual Progress Report* provides that declining Safeguard baselines resulted in a 6.2% reduction in net emissions from Safeguard facilities (across all industry sectors) from 2024 to 2025 and concludes that reported emissions are declining consistently with legislated outcomes. This demonstrates that the Safeguard Mechanism is effectively delivering emissions reductions from Safeguard facilities.

NSW Government Emissions Reduction Policy

NSW Government Climate Change Policy

The *NSW Climate Change Policy Framework* (OEH, 2016) outlines the NSW Government’s response to Australia’s commitments under the *Paris Agreement*:

The NSW Government endorses the Paris Agreement and will take action that is consistent with the level of effort to achieve Australia’s commitments to the Paris Agreement. Our response will complement national action.

The objectives of the *NSW Climate Change Policy Framework* also aim to (OEH, 2016):

... ensure consistency of NSW Government policy with the international and national policy context and the likely long term direction of government and private sector action on climate change.

In 2023 the NSW Government enacted the *Climate Change (Net Zero Future) Act 2023* (Net Zero Future Act) to legislate emissions reduction targets for NSW of 50% below 2005 levels by 2030, 70% below 2005 levels by 2035 and net zero by 2050.

Net Zero Commission Spotlight Report

The Net Zero Commission is an independent advisory body that was established in 2023 by the NSW Government under the Net Zero Future Act. The Net Zero Commission’s role is to provide advice and information to the NSW Government regarding climate change, including suggested actions to achieve NSW’s emissions reductions targets. Although the NSW coal mining sector is responsible for less than 12% of total emissions, the Net Zero Commission’s first in a series of ‘spotlight reports’ focuses on the coal mining sector, with ‘spotlight reports’ on other industry sectors to follow in due course.

In December 2025, the Net Zero Commission published the *Coal Mining Emissions Spotlight Report* (NZN Spotlight Report). The NZC Spotlight Report identified several potential emissions reduction opportunities for consideration by the NSW Government in relation to the NSW coal mining industry, including a suggestion that “*continued extensions or expansions to coal mining in NSW are not consistent with the emissions reduction targets in the Climate Change Act or the Paris Agreement temperature goals it gives effect to*”.

Three months following the issue of the NZC Spotlight Report, the NSW Government released the *NSW Coal Industry 2026-50* statement in March 2026. The *NSW Coal Industry 2026-50* statement provides a contemporary, clear and unambiguous whole-of-government policy position that coal mine extensions such as the Project are supported, subject to “rigorous and detailed assessment” under relevant environmental and planning legislation, policies and guidance documents.

In addition, the NSW EPA’s *Climate Change Requirements for Licensees* (released in March 2026, three months following the issue of the NZC Spotlight Report) outlines the ongoing regulation of greenhouse gas emissions for environment protection licensees like the Moolarben Coal Complex, in consideration of NSW’s legislated emissions reduction targets.

NSW Coal Industry 2026-50 Statement

The *NSW Coal Industry 2026-50* statement (released on 19 March 2026) outlines the long-term approach that the NSW Government is taking to ensure a balanced and responsible framework is in place for the State's coal sector and coal regions.

The *NSW Coal Industry 2026-50* statement recognises that coal mining is a strategic industry that continues to (NSW Government, 2026):

- support regional employment and local economies;
- contribute materially to NSW revenue through royalties; and
- contribute to energy security for key trading partners and steelmaking supply chains.

Regarding emissions reduction from the NSW coal sector, the statement provides that (NSW Government, 2026):

While the coal sector is reducing emissions to support meeting NSW and Commonwealth's emissions targets, it should not be expected to commit to deeper reductions than other sectors of the economy, or anything that is not technically feasible. However, the NSW Government expects that overall emissions from the sector will decline consistent with NSW's targets. Proposals to mine additional coal will be subject to assessment under rigorous environmental and planning frameworks to ensure there remains an overall decline of coal sector net emissions over time ...

NSW EPA Climate Change Policy

The NSW EPA's *Climate Change Policy* (2023a) outlines the NSW EPA's role in environmental regulation of climate change in NSW. The delivery of the *Climate Change Policy* is through an accompanying plan (the *Climate Change Action Plan 2023–26* [NSW EPA, 2023b]) that sets out specific actions the NSW EPA will take to support the NSW Government's climate change commitments and policies.

Under the *Climate Change Policy* and *Climate Change Action Plan 2023-2026*, the NSW EPA has released the *Climate Change Licensee Requirements* (NSW EPA, 2026a) which outline climate change-related requirements which will be phased in from 2027 for environment protection licensees that emit more than 25,000 t CO₂-e of Scope 1 and 2 emissions per year. The *Climate Change Licensee Requirements* are complemented by other NSW EPA guidance, including:

- *NSW Guide for Large Emitters* (NSW EPA, 2025) (the Guide).
- *Emissions Reporting and Climate Change Mitigation and Adaptation Plans* (NSW EPA, 2026b).
- *Greenhouse Gas Mitigation Guide for NSW Coal Mines* (NSW EPA, 2026c).

Under the full suite of the NSW EPA policy and guidance material, climate change requirements for relevant environment protection licensees will include:

- Provision of annual climate change emissions reporting (intended to be the same data provided to the Clean Energy Regulator (CER) under the NGER Act).
- Preparation and implementation of Climate Change Mitigation and Adaptation Plans (CCMAPs).
- Consideration of industry-specific mitigation actions and opportunities identified by NSW EPA.
- Emissions measurement and monitoring at certain premises, where suitable (supported by establishment of regional greenhouse gas monitoring networks by the NSW Government).
- Greenhouse gas emissions limits on licences (subject to further detailed consultation and establishment of the regional greenhouse gas monitoring networks).

While the Project meets the classification of a large emitter in accordance with the NSW EPA's *NSW Guide for Large Emitters* (i.e. would emit more than 25,000 t CO₂-e of Scope 1 and 2 emissions), the Guide was finalised after the Project Secretary's Environmental Assessment Requirements (SEARs) were issued (in January 2022), and after the Greenhouse Gas Assessment (MCO, 2022b) and Air Quality and Greenhouse Gas Amendment Report (TAS, 2023) were prepared.

On this basis, the requirements of the Guide do not apply as the Project has “*progressed beyond the environmental impact assessment stage*” as at May 2024 (NSW EPA, 2025).

The NSW EPA’s *Climate Change Requirements for Licensees* will apply to the Project (if approved), including preparation of a CCMAP to outline ongoing mitigation measures for greenhouse gas emissions. The CCMAP will be a requirement of the existing Environment Protection Licence for the Moolarben Coal Complex, which would be varied to incorporate the Project (if approved). MCO will finalise and submit a CCMAP for the Moolarben Coal Complex by 31 March 2027.

5.2.2 Emissions Reduction Targets

Contribution of Resources Sector to NSW Emissions Reduction

Between 2005 and 2022, emissions from the NSW resources sector (all minerals, inclusive of coal) declined by 34%, compared to average NSW emissions which declined by 18% (excluding the land use sector) (Net Zero Commission, 2024). In the same period, coal production in NSW increased by almost 50% (i.e. from approximately 120 Mt to 178 Mt) (Commonwealth DCCEEW [Cth DCCEEW], 2025).

This demonstrates that the NSW resources sector has significantly lowered its emissions intensity, achieving greater decarbonisation than the broader NSW economy even as coal production has grown.

Specific to the NSW coal mining sector, emissions projections undertaken by the NSW Net Zero Emissions Modelling (NZEM) team indicate that, when considering the declining baseline emissions for Safeguard facilities, a 53% reduction in Scope 1 emissions is anticipated by 2030 (Chart 5-1) (NSW DCCEEW, 2025).

MCO understands that emissions from the Moolarben Coal Complex for the approved mine life and production rate are already accounted for in the projections by the NZEM team. NZEM also concludes (NSW DCCEEW, 2025):

Should the coal sector meet its obligations under the Safeguard Mechanism in all future years going forward, the sector’s emissions reduction trend will generally be consistent with its historical declining trend. ...

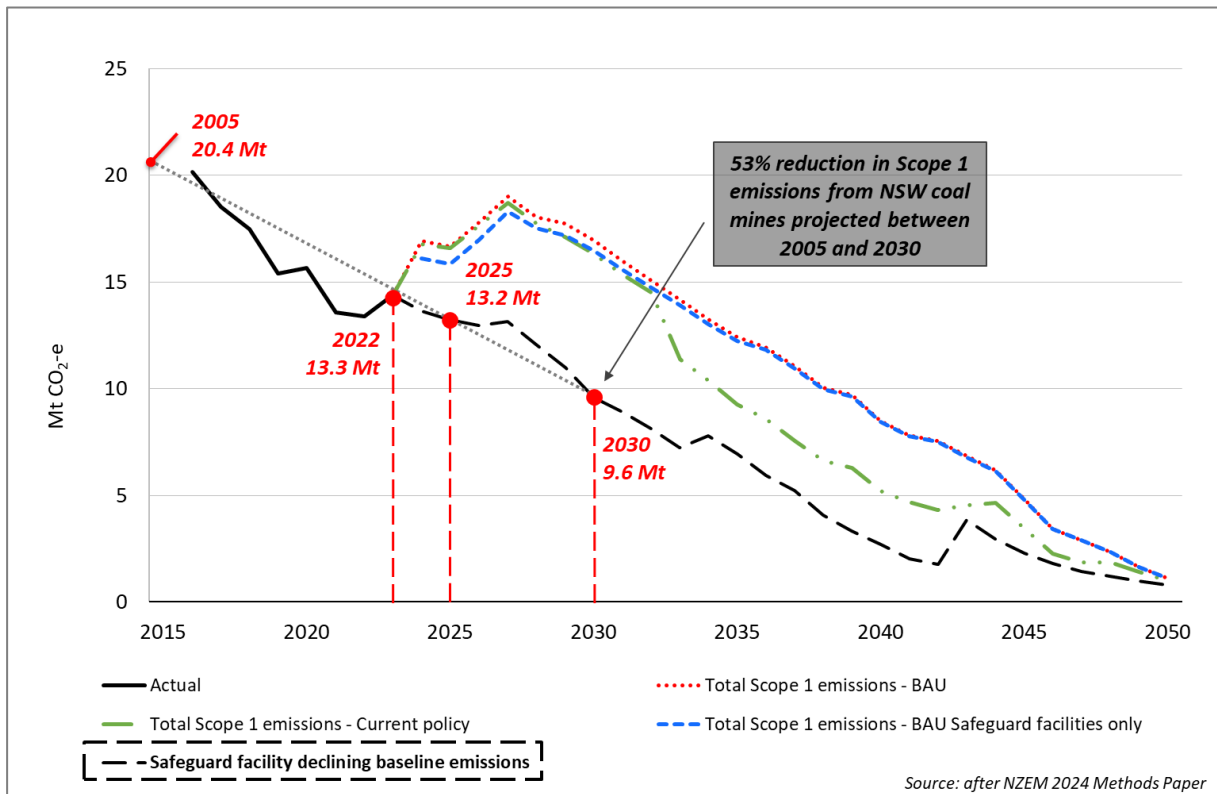


Chart 5-1: NZEM Modelling of Scope 1 Emissions from NSW Coal Mines Considering the Declining Safeguard Baseline

Source: after NSW DCCEEW (2025); DPFI (2026)

Considering the NZEM modelling, in the recently published Assessment Report for Dartbrook Mine Modification 8 (which was approved subject to conditions), DPPI concluded (DPPI, 2026) (emphasis added):

*The Department considers the modelling demonstrates that **even if the proposed modification is approved, the trajectory of the coal mining sector when considering the Safeguard Mechanism remains generally consistent with the required trajectory for NSW to decrease emissions towards its targets in 2030, 2035 and 2050.** The Department notes the peak in the declining baseline in 2042– 43 in the figure reflects the closure of a single underground mine with a high gas concentration.*

...

The Department considers the proposed modification is consistent with the NSW Climate Change Act guiding principles, which require urgent action to address climate change while considering impacts on regional communities in NSW and the impact on local employment and industries.

The NSW Coal Industry 2026-50 statement (NSW Government, 2026) also provides:

The Safeguard Mechanism will help to drive emissions reduction efforts in the NSW coal mining sector, with a greater focus on ways to abate and offset emissions in line with a declining emissions baseline.

Ongoing compliance with the Safeguard Mechanism will result in NSW coal mining operations, including the Moolarben Coal Complex, making a meaningful contribution to NSW emissions reduction targets.

Emissions from the NSW resources sector reduced by 34% between 2005 and 2022. Modelling by the NSW Government (NZEM) shows projected emissions from NSW coal mines are tracking on the trajectory required to achieve the NSW target of 50% emissions reduction by 2030.

Emissions Intensity of Moolarben Coal Complex and Project

The Moolarben Coal Complex is regulated as a single facility under the NGER Act and the Safeguard Mechanism. The Project would be incorporated as part of the Moolarben Coal Complex for Safeguard Mechanism compliance purposes, should the Project be approved, and would therefore also be subject to the same emissions intensity baseline.

The CER has determined a facility-specific Scope 1 emissions intensity determination (EID) for the Moolarben Coal Complex of 0.008373 t CO₂-e/t ROM (CER, 2025b). The facility-specific Scope 1 EID for the Moolarben Coal Complex is significantly (nearly 8 times) lower than the Safeguard Mechanism industry (i.e. coal mining sector) average Scope 1 emissions intensity of 0.0653 t CO₂-e/t ROM, and more than 50 times lower than the highest emissions intensity Safeguard coal mining facilities (Chart 5-2).

The low Scope 1 emissions intensity of the Moolarben Coal Complex and the Project is largely due to the low gas content of the target seam (of which less than 1% is methane by volume), very shallow open pit mining and implementation of best practice measures to optimise and improve efficiency of operations to reduce heavy vehicle emissions.

The target seam at the Moolarben Coal Complex has historically had available pathways for any in-situ gas content and associated fugitive emissions to release naturally over time when compared to deeper coal seams. The remaining gas within the shallow unsaturated coal seam is largely carbon dioxide (approximately 99% by volume), with methane comprising less than 1% by volume.

In their Advice Report on the Project, the IEAPM (2025a) relevantly commented that:

Gas content measurement is difficult at the low gas contents reported by MCC. The Panel's experience from low gas content testing elsewhere is they are most likely over-estimated — i.e. it is likely the reported emissions are conservative possibly by as much as 100%.

The depth of mining in the Project open cut pits is only 10 m in the shallowest areas, which has a number of environmental and operational advantages.

In particular, the shallow depth of open pit mining minimises the volume of waste rock material required to be handled to extract the coal resource (i.e. the strip ratio), reducing vehicle movements and diesel fuel consumption (as well as other environmental impacts) compared to open cut operations targeting a deeper resource.

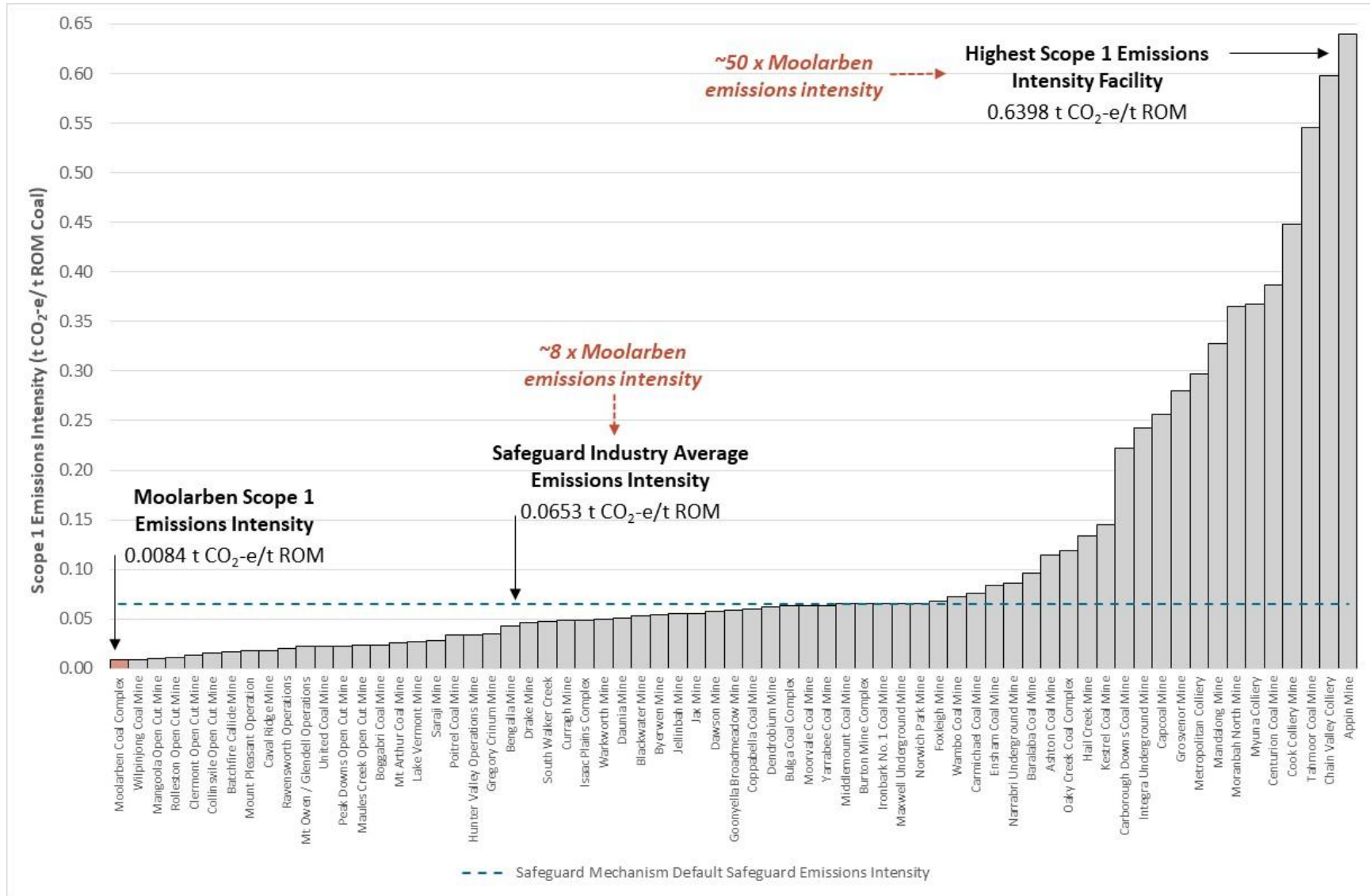


Chart 5-2: Australian Coal Mine Safeguard Mechanism Scope 1 Emissions Intensity Determinations

Source: After CER (2025b)

The Moolarben Coal Complex (including the Project) strip ratio compared to other open cut coal mines in NSW is shown in Chart 5-3.

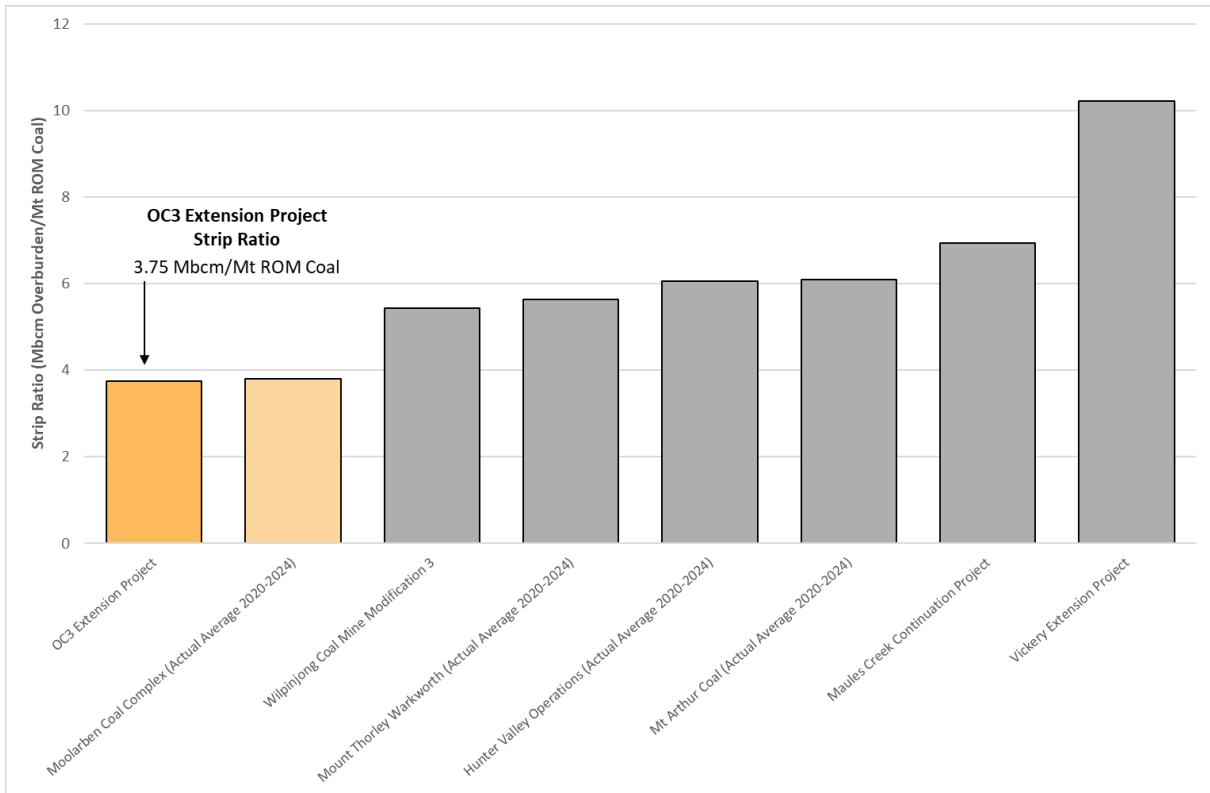


Chart 5-3: Comparison of the Strip Ratio of the Project and Moolarben Coal Complex with Other Open Cut Coal Mines in NSW

The Moolarben Coal Complex has the lowest facility-specific Scope 1 emissions intensity determination of all Safeguard coal mining facilities in Australia.

It is nearly 8 times lower than the industry average emissions intensity and more than 50 times lower than the highest emissions intensity facilities.

Project Alignment with NSW Emissions Reduction Targets

The proportion of the Project Scope 1 emissions compared to the projected NSW ‘Current Policy’ emissions scenario in 2030 and 2035 is provided in Table 5-3 and shown on Chart 5-4. This demonstrates that the Project represents a very small proportion of NSW’s target emissions in 2030 (approximately 0.06%) and even less in 2035 (less than 0.01%).

**Table 5-3
Proportion of Estimated Scope 1 Emissions for the Project Compared to Projected NSW Scope 1 Emissions for ‘Current Policy’ Scenario**

Year	Total Projected NSW Scope 1 Emissions for ‘Current Policy’ Scenario (Mt CO ₂ -e)	Estimated Project Scope 1 Emissions (Mt CO ₂ -e)	Proportion of Total Projected NSW Scope 1 Emissions
2030	83.0	0.05	0.06%
2035	57.4	<0.01	<0.01%

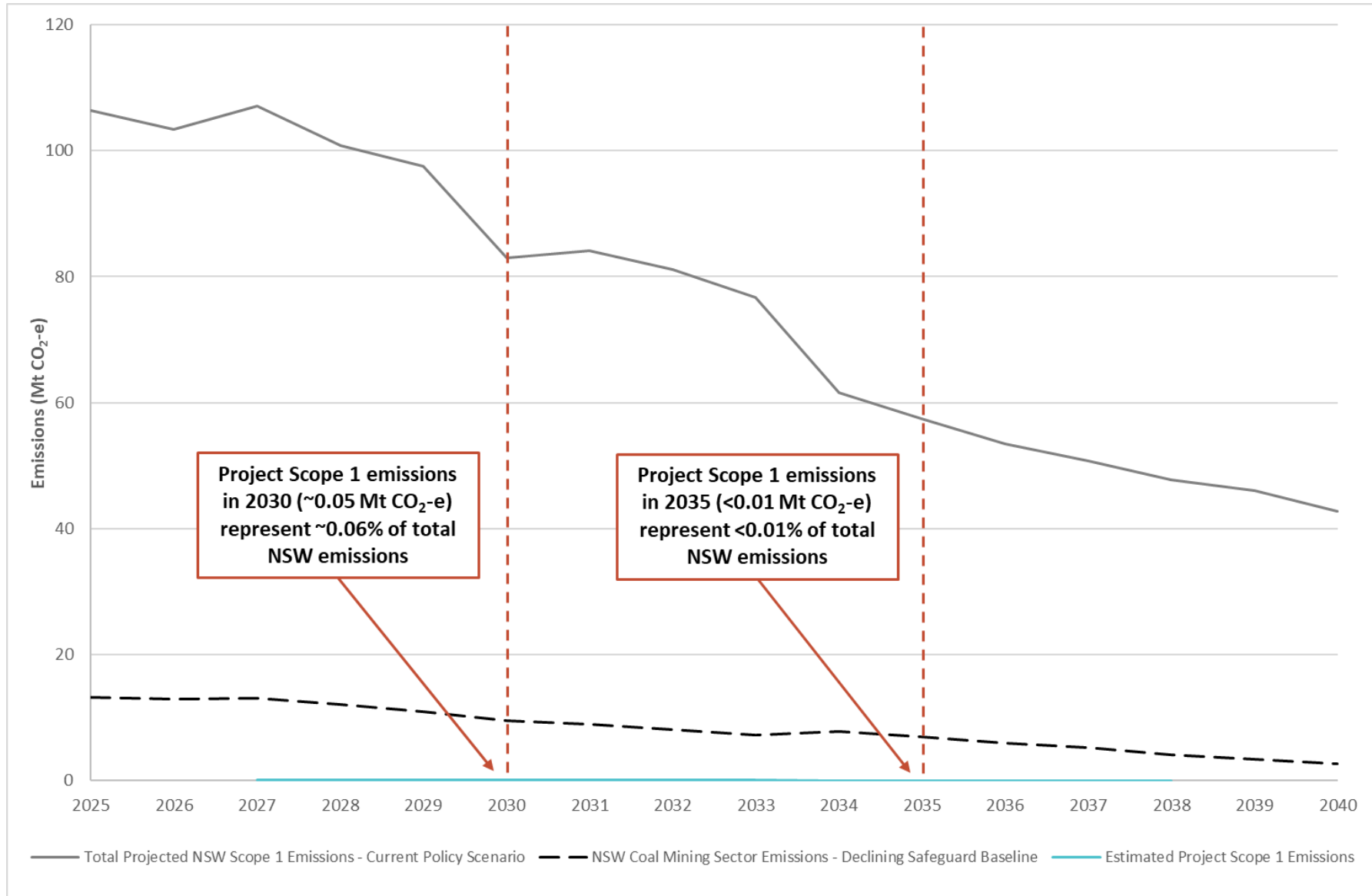


Chart 5-4: Comparison of Estimated Scope 1 Emissions for the Project with Projected NSW Scope 1 Emissions under ‘Current Policy’ Scenario

It is noted that, compared to the previously (2024) amended Project, the proportion of the Project Scope 1 emissions compared to the project NSW emissions in 2030 has increased from approximately 0.04% to 0.06% as a result of the revised mine schedule, specifically the revised ROM coal extraction in 2030 of 3.2 Mt (compared to 1.8 Mt).

The Project would not change the approved open cut ROM coal production rates or extend the approved mine life of the Moolarben Coal Complex. Projected emissions from the Moolarben Coal Complex (including the Project) would decline consistent with NSW’s emissions reduction trajectory as operations ‘ramp down’ towards the end of the operational mine life of the Complex (Chart 5-5).

5.2.3 Project Emissions Calculations

The proposed amendments to the Project mine life and indicative mine schedule would not change the total ROM coal extraction for the Project (i.e. 30 Mt).

Updated greenhouse gas emissions calculations have been undertaken for the amended Project, incorporating contemporary emissions factors, and these calculations have been reviewed by TAS (2026). A summary of the updated greenhouse gas emissions estimates for the amended Project are provided in Table 5-4 below.

**Table 5-4
Summary of Updated Greenhouse Gas Emissions Estimates for the Amended Project**

Component	Estimated Greenhouse Gas Emissions (Million tonnes of carbon dioxide equivalent [Mt CO ₂ -e])		
	Scope 1	Scope 2	Scope 3
Annual Average	0.059	0.006	7.839
Maximum Annual Value	0.114	0.022	17.886
Total	0.484	0.045	62.713

Note: The annual values exclude the decommissioning phase (i.e. between 2027 and 2034), however the total values include the decommissioning phase.

A breakdown of the amended Project’s Scope 1 emissions by source is provided in Chart 5-6.

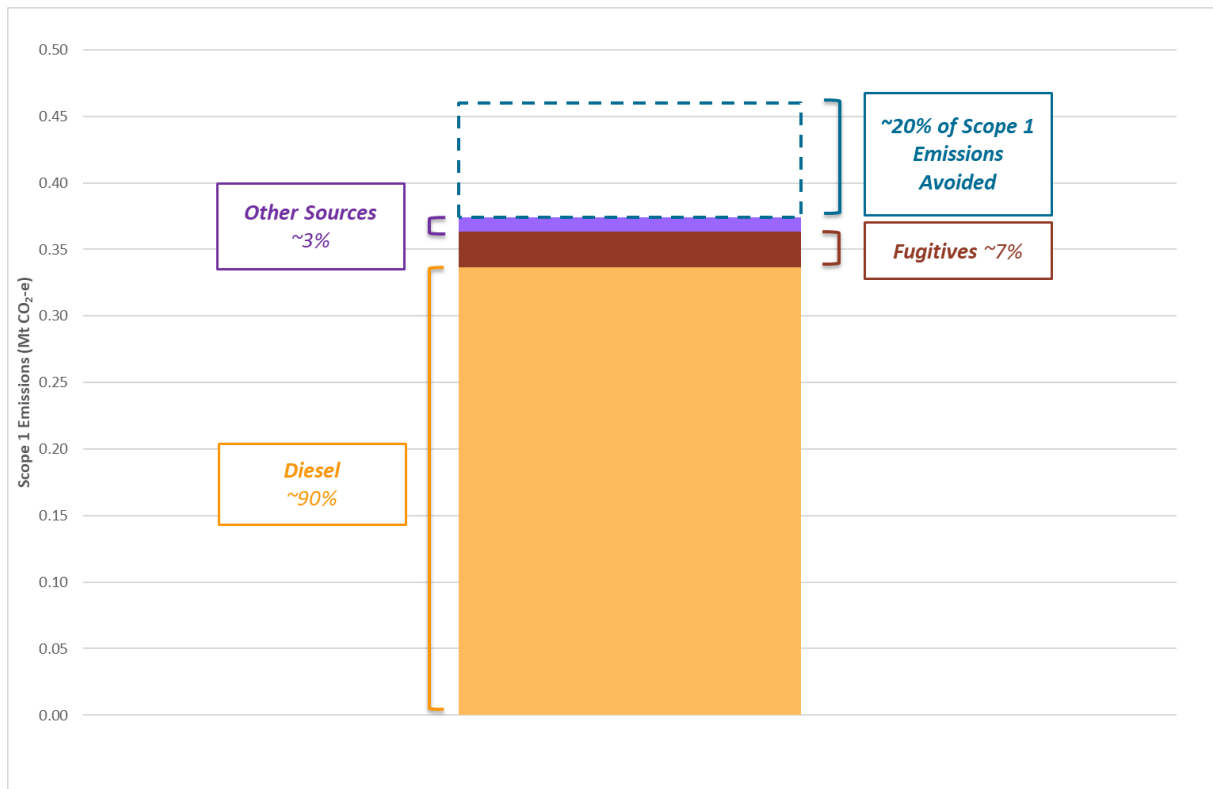


Chart 5-6: Breakdown of Project Scope 1 Emissions by Source

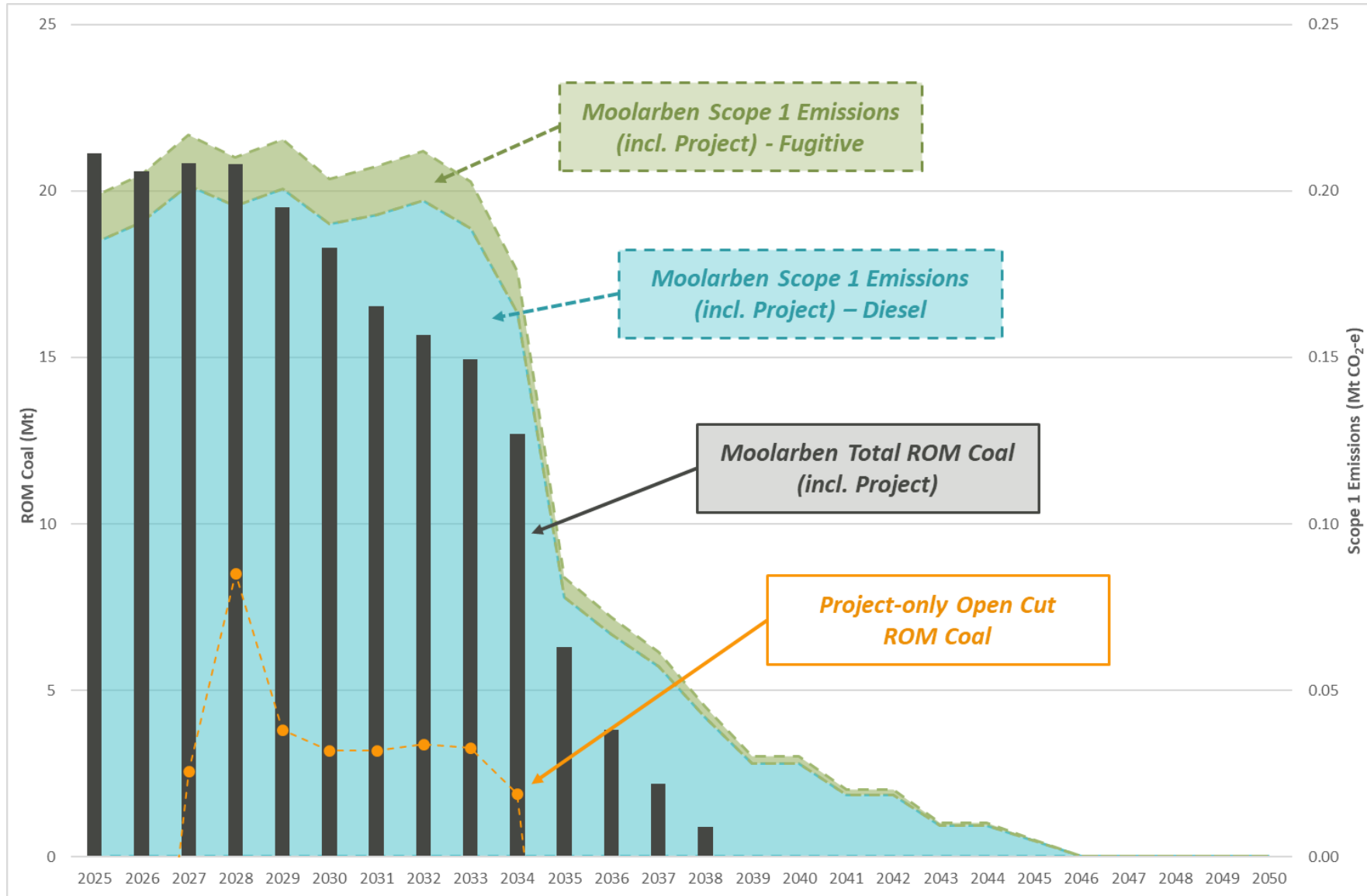


Chart 5-5: Open Cut ROM Coal Production and Project Scope 1 Emissions for the Moolarben Coal Complex (including the Project)

5.2.4 Mitigation Measures

NSW EPA Mitigation Hierarchy

The NSW EPA (2026b) *Emissions Reporting and Climate Change Mitigation and Adaptation Plans* guideline outlines a mitigation hierarchy to be considered by licensees in identifying emissions mitigation measures as part of a CCMAP.

It is inherently difficult for a low emissions operation like the Moolarben Coal Complex to identify and implement further substantial emissions abatement and mitigation measures. Due to the very low fugitive emissions from the Moolarben Coal Complex, abatement efforts are focused on reducing the largest source of Scope 1 emissions which is associated with diesel fuel combustion.

Although diesel emissions represent the majority of the total Scope 1 emissions from the Complex, these emissions are still relatively low owing to the very shallow depth of open pit mining and implementation of best practice measures to optimise and improve efficiency of operations and reduce heavy vehicle fuel use.

MCO will continue to investigate ways to reduce diesel emissions at the Moolarben Coal Complex (including the Project, if approved), however in the short-term these will likely continue to be only marginal, incremental operational efficiency improvements. Opportunities for step-change emissions reductions (such as battery-electric haul trucks) are not yet considered feasible considering the relatively short life of the Moolarben Coal Complex and lack of available battery-operated mobile equipment. Similarly, while alternative low carbon fuels will continue to be investigated (such as biodiesel blends), supply limitations and other constraints presently restrict their practical application.

Consequently, the only feasible pathway for additional abatement at the Moolarben Coal Complex involves either small incremental gains in operational efficiency or future adoption of breakthrough technologies as they become technically and commercially viable.

MCO would continue to regularly evaluate abatement opportunities and adopt mitigation measures over the life of the Moolarben Coal Complex (incorporating the Project, if approved) as a component of the CCMAP required to be prepared under the Environment Protection Licence, including review and update of the CCMAP every three years.

In this context, emissions mitigation measures are described below, having regard to the NSW EPA mitigation hierarchy.

Avoid

Compared to the EIS, the total resource extracted over the life of the Project has reduced from 40 Mt to 30 Mt (i.e. a reduction of 25%) as a result of further avoidance, minimisation and mitigation measures proposed in the previous (2024) Amendment Report.

The Project amendments have resulted in avoidance of approximately 0.12 Mt CO₂-e of Scope 1 emissions, which is equivalent to an approximate reduction of 20% when compared to the total Scope 1 emissions of the Project presented in the EIS (Chart 5-6).

Reduce

Change in Land Use

While on-site biomass emissions associated with land clearing in advance of mining (i.e. land use change) are not reportable emissions under the NGER Act, they have been estimated for the Project in accordance with the National Greenhouse Account factors.

Proposed revegetation works within the Habitat Enhancement Area and progressive rehabilitation of waste emplacement landforms and disturbed areas would restore woodland vegetation, native grassland and soil carbon sinks (across a combined area of approximately 810 ha) throughout the life of the Project, offsetting a portion of land-clearing emissions (from disturbance of approximately 675 ha of woodland and grassland areas). Any emissions reductions and/or potential for sequestration from revegetation or rehabilitation activities associated with the Project are conservatively not considered in the emissions estimate calculations.

Online project evaluation tools from the Commonwealth Scientific and Industrial Research Organisation (i.e. CSIRO) (i.e. the landscape options and opportunities for carbon abatement calculator, or LOOC-C) and Cth DCCEE (i.e. platform for land and nature repair, or PLANR) have been used to estimate the likely carbon sequestration that would arise from the amended Project.

A preliminary estimate of carbon sequestration potential suggests between 0.13 to 0.18 Mt CO₂-e could be achieved through proposed woodland rehabilitation of the final landform and revegetation within the Habitat Enhancement Area (compared to estimated emissions from land clearing of approximately 0.10 Mt CO₂-e).

Fugitive Emissions

The Project's target coal seam has a very low gas content and low methane content (i.e. less than 1% of the gas content of fugitive emissions is methane [by volume]). Fugitive emissions make up only 7% of total Scope 1 emissions from the Project (Chart 5-6). On this basis, measures to mitigate fugitive emissions (e.g. pre-drainage) are not considered feasible given the low gas content of the target seam.

The peer review of the Greenhouse Gas Assessment Report for the EIS by GHD (2022) concluded that the low level of fugitive emissions associated with the Project means that it is not feasible to minimise these emissions. In their Advice Report for the Project, the IEAPM relevantly conclude:

For fugitive emissions, the very low gas environment negates any ability for mitigation.

Diesel Consumption

Diesel fuel consumption represents the majority of Scope 1 emissions from the Moolarben Coal Complex (Chart 5-5), and therefore existing mitigation measures are generally focused on minimising emissions through the efficient use of diesel by:

- ensuring operational optimisations to maximise material movement per unit of diesel;
- maximising the productivity and efficiency of mining fleet through reviews of equipment selection and configuration;
- mine planning efficiencies to minimise the gradient and hauling paths; and
- monitoring system for heavy vehicle use and fuel burn.

Approximately 90% of Scope 1 emissions from the Project are also from diesel fuel consumption (Chart 5-6).

Best-practice measures implemented at the Moolarben Coal Complex, which would also apply to the Project operations, include:

- monitoring of fuel usage across all light vehicle, heavy vehicle and contractor vehicle fleets as well as ancillary equipment (e.g. pumps, lighting plant, generators), including monitoring of fuel storage and distribution locations;
- measures to optimise mine planning and schedules and reduce idle time, such as minimising road grades, development of efficient haul paths, overburden material placement to minimise rehandle and equipment selection and configuration;
- monitoring of haul truck and excavator payload capacity to optimise material per load and minimise overall movements;
- review of excavator bucket lift methods to improve swing and reduce fuel usage per lift;
- real-time fleet management system to support coordination of equipment and reduce queuing and associated idle time, which also provides equipment health data to the maintenance team;
- recommended servicing in accordance with original equipment manufacturer (OEM) requirements, preventative maintenance to extend equipment life, reduce downtime and minimise unnecessary fuel burn and implementation of engine repower programs to reduce fleet downtime and improve fuel efficiency;
- drill and blast planning and design to improve material fragmentation, maintain excavator productivity and reduce truck loading time;

- use of semi-autonomous operator assist functions for drill fleet to improve productivity and efficiency;
- progressive replacement of old fleet equipment, including excavator buckets with improved fill efficiency and truck bodies with reduced mass;
- optimisation of sound attenuation equipment on heavy vehicles to reduce ‘parasitic load’, which optimises maximum payload and improves fuel efficiency on return trips; and
- best-practice staff proficiency training and coaching in partnership with OEMs.

These measures are consistent with the standard industry measures outlined in the NSW EPA’s (2026c) *Greenhouse Gas Mitigation Guide for NSW Coal Mines*.

In their Advice Report for the Project, the IEAPM also relevantly conclude:

- *There is little that can be done at present to mitigate diesel GHG emissions. They are a product of combustion for which no viable technology is available or emerging to mitigate the emissions prior to their release directly to atmosphere.*
- *Marginal benefits may be obtained from using higher quality fuels and additives.*

Indirect Electricity Emissions

Yancoal has committed to continue to investigate whether it is feasible to reduce Scope 2 emissions associated with on-site electricity use at approved operations, including the Moolarben Coal Complex (e.g. evaluation of sourcing a proportion of site electricity from renewable sources via power purchase agreements).

MCO implements energy efficiency measures at the Moolarben Coal Complex to reduce electricity usage and associated greenhouse gas emissions, which would also be applied for the Project.

Substitute

Alternative Fuels

Yancoal has commenced controlled on-site trials of use of alternative fuels at existing operations, including premium diesel, biodiesel and renewable diesel. At this stage, the price of alternative fuel options and potential emissions reduction from their implementation does not warrant a feasible marginal abatement cost at any Yancoal operations. As critical, is the fact that current supply options for alternative fuels are limited in addition to other use constraints (i.e. short duration of ‘shelf life’, upstream emissions associated manufacture and transport).

Regarding alternative fuels, the NSW EPA’s recently released *Greenhouse Gas Mitigation Guide for NSW Coal Mines* (2026c) has stepped back from low carbon fuel mandates for the coal mining sector due to concerns over technology readiness, supply constraints and the need to take an economy-wide approach given diesel is used across multiple industry sectors.

MCO has committed to investigate the potential to replace standard diesel fuel with an alternative fuel (e.g. biodiesel as B10 or B20), subject to ensuring that engine warranties, efficiencies or maintenance requirements are not compromised. Investigations and trials of alternative fuels to reduce emissions are ongoing in close consultation with equipment manufacturers and fuel suppliers.

Electrification of Mine Fleet

The peer review of the Greenhouse Gas Assessment Report for the EIS by GHD (2022) concluded that electrification of the Project mining fleet is not considered feasible due to the short life of the amended Project and lack of available battery-operated mobile equipment.

The IEAPM agreed with GHD's conclusion, providing the following in their Advice Report:

In the fluid and variable working environments associated with surface coal mining, it is widely considered that hybrid battery/diesel power sources currently offer the greatest potential to reduce GHG emissions from mobile mining fleets. This technology has yet to reach proof of concept stage, and it is likely to be some years before it is technologically and commercially ready for implementation. Hence, the Panel concurs with the peer reviewer's assessment as to the availability of equipment. However, if the equipment subsequently finds application at other internal or external sites after the cessation on mining in OC3, then the return on capital may not prove to be such a constraint.

Challenges with electrification of open cut mining fleet is acknowledged in the NSW EPA's (2026c) *Greenhouse Gas Mitigation Guide for NSW Coal Mines*:

... grid capacity in many regional areas is not currently sufficient to support charging large battery mine vehicles. The cost of batteries, cooling system, charging infrastructure, long downtime during charging and battery swapping stations are also challenges.

Yancoal continues to evaluate electrification options and emerging technology trials for electrification of mining fleet in consultation with OEMs for all existing operations, including the Moolarben Coal Complex.

Adaptive Management

The recommended draft Development Consent for the Project includes the following condition:

Greenhouse Gas Mitigation Plan

B28. Within six months of the commencement of the development, unless otherwise agreed by the Secretary, the Applicant must prepare a Greenhouse Gas Mitigation Plan, in consultation with the EPA.

Notes:

- With the introduction of the EPA's Climate Change Policy and Climate Change Action Plan, the Applicant will be required to prepare and implement a Climate Change Mitigation and Adaptation Plan (or similar) in accordance with requirements provided by the EPA under the POEO Act.*
- In accordance with its Climate Change Action Plan 2023-26, the NSW EPA is preparing guidance for the preparation and implementation of various climate change related guidelines (including but not limited to Climate Change Mitigation and Adaptation Plans).*

MCO supports the recommended draft condition to prepare a Greenhouse Gas Mitigation Plan for the Project in consultation with the NSW EPA.

It is noted that the NSW EPA's climate change policy requirements for licensees, including the *Emissions Reporting and Climate Change Mitigation and Adaptation Plans* (NSW EPA, 2026b), were finalised in March 2026 subsequent to the above draft Development Consent condition.

A requirement to prepare a CCMAP will be reflected in an updated Environment Protection Licence for the Moolarben Coal Complex (incorporating the Project, if approved), in accordance with the NSW Climate Change Policy regulatory framework. This CCMAP would update or replace the Greenhouse Gas Mitigation Plan for the Project.

MCO would continue to regularly evaluate abatement opportunities and adopt mitigation measures over the life of the Moolarben Coal Complex (incorporating the Project, if approved), including review and update of the Moolarben Coal Complex CCMAP every three years.

MCO would also continue to report on the contribution of the Moolarben Coal Complex to Australian greenhouse gas emissions inventories through its obligations for reporting under the NGER Act and would comply with other applicable laws and policies implemented by the Commonwealth Government to manage emissions under Australia's progressive NDCs, including under the Safeguard Mechanism. This would include any emissions from the Project, as the Project (if approved) would be incorporated in the Moolarben Coal Complex facility.

5.3 POTENTIAL IMPACTS OF CLIMATE CHANGE

This section provides further consideration of the potential impacts of climate change (including the potential impacts on the locality) for the Project.

5.3.1 Social, Economic and Environmental Impacts of Climate Change

Australia

Australia's National Climate Risk Assessment (Australian Climate Service, 2025) describes the likely effects of global climate change and associated impacts to Australia's key systems, including communities (urban, rural and remote), defence and national security, economy, trade and finance, health and social support, infrastructure and the built environment, the natural environment, and primary industries and food.

Key findings of the risk assessment are as follows (Australian Climate Service, 2025):

Changing hazards

- *Australia's climate is changing and will continue to change into the future. The country is likely to experience more intense and extreme climate hazards, and in some cases in areas where people and places haven't experienced these hazards before.*
- *Climate science indicates that our future extreme weather is likely to differ significantly from the past. Changes in the timing, duration, intensity and spatial patterns of hazards are likely, with many events occurring more frequently, in combination or affecting new locations.*
- *The change in distribution, timing and severity of extreme weather events means that historical observations on their own are not likely to be a good indicator of future risk.*
- *Australia currently experiences compounding and cascading hazards, and this is going to increase. Concurrent events, and reduced time between severe events will become more common.*

Risks to people

- *Individuals and households already disadvantaged are the most vulnerable to the impacts of a changing climate. Actions that address underlying disadvantage can reduce the impacts of climate change.*
- *Aboriginal and Torres Strait Islander peoples will experience unique impacts from climate change. The changing climate threatens the health of Country, access to Country and could challenge self-determination and have flow on impacts on their social and physical health and wellbeing.*
- *Extreme heat, floods, bushfires, poor air quality and communicable diseases will escalate health risks. Those with pre-existing health conditions, including mental ill-health, are most at risk. This includes the very young and our older populations. People who work outdoors will also be at increased risk.*

Risks to places

- *Climate impacts are experienced differently across Australia. There are several key areas that have been identified as watchpoints:*
- *Sea level rise and increased coastal hazards will significantly impact coastal communities and cities. By 2050, the number of coastal communities located in high and very high risk areas nationally will increase. If populations remained as they are today, this would equate to >1.5 million people living in areas that will experience sea level rise and coastal flooding risks by 2050.*
- *Northern Australia is likely to experience escalating challenges as its proneness to hazards increases as global temperature rise. This will put pressure on health, critical infrastructure, natural species and ecosystems, and primary industries. It will also pose additional challenges to emergency responders.*
- *Outer urban areas of cities stand out as watchpoints. These areas are particularly susceptible to adverse impacts because of their circumstances (location, demographics, proneness to hazards).*
- *Remote communities are vulnerable today due to limitations in power and telecommunications supply and weak supply chains. This vulnerability will increase as critical infrastructure and supply chains face increased disruptions.*

Risks to our way of life

- *Extreme events will affect some communities more than others. High-risk communities are likely to experience domestic migration, which in turn could disrupt local economies, social networks, traditional identities and cultural heritage.*

- *An escalation of risks in one system is highly likely to have a ripple effect across sectors, services and structures. Extreme events will lead to property damage, increased insurance costs and even loss of homes, particularly in coastal areas vulnerable to sea level rise and erosion. These impacts will contribute to the cost of living, placing further stress on household budgets.*
- *Australians will be impacted by loss of important ecosystems and species by the middle of the century, without implementing direct intervention and adaptation actions. Ecosystems provide clean air and water, food security through pollination, raw materials for medicines, natural disaster protection, and regulate the local climate. Australia's plants and animals have evolved to fit their local climatic conditions.*
- *More frequent and more intense extreme events will affect the way of life in different ways across Australia – from impacts to sport and recreation, to unreliable infrastructure, like energy sources during heatwaves. There will be additional pressure on emergency responders and defence resources. Increased severe floods and bushfires will degrade water quality, placing pressure on already limited water sources.*

NSW

The NSW Government's *NSW Climate Change Adaptation Action Plan 2025-2029* (NSW DCCEEW, 2024) acknowledges that past greenhouse gas emissions have 'locked in' a level of climate change which will impact people and the environment in NSW:

NSW is already living with climate change and a level of further change is locked in, driven by past emissions and any future emissions before the world decarbonises. The people of NSW have already experienced some of the adverse impacts of climate change, such as the recent unprecedented heatwaves, droughts, and bush fires.

...

Locked-in climate change poses major and escalating risks for NSW. ... Climate change doesn't just create extreme weather events, it also causes slow onset changes in day-to-day weather which can have more significant consequences than an acute event. These slow-onset climate changes can result in pests and diseases in new areas, reduce food production, endanger species and create irreversible damage to our natural environment and biodiversity.

...

Temperatures will rise regardless of the [climate change] scenario, however the extent of the rise will depend on actions taken globally to limit greenhouse gas emissions. ...

Central West and Orana Region

At a regional level, the *Central West and Orana Enabling Regional Adaptation report* (OEH, 2017) identifies key environmental, social and economic areas of the Central West and Orana Region vulnerable to the effects of climate change, considering climate change projections and the adaptive capacity of the key areas. In summary (OEH, 2017):

- *The region is expected to experience an increase in all temperature variables (average, maximum and minimum), more hot days, and fewer cold nights for the near and far futures. Heatwaves are also projected to increase, be hotter and last longer.*
- *Seasonality of rainfall will change. Autumn rainfall will increase in the near and far future. The majority of models agree that spring rainfall will decrease in the near and far future. Winter rainfall is projected to decrease in the near future; however, summer rainfall is projected to increase in the far future.*
- *Fire risk will increase, with projected increases in average and severe Forest Fire Danger Index values in the near and far future.*
- *Climate change will impact agricultural systems, (affecting crops, evaporation of surface water and stock), vulnerable groups within regional communities (such as the ill, very young and the elderly), natural ecosystems, regional infrastructure and fire management.*

5.3.2 Climate Change Projections for the Project Locality

The Greenhouse Gas Assessment prepared for the Project (MCO, 2022b) addressed the potential impacts of climate change at global, national, State and regional (i.e. Central West and Orana Region) scales.

The regional-scale analysis in the Project Greenhouse Gas Assessment considered the climate change projections in the *Interactive Climate Change Projections Map*, as produced by the NSW Government in 2022 and informed by data from the NSW and Australian Regional Climate Model 1.5 (NARClIM1.5) released in 2021.

The NARCLiM1.5 data is based on the Shared Socioeconomic Pathways (SSPs) developed for the Intergovernmental Panel on Climate Change's (IPCC's) *Fifth Assessment Report* (released in 2014). The Project Greenhouse Gas Assessment considered AdaptNSW projections for the Central West and Orana Region, which spans approximately 117,098 square kilometres (km²) and includes the Moolarben Coal Complex and the Project area.

Subsequently, the AdaptNSW climate change projections have been updated in line with NARCLiM2.0 (released in 2024) which was revised to incorporate SSPs developed for the IPCC's *Sixth Assessment Report* (released between 2021 and 2023). NARCLiM2.0 provides projections for low-emissions (i.e. SSP1-2.6) and high-emissions (i.e. SSP3-7.0) scenarios adopted from the IPCC's *Sixth Assessment Report*:

- SSP1-2.6 (low-emissions) – represents a scenario of net zero global emissions from 2050 and global warming below 2.0°C above 1850-1900 levels.
- SSP3-7.0 (high-emissions) – represents a scenario where no additional climate policies are adopted and global emissions in 2100 are roughly double current levels.

Compared to earlier iterations, NARCLiM2.0 provides improved spatial resolution, generating projections at a 4 km grid scale across NSW, the Australian Capital Territory, Victoria, and parts of South Australia, Queensland, and the Northern Territory. This higher resolution allows for more accurate representation of local topography and its influence on atmospheric processes such as storms and extreme rainfall events, improving the accuracy of regional and local climate projections (AdaptNSW, 2024).

Considering this improved spatial resolution, potential climate change effects on the Project locality can be refined from the broader Central West and Orana Region (as presented in the Project Greenhouse Gas Assessment [MCO, 2022b]) to the immediate Project area (or 'locality'). The Project locality has been defined as the 16 NARCLiM2.0 grid cells which encompass the Project area (approximately 64 km²) (Figure 5-4).

Table 5-5 presents the AdaptNSW climate change projections for the 2020-2039 period (relative to the 1990-2009 baseline) under both the low-emissions and high-emissions scenarios for the Project locality, Central West and Orana Region and NSW. To provide a conservative estimate, the climate projections presented in Table 5-5 for the Project locality are the maximum values across the relevant grid cells.

Table 5-5
Climate Change Projections for the Project Locality, Central West and Orana Region and NSW for the 2020-2039 Period (relative to the 1990-2009 baseline)

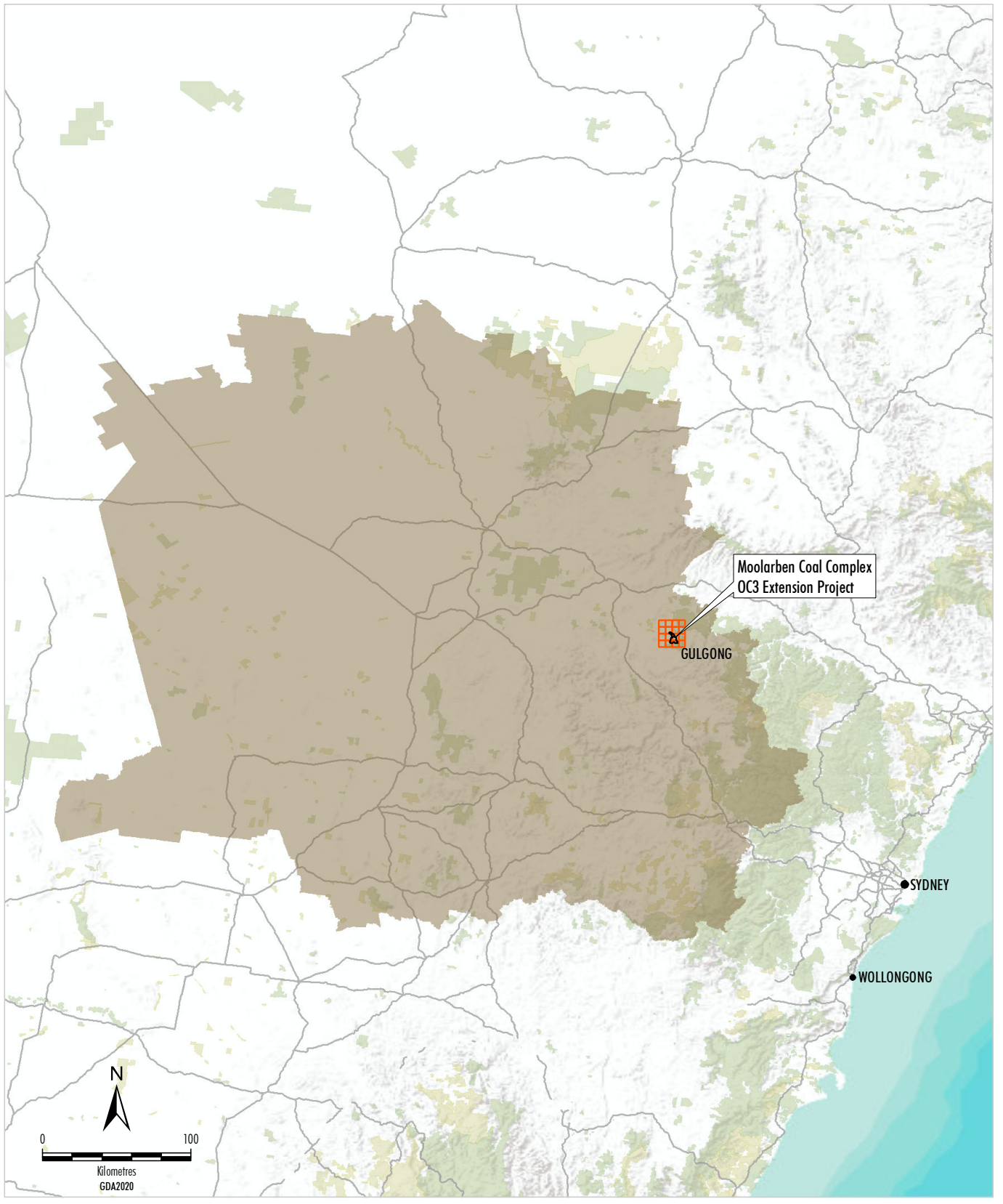
Climate Change Projection Variable	Low-Emissions Scenario (SSP1-2.6)			High-Emissions Scenario (SSP3-7.0)		
	NSW	Central West Orana Region	Project Locality	NSW	Central West Orana Region	Project Locality
Mean Annual Temperature	+0.8°C	+0.8°C	+0.8°C	+0.8°C	+0.8°C	+0.8°C
Annual Average Rainfall	-7.0%	-7.3%	-6.5%	-2.8%	-3.3%	-3.9%
Number of Hot Days (above 35°C) per Year	+9.6 days	+9.5 days	+5.3 days	+10.0 days	+10.7 days	+5.7 days
Number of Cold Nights (below 2°C) per Year	-6.8 days	-8.2 days	-11.0 days	-6.8 days	-8.3 days	-11.7 days
Number of Severe Fire Weather Days per Year	+2.1 days	+1.3 days	+0.8 days	+1.6 days	+1.1 days	+0.8 days

Source: after AdaptNSW (2026)

The NARCLiM2.0 climate projections for low- and high-emissions scenarios as summarised in Table 5-5 represent a potential range of climate change effects on the environment in NSW, the Central West and Orana Region and the Project locality as projected by AdaptNSW.

AdaptNSW notes that the NARCLiM2.0 climate projections are inherently uncertain due to variables associated with emissions scenarios, climate behaviour and climate models. The IPCC SSP projections adopted for NARCLiM2.0 are not related to any specific development (including the Project), instead they reflect future global greenhouse gas emissions and temperature scenarios.

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Source: ESRI Base (2025); NSW Government (2025)



- LEGEND**
- State Forest
 - National Park /Nature Reserve
 - Central West and Orana Region
 - Major Roads
 - Project Locality (NARCIIM2.0 grid cells which encompass the Project development footprint)



MOOLARBEN COAL COMPLEX
NSW, Central West and Orana Region
and Project Locality

Figure 5-4

5.3.3 Potential Impacts of the Project

Future Demand for Coal

All emissions scenarios developed by the IPCC and the International Energy Agency (IEA) include coal as part of the global primary energy mix through to 2035 (i.e. including the life of the Project) and continuing to at least 2050.

MCO engaged Wood Mackenzie to undertake an analysis of the market outlook for global seaborne coal demand in relation to the Project (incorporating the proposed additional amendments) (Appendix E). Wood Mackenzie is a global research and consultancy group that provides research, data and analysis of commercial insights across renewables, energy and natural resources.

Under all energy transition scenarios considered by Wood Mackenzie (2026), the portion of the global demand for seaborne thermal coal that would be supplied by Australia is expected to remain relatively steady to 2035. Specific to MCO's current customer countries (i.e. China, South Korea, Taiwan, Thailand, Japan and Vietnam), Wood Mackenzie (2026) expects coal demand to remain resilient out to 2035, with approximately 40% of the total demand in 2035 (i.e. 290 Mt) supplied by Australia.

All emissions scenarios developed by the IPCC and the IEA include coal as part of the global primary energy mix during the life of the Project (i.e. to 2035) and continuing through to at least 2050.

Wood Mackenzie (2026) concludes that the global seaborne thermal coal market is demand driven, and therefore if the Project does not proceed it is likely that customers of the Moolarben Coal Complex would purchase an equivalent amount of coal from an alternate supplier to meet their energy demands (i.e. there would be no associated reduction in combustion of coal by MCO's current customers).

This position is supported by observations from recent changes in supply of coal from Russia versus global demand. Following reductions in Russian coal exports in 2022, exports from other countries increased to meet the supply shortfall associated with existing demand and overall global coal demand increased by 1.2% (IEA, 2022).

For context, product coal from the Moolarben Coal Complex in 2024 (i.e. approximately 19 Mt) represented less than 0.2% of the global coal consumption in that year (i.e. 8,805 Mt). The amended Project would produce an annual peak of 8.5 Mt of ROM coal and an annual average of 3.7 Mtpa, which represents less than 0.1% and less than 0.05% (respectively) of forecast global coal consumption in 2030 (i.e. 8,579 Mt) (IEA, 2025).

This demonstrates that, while the Moolarben Coal Complex is one of the largest thermal coal mines in NSW, the global seaborne thermal coal market is vast and volume of product coal from the Complex would have negligible influence on demand.

Potential for Coal Market Substitution

The CCA makes the following commentary on Australia's role as an energy exporter in the context of the development of Australia's 2035 NDC (CCA, 2024):

Customers of Australia's fossil fuel imports will decide when they phase them out and there is a risk that as Australia reduces its fossil fuel exports, other countries may increase their exports to 'fill the gap'. Hence, the authority considers that phasing out fossil fuels will need to be a planned and organised process, involving the development of new technologies, production processes, and engagement with industries, communities, trading partners and competitors.

Any alternate source of coal to the Project would likely be extracted at a materially higher emissions intensity, as the Moolarben Coal Complex has amongst the lowest Scope 1 and 2 emissions intensity for seaborne suppliers globally and is the lowest emissions intensive coal mines in Australia. In addition, considering average emissions intensities from other seaborne thermal coal suppliers in Australia, Indonesia and globally, the Project would likely emit between approximately 5-18% less Scope 1, 2 and 3 emissions to produce an equivalent amount of energy (Wood Mackenzie, 2026).

Any alternate source of coal to the Project would likely:

- be extracted at a higher emissions intensity, as the Moolarben Coal Complex has amongst the lowest Scope 1 and 2 emissions intensity for seaborne suppliers globally and is the lowest emissions intensive coal mines in Australia; and
- result in greater overall emissions (i.e. Scope 1, 2 and 3) to produce an equivalent amount of energy.

The UK Government's *Environmental Impact Assessment (EIA) – Assessing effects of downstream scope 3 emissions on climate* (Department for Energy Security and Net Zero [DESNZ], 2025) (UK Government Guidance) provides an example of the scope of required assessment of Scope 3 emissions, including:

Scope 3 emissions from downstream combustion of the hydrocarbons should be considered regardless of any evidence that also may be put forward as to the extent to which “substitution” may occur ... Substitution is not considered to be a factor affecting whether scope 3 emissions from a project's downstream activities are an effect that needs to be assessed in the ES ...

Consideration of the Project's relative contribution to global emissions and climate change, and the consequential impacts of this contribution (regardless of potential for substitution) is provided below.

Relative Contribution of the Project to Climate Change

The Project's contribution to global climate change effects would be proportional to its contribution to global greenhouse gas emissions.

As described above, it is anticipated that the Moolarben Coal Complex (including the Project) would continue to provide 100% of its product coal to international customers. If the Project does not proceed, it is likely that customers of the Moolarben Coal Complex would purchase an equivalent amount of coal from an alternate supplier to meet their demand and there would not likely be a corresponding reduction in global greenhouse emissions (Wood Mackenzie, 2026).

The estimated total emissions from the Project (i.e. Scope 1, 2 and 3) are approximately 63.2 Mt CO₂-e, equating to an annual average of 7.9 Mt CO₂-e, of which approximately 99% (i.e. 62.7 Mt CO₂-e) is associated with Scope 3 emissions that would occur overseas.

Comparison to the total global anthropogenic greenhouse gas emissions in 2023 (excluding land use change) of approximately 53,100 Mt CO₂-e indicates the Project's contribution to annual global emissions would be very small (i.e. approximately 0.015%), in the absence of consideration of any substitutions, abatements or offsets.

The *Climate Change 2023: Synthesis Report* of the IPCC's Sixth Assessment Report (IPCC, 2023) presents 'best estimates' of the remaining global carbon budget from the beginning of 2020 to limit global warming to 1.5°C (50% likelihood) and 2.0°C (67% likelihood).

Comparison of the Project's total emissions (i.e. Scope 1, 2 and 3) to the remaining carbon budgets indicates the supply of coal from the Project to existing or new customers would contribute approximately 0.013% and 0.006% to the budgets required to limit warming to 1.5°C and 2.0°C, respectively (Table 5-6), in the absence of any argument that at least an equivalent amount of coal from alternate suppliers would be used by MCO customers to produce energy regardless of the Project.

Table 5-6
Comparison of Total Project Emissions to IPCC 'Best Estimate' Remaining Global Carbon Budget

Global Warming Limit	IPCC 'Best Estimate' Remaining Carbon Budget from 2020	Total Project Emissions (Scope 1, 2 and 3)	Total Project Emissions as a Portion of Remaining Global Carbon Budget
1.5°C (>50% likelihood)	500,000 Mt CO ₂	63.2 Mt CO ₂ -e	0.013%
2.0°C (>67% likelihood)	1,150,000 Mt CO ₂		0.006%

Source: after IPCC (2023)

As the Project’s contribution to annual global emissions and the remaining global carbon budget would be very small, the Project’s potential indirect contribution to climate change impacts globally and in the locality would proportionally be very small.

The IPCC reports that every 1,000 gigatonnes of cumulative global carbon dioxide equivalent emissions are likely to increase global mean surface temperature by between 0.27 and 0.63 °C, with a central ‘best estimate’ of 0.45°C (IPCC, 2023). These values describe how the global climate system responds to large scale cumulative global emissions. They are not designed to quantify localised effects or to attribute temperature change to any single emissions source.

Nevertheless, an indicative “incremental temperature contribution” has been calculated by applying the IPCC’s best estimate (i.e. 0.45°C per 1,000 gigatonnes of carbon dioxide equivalent) to the estimated total Scope 1, 2 and 3 emissions for the Project (Table 5-7). This approach conservatively assumes that all Project emissions are truly additive at the global level.

**Table 5-7
Incremental Project “Contribution” to Temperature Change**

Basis of Incremental Project “Contribution”	Global Surface Temperature Change (°C)	Scale Descriptor
Total Scope 1 and 2 Emissions	0.000000242	0.24 millionths of a Degree
Total Scope 1, 2 and 3 Emissions	0.000029070	0.29 ten thousandths of a Degree

The Project’s total emissions equate to an incremental global temperature influence measured at the scale of millionths (Scope 1 and 2) or ten-thousandths of a degree °C (Scope 1, 2 and 3) (Table 5-7).

This is multiple orders of magnitude below the mean annual average temperature projected for the Project locality under the NARClIM2.0 ‘low emissions’ (SSP1-2.6) scenario for the period 2020-2039 (i.e. +0.78°C) (Table 5-5). The difference in magnitude is considered to be so great that no meaningful additional environmental implications could be considered to arise at the locality level, relative to those that may be experienced irrespective of the Project.

It is noted that the countries to which the coal is exported will be implementing greenhouse gas abatement measures, trade-offs and offsets across their economy as part of their NDCs, having regard to the economic priorities and physical attributes of the country. Scope 3 emissions produced by the end use of Project coal overseas would be accounted for and managed in accordance with the laws that have been adopted to implement the NDCs of the countries to which the coal is exported. A summary of the NDCs of key countries to which Yancoal currently exports coal and to which coal from the Project is also expected to be exported was provided to DPHI via correspondence in May 2025⁶.

Consequential Impacts of the Project’s Contribution to Climate Change

As described above, the UK Government Guidance (DESNZ, 2025) provides that it is relevant to assess the significance of the likely effects of Scope 3 emissions from a project on the environment, in consideration of the sensitivity of an environmental receptor or aspect and the magnitude of the potential impact. This methodology has been applied to assess the consequential impacts of the Project’s contribution to climate change in the locality.

The SEARs for the Project requires assessment of the following key issues:

- surface water and groundwater resources;
- Aboriginal cultural heritage values;
- historic heritage;
- amenity, including from noise, air quality, blasting, visual and lighting impacts;

⁶ Correspondence from MCO dated 26 May 2025. Available via URL: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=RFI-82275709%2120250526T072111.190%20GMT>

- greenhouse gas emissions;
- biodiversity values;
- transport;
- social impacts and benefits, including health and wellbeing;
- economic costs and benefits;
- final landform and post-mining land use outcomes;
- agriculture, including land and soil resources;
- hazards, including bushfire and flooding; and
- waste management.

Of the above key issues, surface water and groundwater resources, Aboriginal cultural heritage values, amenity (specifically air quality), biodiversity values, agriculture, social (i.e. health and wellbeing) and economic aspects are likely to be the most sensitive to climate change impacts.

Regarding sensitivity, the UK Government Guidance states (DESNZ, 2025):

Given the global effect of GHG emissions, the current state of the climate and the concentration of carbon dioxide and other GHGs in the atmosphere (WMO, 2025), the expectation is that the sensitivity level will be high.

As the Project's relative contribution to global emissions and climate change would be very small, there would be no material effect on the extent or timing of the potential implications (i.e. magnitude of impact) of climate change in the locality. Therefore, the potential implications of climate change to the Project locality inclusive of the relative contribution from the Project would be consistent with conclusions regarding impacts to the locality in relevant technical assessments undertaken for the Project (refer to the EIS and previous [2024] Amendment Report).

It is noted the Groundwater Assessment (AGE, 2022) and associated amendment (AGE, 2024), and Surface Water Assessment (WRM Water & Environment Pty Ltd [WRM], 2022) and associated amendment (WRM, 2024) undertaken for the Project considered a wide range of potential climate change projections which reflect global greenhouse gas emissions and temperature change scenarios.

Regarding groundwater, the climate change model scenario indicates that the sensitivity of modelled mine water inflows to climate change is significantly lower than the model's sensitivity to other factors (AGE, 2022; 2024). The Project water management system would operate to protect the environment from mine water dam overflows under all modelled climate scenarios (WRM, 2022; 2024).

During community consultation undertaken to inform the Social Impact Assessment for the Project (CDM Smith, 2022), some stakeholders noted general anxiety around potential implications of climate change (in relation to potential impacts to health and wellbeing), which would continue for the Project.

Economic Costs

It is recognised that international measures to 'decarbonise' global economies may alter the future demand for and/or supply of coal. Expected global trends are factored into coal price forecasts considered in the Updated Economic Assessment for the Project (incorporating the proposed additional amendments) (Appendix F), including variations in export coal prices.

The total externality costs of the Project's Scope 1 and Scope 2 emissions were valued at \$28 million (in NPV terms) using Australian Carbon Credit Unit (ACCU) price forecasts published in a market analysis report by RepuTex Energy (2023) for the CCA. The portion of these costs that are attributable to NSW (on the basis of NSW's share of global population) is estimated as approximately \$30,000 (in NPV terms) (Appendix F).

This methodology for apportionment (i.e. based on share of global population) is consistent with other inputs to the calculation of the Project's incremental net benefits to NSW, including royalties, company taxes and producer surplus, as well as the *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals* (DPE, 2015).

The Updated Economic Assessment includes a sensitivity analysis for variation in the costing of carbon emissions (i.e. application of the NSW Treasury [2024] low, medium and high carbon values) and alternative methods of attributing the externality costs of the Project's emissions to NSW (i.e. on the basis of NSW's share of global and Australian population, as well as global gross domestic product). The sensitivity analysis shows that the Project would still generate a substantial net benefit to NSW under all scenarios considered (Appendix F).

The portion of the externality costs of the Project's Scope 1 and Scope 2 emissions attributable to the local area (i.e. the Mid-Western Local Government Area [LGA]) have been incorporated in the local effects analysis for the Project. These costs were estimated by AnalytEcon (2026) as approximately \$92 (in NPV terms) over the life of the Project (using ACCU price forecasts and on the basis of share of global population). The incremental local benefits of the Project are estimated as approximately \$143 million (in NPV terms), comprising value added for suppliers and local government rates.

Sensitivity analysis of variations of carbon pricing and method of allocation to the Mid-Western Regional LGA (similar to that undertaken for NSW externality costs) shows that the Project would still provide a substantial net benefit to the local region under all scenarios.

5.4 ECONOMIC

The Project mine life has been shortened from 10 years to 8 years with associated revision of the indicative mine schedule. Potential changes to the Project's economic net benefits (incorporating the proposed additional amendments) have been assessed by AnalytEcon (2026) in an Updated Economic Assessment (Appendix F).

The total incremental net benefits of the amended Project to the NSW economy is estimated to be \$245 million (\$AU2026) in NPV terms (compared to \$190 million [\$AU2022] for the previously [2024] amended Project), consisting of:

- **Royalty payments to the State of NSW of approximately \$238 million in NPV terms.**
- **NSW's share of company income tax of approximately \$6 million in NPV terms.**
- **NSW's share of net producer surplus of approximately \$1 million in NPV terms.**

While total ROM coal extraction over the life of the Project would not change for the amended Project, the incremental net benefit has increased due to the revised mine schedule and shortened Project mine life, as well as application of contemporary coal pricing and exchange rate information.

Estimated costs of environmental externalities associated with Scope 1 and 2 greenhouse gas emissions have also been updated for the amended Project to reflect contemporary carbon pricing. Further detail is provided in Section 5.3.3 and Appendix F.

5.5 GROUNDWATER

Groundwater Monitoring

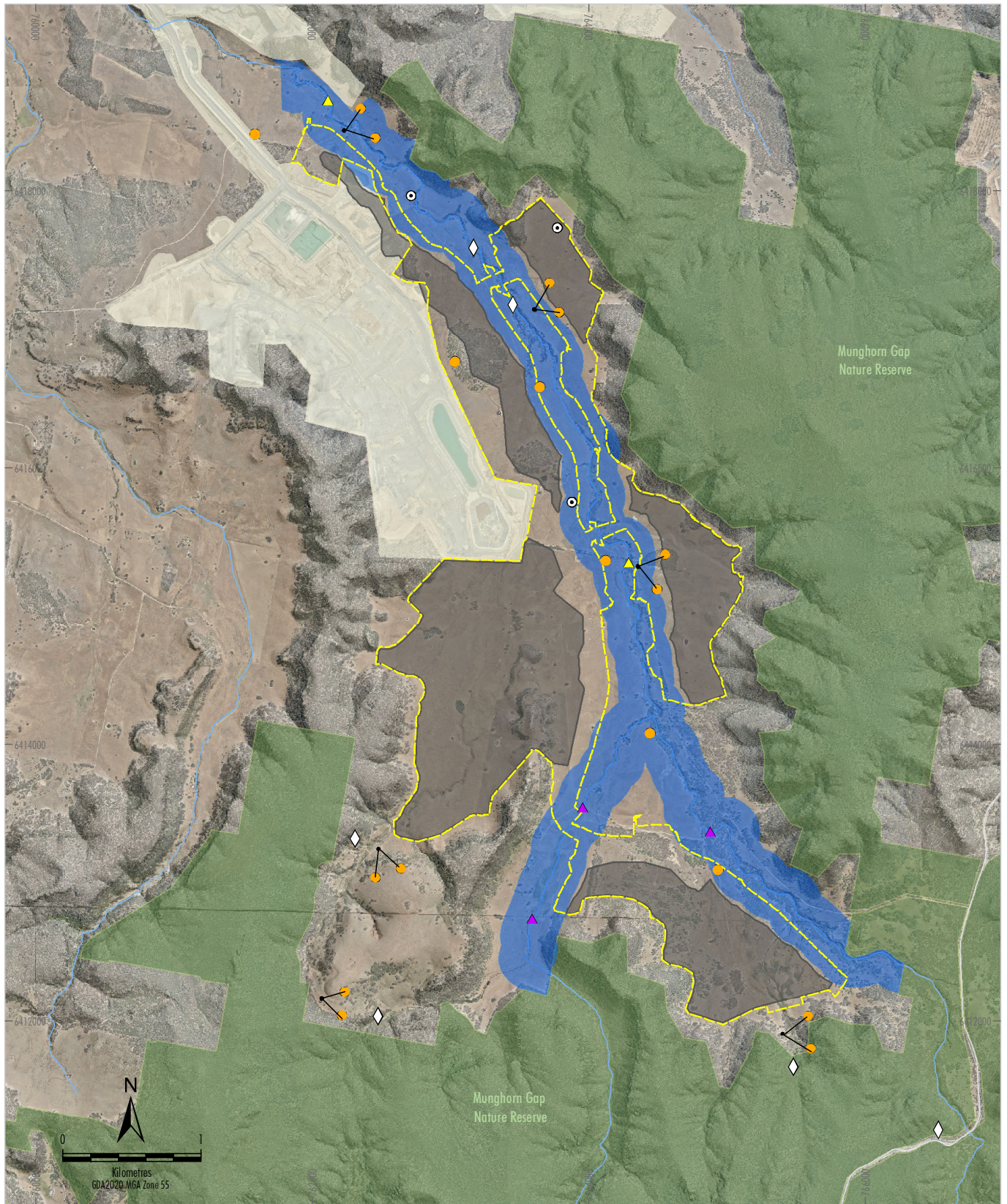
MCO has completed installation of all new surface water and groundwater monitoring sites recommended by technical specialists in their assessments for the Project EIS and also recommended by the IEAPM.











The locations of existing monitoring sites and newly installed monitoring sites are shown on Figure 5-5.

AGE (2026) have undertaken a review of the preliminary observed groundwater level data from the newly installed bores compared to modelled groundwater levels and conclude:

The comparison between observed and modelled water levels at the recently installed monitoring bores within the Project area indicates that confidence in the numerical model predictions for the quantity of interests, such as predicted drawdown at GDEs, is maintained..

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- | | | | |
|---|---|---|---|
|  | National Park/Nature Reserve |  | Surface Water Monitoring Network Existing Site |
|  | Moolarben Coal Complex Approved Disturbance Footprint |  | Surface Water Monitoring Network New Site |
|  | Indicative Project Surface Disturbance Extent |  | Groundwater Monitoring Network Existing Bore |
|  | Indicative Project Open Pit Extent |  | Groundwater Monitoring Network New Bore |
|  | 200 m Setback of Open Cut Mining from Moolarben and Murdering Creek |  | Groundwater Monitoring Network Regional Groundwater Feature |

Source: MCO (2026); NSW Spatial Services (2026); AMBS (2023).
Orthophoto Mosaic: MCO (2025)



MOOLARBEN COAL COMPLEX
Groundwater and Surface Water Monitoring Network

Figure 5-5

MCO would collect 12 months of baseline groundwater data from the newly installed monitoring sites prior to commencement of mining, in accordance with the recommended draft Development Consent for the Project:

Monitoring and Modelling Requirements

B37. Prior to the commencement of mining, the Applicant must collect at least 12 months of baseline data from the surface water and groundwater monitoring network detailed in the documents in condition A2(c), as well as supplementary groundwater monitoring sites recommended by the Mining Panel in Report IEAPM 202504-01. The specific location of monitoring sites must be detailed in the Water Management Plan (see condition B45).

Groundwater Model

The groundwater model was prepared consistent with the *Australian Groundwater Modelling Guidelines* (Barnett, Townley et al., 2012) with the objective of predicting cumulative changes to groundwater levels and flows due to the Project, the approved Moolarben Coal Complex and neighbouring mines, potential impacts to existing groundwater users and take from various water sources for the purpose of estimating license requirements. To achieve this objective, the model covers a regional area including the Moolarben Coal Complex, Ulan Mine Complex and Wilpinjong Coal Mine.

DCCEEW – Water, the Commonwealth Independent Expert Scientific Committee on Coal Seam Gas and Large Mining Development (IESC) and independent peer reviewer Dr Brian Barnett (lead co-author of the *Australian Groundwater Modelling Guidelines* [Barnett, Townley et al., 2012]) concluded the Project groundwater model was ‘fit for purpose’ to understand potential impacts at a regional scale as well as cumulative impacts with adjacent mining operations.

In their Advice Report the IEAPM (2025a) agreed the groundwater model was acceptable at a regional scale however also concluded the model “*appears unreliable at a local-scale*”.

It is noted that the IEAPM’s conclusions regarding regional and local-scale modelling are addressed in the *Australian Groundwater Modelling Guidelines* (Barnett, Townley et al., 2012), which provides that:

It is never possible for one model to answer all questions on groundwater behaviour. For example, a model designed to simulate regional-scale groundwater flow cannot be expected to predict local-scale groundwater processes ...

MCO commissioned an additional independent review by Dr Lloyd Townley in 2026 (the second lead co-author of *Australian Groundwater Modelling Guidelines* along with Dr Brian Barnett) (Appendix H). Dr Townley (2026) concluded (emphasis added):

*There is general agreement among stakeholders that the existing model is “fit for purpose” at regional scale, such that predictions can be trusted and relied upon. **The model developed and described in the EIS was developed with a purpose and specific objectives** (see Ref.1, Section 6; Ref.2, Section 2), including: to assess cumulative impacts of mining and to estimate rates of groundwater inflows into proposed mine pits to support application for a Water Access Licence (WAL). **To meet these objectives the domain needed to be large, much larger than the region surrounding Ulan, Moolarben and Wilpinjong mines.***

The recommended draft Development Consent for the Project includes a requirement to update the numerical groundwater model within 18 months of establishing of additional monitoring bores (Condition B38), including consideration of at least 12 months of baseline data from the additional monitoring bores in the Project area. In regard to a ‘local model’, Dr Townley (2026) concluded:

I do not believe that a separate local scale model is warranted, especially in the OC3 Extension Project area, far upgradient of disturbed mining lands.

Potential Groundwater Dependent Ecosystems

The key environmental receptors for the Project in relation to groundwater are potential GDEs. Dr Colin Driscoll (Hunter Eco, 2025) classified potential GDEs within the riparian zone of Moolarben Creek as “potentially more susceptible” to impacts from groundwater drawdown however described groundwater use by these trees as “facultative” (i.e. not entirely dependent on groundwater).

Potential GDEs within the riparian zone would be protected by the 200 m setback of open cut mining from Moolarben Creek (Figure 5-5). In addition, all areas of potential GDEs are within the extent of the increased Habitat Enhancement Area and would therefore be subject to proposed enhancement and management measures as well as ongoing monitoring.

Regarding the risk of impacts to potential GDEs from the Project, Dr Townley (2026) concludes:

In summary, this review concludes that it is likely that the OC3 Extension Project will not cause significant deterioration of GDEs because of the buffer zone (i.e. 400 m wide zone where mining pits are set back 200 m on both sides of Moolarben Creek), because the water table will be recharged during runoff events, because the pits will be backfilled allowing the water table to recover and because MCO has committed to habitat enhancement in the area. During mining, MCO will monitor water table elevations and the health of vegetation, and will have opportunities to implement contingency measures, such as irrigation using water of suitable quality from the on-site water management system.

...

Careful visual observation and measurements of the health of vegetation, together with monitoring of the water table elevation, will guide MCO's efforts to enhance vegetation including at facultative GDEs in the Habitat Enhancement Areas.

5.6 NOISE AND AIR QUALITY

The outcomes of noise and air quality modelling and assessment previously undertaken for the Project would not change as a result of the proposed additional amendments considering:

- There is no change to peak mining activity (i.e. ROM coal production and waste rock extraction rates), maximum mining fleet or locations of noise-generating activities previously assessed in noise modelling scenarios by SLR (2022; 2024).
- There is no change to peak mining activity (i.e. ROM coal production and waste rock extraction rates) or location of dust-generating activities previously assessed by TAS (2022; 2023).

On this basis, key outcomes of the noise and air quality modelling (i.e. no predicted exceedances of the relevant criteria) are unchanged for the amended Project.

As described in the EIS and the previous (2024) Amendment Report, the existing noise control and management measures, existing air quality mitigation and management measures, and predictive and real-time air quality management system and associated response protocols for the Moolarben Coal Complex would also be implemented for Project operations (if approved).

6 JUSTIFICATION OF THE AMENDED PROJECT

This Amendment Report has been prepared to formalise the proposed amendments to the Project based on DPHI's recommended draft Development Consent conditions which are considered to sufficiently change the Project and its associated benefits such that a formal amendment is required. Specifically, the amendments proposed are:

- An approximate 625 ha expansion of the Habitat Enhancement Area (i.e. an increase from approximately 188 ha to 813 ha), with the additional Habitat Enhancement Area extent informed by, and extending beyond, the areas identified in the IEAPM sketch.
- Revision of the Project's ROM coal production profile to reflect the delayed mining commencement date of 2027 (to allow for collection of 12 months of baseline groundwater monitoring data), whilst retaining the previously proposed mining cessation date of 2034 (i.e. shortening the Project life from approximately 10 to 8 years).

As a result of the proposed additional amendments, the environmental outcomes of the Project would be materially improved, including through a significant increase to the Habitat Enhancement Area. This represents a substantial, voluntary and meaningful additional commitment by MCO to biodiversity conservation outcomes that significantly exceeds both the original proposal and the recommendations of the IEAPM. This is in addition to offsets required for the Project, as per the biodiversity credit requirements outlined in Table 5 (Condition B44) of the recommended Development Consent conditions.

The Project is entirely consistent with the objectives of the *NSW Coal Industry 2026-50* statement and would provide significant net benefits to NSW as:

- it is a logical extension of existing mining operations from the lowest emissions intensive Safeguard Mechanism coal mine in Australia;
- it would provide security of employment and economic benefits for the local, regional and NSW economies;
- it would continue supply of export thermal coal to international markets and contribute to the energy security of Australia's key trading partners; and
- it would be subject to the Safeguard Mechanism (as part of the Moolarben Coal Complex facility) and the NSW EPA's *Climate Change Requirements for Licensees*, that are designed to contribute to the achievement of Commonwealth and NSW emissions reduction targets.

In summary, the Project (incorporating all proposed amendments):

- Represents a modest extension to the existing Moolarben Coal Complex, while delivering substantial net benefits to NSW valued at \$245 million (\$AU2026) in NPV terms.
- Complies with all applicable statutory requirements and is consistent with relevant strategic and statutory planning policy objectives.
- Would use existing coal handling, processing and transport infrastructure, maximise use of the existing mining fleet and maintain steady production of ROM coal at the Moolarben Coal Complex, providing continuity of employment for the existing open cut workforce.
- Is consistent with surrounding land uses as it is located in an existing mining precinct.
- Would provide a net increase in native woodland in the Moolarben Valley of 557 ha due to revegetation and rehabilitation works.
- Maintains the currently approved cumulative ROM coal production limits and mine life of the Moolarben Coal Complex.
- Is visually isolated from private residences by intervening elevated topography (associated with nearby ridgelines), minimising amenity impacts (i.e. visual, noise and dust).
- Would facilitate an improved final landform, including backfill of the approved OC3 final void, resulting in no final voids in the Moolarben Valley.

When considering the Project's significant economic, employment and environmental benefits, together with the comprehensive measures to avoid, minimise and offset impacts, the Project's potential benefits are considered to clearly and significantly outweigh potential adverse impacts. The Department can be satisfied that, on balance, the Project is a logical extension of an existing mining operation that would provide internationally in-demand thermal coal resources, while avoiding and minimising environmental impacts, and is in the public interest.

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