



Ulan Coal Modification 6 – Underground Mining Extension

Amendment Submissions Report

Final

March 2026



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Amendment Submissions Report

Final

Prepared by
Umwelt (Australia) Pty Limited

On behalf of
Ulan Coal Mines Pty Ltd

Project Director: Kirsty Davies
Project Manager: Ruth Tapp
Report No.: 20020_R28
Date: March 2026



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Acknowledgement of Country

Umwelt acknowledges the Traditional Owners of Country throughout Australia and their continuing values, culture and connection to the land, waters and sky.

We pay our respects to Elders past and present.

The below image is from the artwork *Yapung Maryiyang* (Pathway Forward) by Saretta Fielding.



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Document Status

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FINAL	Kirsty Davies	31/3/2026	Kirsty Davies	31/3/2026

Executive Summary

The Ulan Coal Complex (UCC) is located approximately 38 kilometres (km) north-east of Mudgee and 19 km north-east of Gulgong in New South Wales (NSW). Approved operations within the UCC comprise underground mining in the Ulan Underground and Ulan West Underground areas and open cut mining, coal handling, processing and transport through to 30 August 2033. The open cut operations are currently in care and maintenance.

Ulan Coal Mines Pty Ltd (UCMPL) was granted Project Approval (PA) 08_0184 under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 15 November 2010 for the Ulan Coal Continued Operations Project (UCCO Project).

UCMPL submitted a modification to PA 08_0184 in November 2022 (Modification 6) to maximise resource recovery from the existing underground mining operations by extending some of the currently approved longwall panels to extract additional coal within existing mining lease (ML) and exploration licence (EL) areas. Modification 6 to PA 08_0184 was approved in May 2025. Following third party judicial review proceedings, the original decision to approve Modification 6 was declared by the Land and Environment Court to be invalid and was set aside and is required to be re-determined by the Department of Planning, Housing and Infrastructure (DPHI).

An Amendment Report was subsequently prepared to provide additional information to assist the DPHI with reassessing the Modification 6 application and to clarify conceptual surface infrastructure layouts. The originally proposed Modification 6 is referred to throughout this document as Modification 6, and the amended modification application is referred to as the Amended Modification 6.

The Amendment Report for the Amended Modification 6 was lodged with the DPHI in December 2025 and remained on public exhibition through January 2026. During the public exhibition period 259 submissions were made (excluding duplicates). This included three government submissions and 256 community submissions. Of the 256 submissions received from the community (including individuals and stakeholder organisations), 149 (58.2%) were in support of the Amended Modification 6 and 107 (41.8%) were objections. The most frequently raised themes in supporting submissions related to economic benefits, employment and social benefits relating to the ongoing operations. The most frequently raised theme in objecting submissions was impacts relating to greenhouse gas (GHG) emissions and climate change.

As part of the Submissions Report a Revised GHG Assessment was prepared. In this revision, the assessment of GHG emissions was updated utilising the latest GHG emission factors available. These updates to the emissions factors pertain to the Scope 2 and Scope 3 emissions related to electricity consumption and do not materially change the GHG emissions estimates from those previously determined. Additionally, the Revised GHG Assessment provided additional information to address items raised in the EPA submission.

While it is not a mandatory requirement of the *NSW Guide for Large Emitters* (EPA, 2025a) as the Amended Modification 6 is not anticipated to exceed Scope 1 and 2 emissions of 100,000 tonnes of CO₂-e per year, UCMPL also voluntarily commissioned an expert review of proposed GHG mitigation measures.

Modification 6, as amended, proposes the efficient recovery of a valuable resource by maximising resource utilisation and use of existing infrastructure and workforce, thereby reducing capital costs and minimising environmental impacts compared with recovering this resource by another means.

The NSW Government recently released an updated strategic statement on coal, *NSW Coal Industry 2026–50* (NSW Government, 2026) which presents a holistic NSW Government position on the future for coal mining in NSW. The statement confirms that coal will continue to play an important part in supporting regional jobs, investment and communities, within NSW’s current legislated emissions reduction targets.

NSW Coal Industry 2026–50 (NSW Government, 2026) confirms that the NSW Government will continue to accept applications for exploration licences, planning approvals and mining leases to allow a mine to continue operating, building on existing development consents. *NSW Coal Industry 2026–50* also confirms NSW’s intent to remain a reliable supplier to established international trading partners. As an established operation supplying international market demand with access to significant coal reserves beyond the term of PA 08_0184, Modification 6, as amended, fits within the future pathway for coal mining in NSW which supports responsible coal production from existing operations.

Abbreviations

Abbreviation	Description
BAM	Biodiversity Assessment Method
BAM-C	BAM Calculator
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
BC Regulation	Biodiversity Conservation Regulation 2017 (NSW)
BDAR	Biodiversity Development Assessment Report
BMP	Biodiversity Management Plan
BOS	Biodiversity Offset Scheme
CCC	Community Consultative Committee
CEEC	Critically Endangered Ecological Community
CIC	Critical Industry Cluster
CO₂-e	Carbon dioxide equivalent
CPHR	Conservation Programs, Heritage and Regulation Group
DCCEEW	Department of Climate Change, the Environment and Water
DEH	Department of Environment and Heritage (former)
DNG	Derived Native Grassland
DPE	Department of Planning and Environment (former)
DPHI	Department of Planning, Housing and Infrastructure
DPI	Department of Primary Industries
EA	Environmental Assessment
EL	Exploration Licence
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
FY	Financial Year
GDP	Ground Disturbance Permit
ha	hectares
HBT	Hollow-Bearing Tree
IBRA	Interim Biogeographic Regionalisation for Australia
IEA	International Energy Agency
KFH	Key Fish Habitat
HMP	Heritage Management Plan
LEP	Local Environmental Plan
LGA	Local Government Area
LW	Longwall

Abbreviation	Description
m	metres
ML	Mining Lease
MNES	Matters of National Environmental Significance
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
NT Act	<i>Native Title Act 1993 (Commonwealth)</i>
PA	Planning Approval
PAD	Potential Archaeological Deposit
PCT	Plant Community Type
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
RAP	Registered Aboriginal Party
RDP	Rapid Data Point
REZ	Renewable Energy Zone
SAII	Serious and Irreversible Impact
SAT	Spot Assessment Technique
SCA	State Conservation Area
SEPP	State Environmental Planning Policy
SMV	Special Mobility Vehicle
SRLUP	Strategic Regional Land Use Plan
SSD	State Significant Development
TBDC	Threatened Biodiversity Data Collection
TEC	Threatened Ecological Community
UCC	Ulan Coal Complex
UCCO	Ulan Coal Continued Operations
UCMPL	Ulan Coal Mines Pty Ltd
Umwelt	Umwelt (Australia) Pty Ltd
VI	Vegetation Integrity
VLAMP	Voluntary Land Acquisition and Mitigation Policy
VZ	Vegetation Zone

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Appendix 3	Revised Greenhouse Gas Assessment
Appendix 4	Greenhouse Gas Assessment Mitigation Measures Expert Review

1.0 Introduction

1.1 Background

The Ulan Coal Complex (UCC) is located approximately 38 kilometres (km) north-east of Mudgee and 19 km north-east of Gulgong in New South Wales (NSW) (refer to **Figure 1.1**). The UCC is owned by Glencore Coal Pty Limited (Glencore) and operated by Ulan Coal Mines Pty Ltd (UCMPL), a subsidiary of Glencore.

UCMPL was granted Project Approval (PA) 08_0184 under the former Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 15 November 2010 for the Ulan Coal Continued Operations Project (UCCO Project). PA 08_0184 has since been modified on six occasions. The UCC also holds approvals EPBC 2009/5252, EPBC 2015/7511 and 2022/09292 issued under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Approved operations within the UCC comprise underground mining in the Ulan Underground and Ulan West Underground areas and open cut mining, coal handling, processing and transport through to 30 August 2033 (refer to **Figure 1.2**). The open cut operations are currently in care and maintenance.

UCMPL submitted a modification to PA 08_0184 in November 2022 to maximise resource recovery from the existing underground mining operations by extending some of the currently approved longwall panels to extract additional coal within existing mining lease (ML) and exploration licence (EL) areas.

Modification 6 to PA 08_0184 was approved in May 2025. Following third party judicial review proceedings, the original decision to approve Modification 6 was declared by the Land and Environment Court to be invalid and was set aside and is required to be re-determined by the Department of Planning, Housing and Infrastructure (DPHI).

An Amendment Report was subsequently prepared to provide additional information to assist the DPHI with reassessing the Modification 6 application and to clarify conceptual surface infrastructure layouts. The originally proposed Modification 6 is referred to throughout this document as Modification 6, and the amended modification application is referred to as the Amended Modification 6.

1.2 Overview of the Amended Modification 6

Modification 6 originally included conceptual surface infrastructure layouts required to support ongoing mining activities (refer to **Figure 1.3**). It was acknowledged in the Modification Report that the detailed design including final location of infrastructure was subject to further exploration and detailed mine planning.

To retain flexibility in the location of surface infrastructure proposed, a number of options were considered and assessed to provide the worst-case potential impacts as part of the biodiversity assessment, and biodiversity offset requirements.

The Amended Modification 6 proposes to change the surface infrastructure originally proposed under Modification 6 for Ulan West Underground, as follows:

- realignment of southern powerline and access road (co-located)
- realignment of the northern powerline and access road
- realignment of the approved ventilation shaft and dewatering bore compound at the northern extent of LW10A
- removal of one of the approved dewatering bores (within a stand-alone compound at the northern extent of LW10A) and the addition of a service borehole (to deliver gravel and other construction materials and to provide access and power to the underground mine), to be co-located within the ventilation and dewatering bore footprint (refer to **Figure 1.4**).

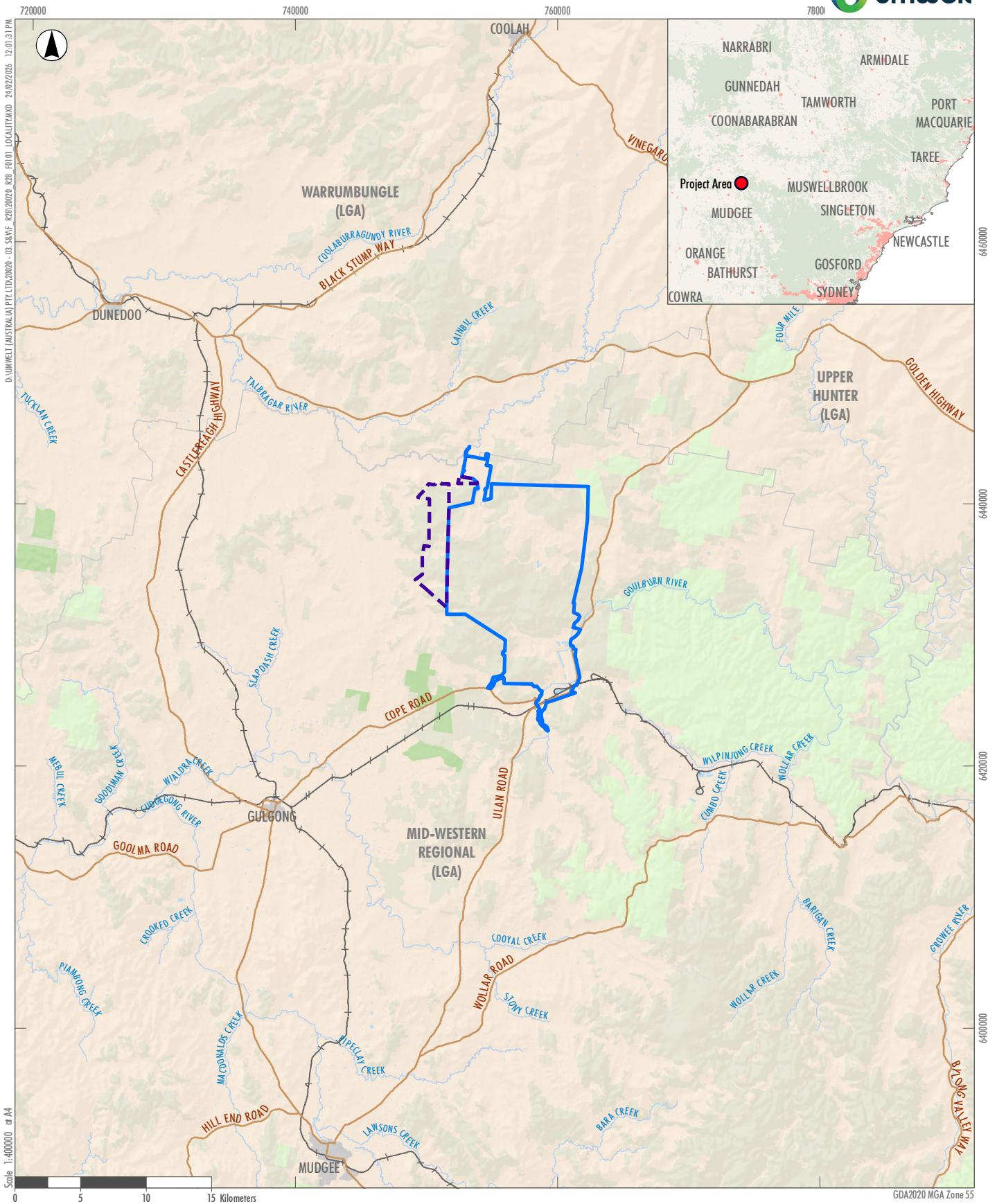
The proposed amendments to the conceptual surface infrastructure layout are required to rationalise and confirm the design and provide for a single infrastructure layout. The proposed infrastructure layout will result in a more efficient outcome with a reduced area of land clearing and reduced biodiversity impacts to those proposed under Modification 6 (refer to **Figure 1.4**).

Additionally, an Updated Greenhouse Gas (GHG) Assessment was prepared as part of the Amended Modification 6 to include consideration of the requirements in the *NSW Guide for Large Emitters* (EPA, 2025). The GHG Assessment for Modification 6 was prepared prior to publication of the draft guide in May 2024. However, the Guide states that planning authorities can use the Guide to inform their considerations, even if the Guide does not apply. Therefore, for completeness, an Updated GHG Assessment was prepared for the Amended Modification 6 that includes consideration of the requirements in the *NSW Guide for Large Emitters*. Due to the estimated timing of extraction, the timing of the emissions resulting from Modification 6 was also updated.

1.3 Assessment Process

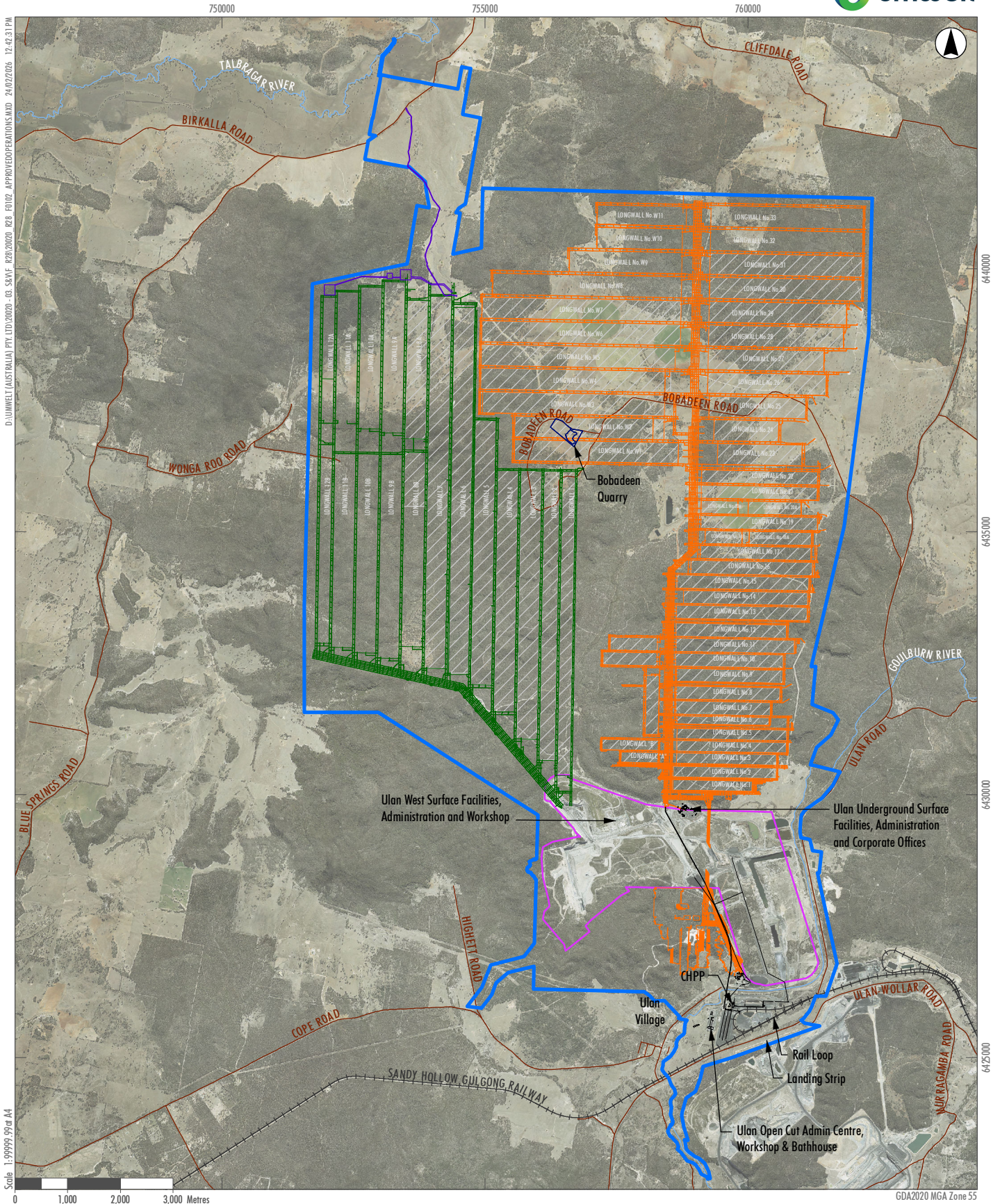
The Amendment Report for the Amended Modification 6 was lodged with the DPHI in December 2025 and remained on public exhibition through January 2026. During the public exhibition period 259 submissions, from both government and community stakeholders, were made. A full analysis of the submissions is provided in **Section 2.0**.

In correspondence dated 29 January 2026, DPHI requested a written response to the issues raised in submissions, including the full range of matters and recommendations raised by government agencies. This Submissions Report has been prepared by Umwelt on behalf of UCMPL having regard to the *State significant development guidelines – preparing a submissions report (Appendix C to the state significant development guidelines)* (the Guidelines) (DPHI, 2024).



- Legend**
- Project Approval Boundary
 - Proposed UWCO Modification 8 Area
 - Local Government Area (LGA)
 - Road
 - Railway
 - Watercourses
 - State Forest
 - NPWS Estate
 - Native Vegetation

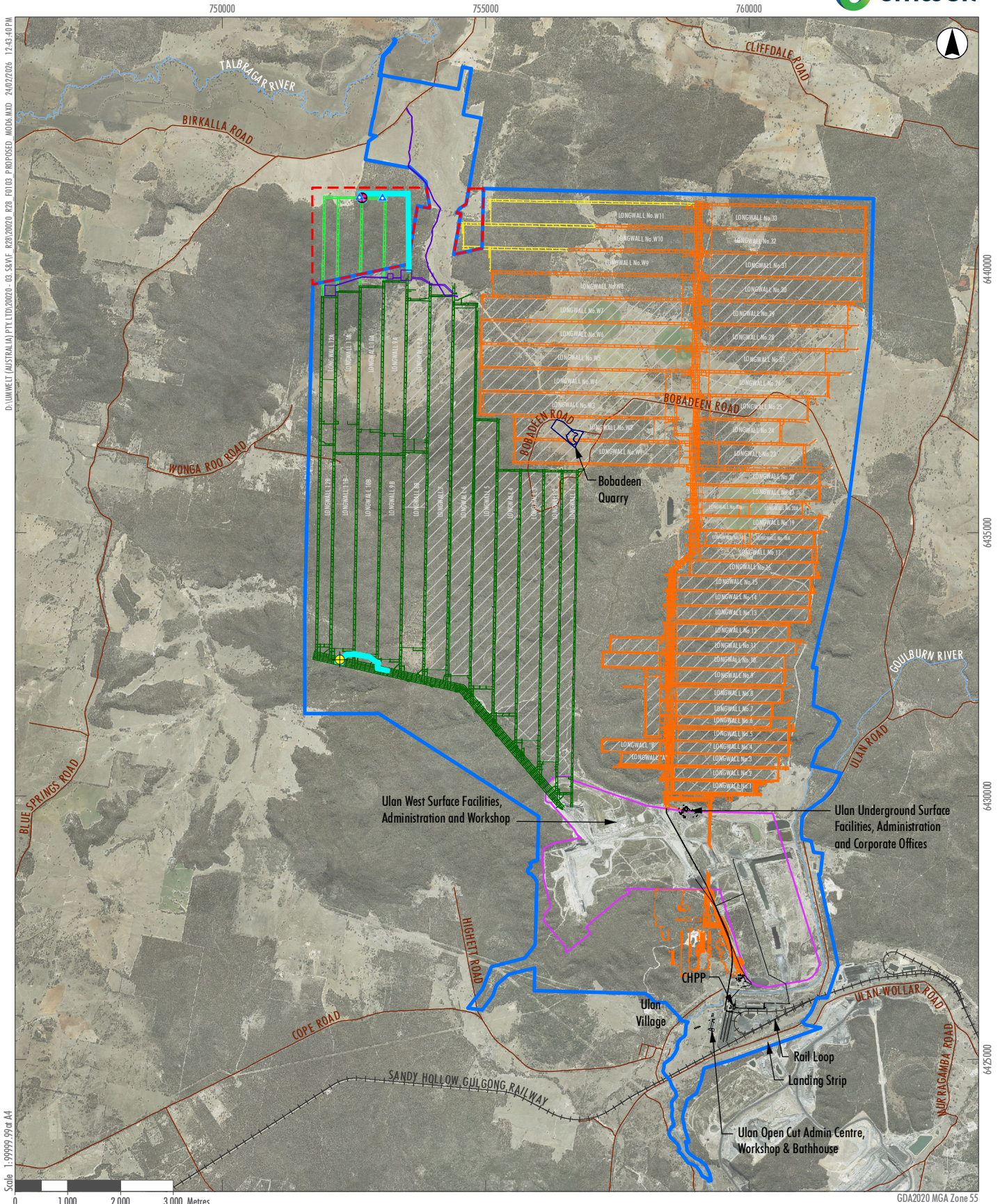
FIGURE 1.1
Locality Map



- Legend**
- Project Approval Boundary
 - Bobadeen Quarry
 - Approved Infrastructure
 - Approved Ulan West Mine Plan
 - Approved Ulan Underground Mine Plan
 - Previously Mined
 - Approved Ulan Open Cut Area
 - Roads
 - Railway
 - Major Watercourses

FIGURE 1.2

Approved Operations



Legend

- Project Approval Boundary
- Proposed Modification 6 Project Approval Boundary
- Bobadeen Quarry
- Roads
- Railway
- Major Watercourses
- Approved Infrastructure
- Approved Ulan West Mine Plan
- Approved Ulan Underground Mine Plan
- Previously Mined
- Approved Ulan Open Cut Area
- + Proposed Borehole
- Proposed Vent Shaft
- ▲ Proposed Dewatering Bores
- Amended Proposed Infrastructure
- Amended Proposed Ulan West Underground Mine Plan Modification
- Amended Proposed Ulan Underground Mine Plan Modification

FIGURE 1.3

Proposed Modification 6

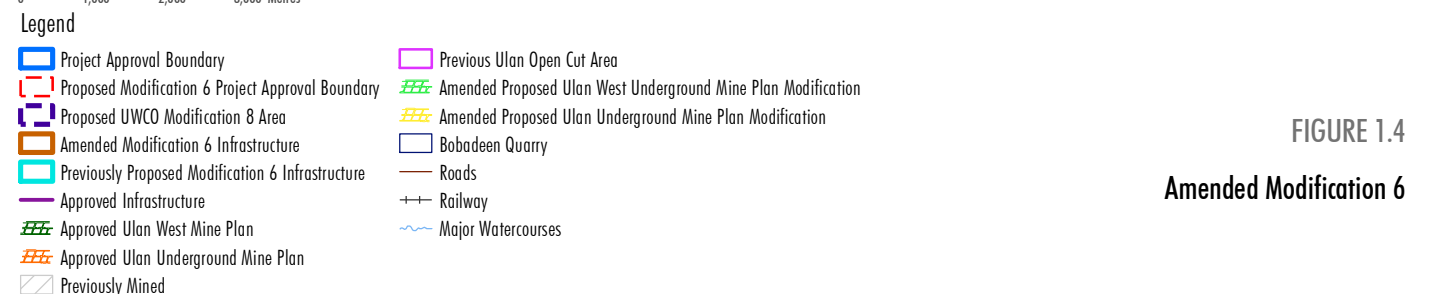
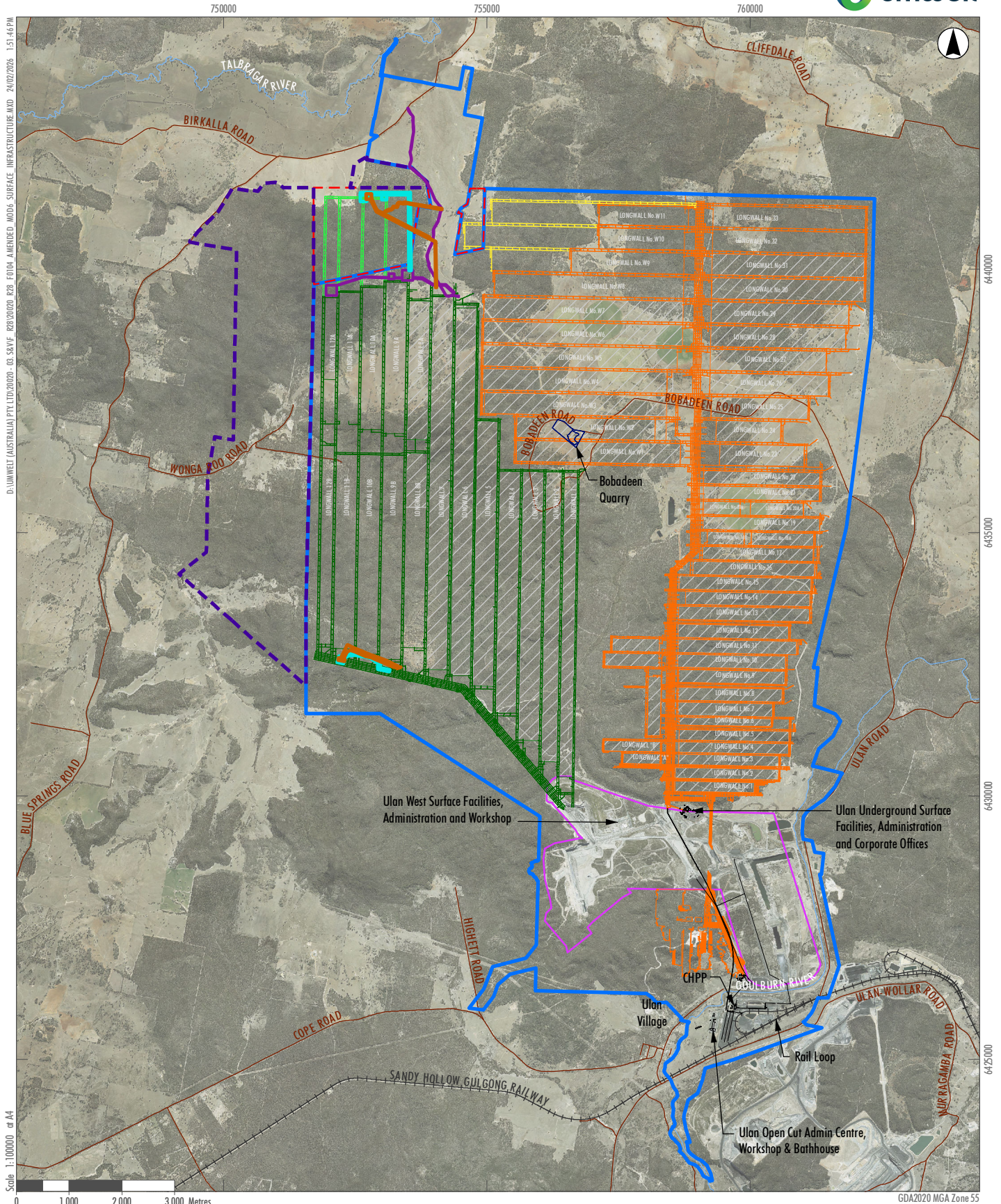


FIGURE 1.4
Amended Modification 6

Image Source: Glenore (2018) Data source: Glenore (2020); NSW DFSI (2020)

2.0 Analysis of Submissions

2.1 Breakdown of Submissions

During the public exhibition period, 260 submissions were received. In accordance with the Guidelines, multiple submissions from the same person or group should only be counted as one submission, therefore one duplicate submission was excluded from the final submission count. A significant number of the objecting submissions are similar in nature in terms of content and wording. Regardless, all submissions have been considered unique for the purposes of the submission count and analysis. As a result, the total number of submissions received on the Amended Modification 6 was 259.

Table 2.1 provides a breakdown of the submissions received and a detailed Submissions Register is provided in **Appendix 1**.

Table 2.1 Submissions Breakdown

Category	Group	Number of Submissions
Government	State/Commonwealth government agencies and public authorities	2
Government	Local Council(s)	1
Community	Individuals	231
Community	Stakeholder organisations/groups	25
Total		259

2.1.1 Government Submissions

As outlined in **Table 2.1** above, three submissions were received from the following government agencies and public authorities:

- Environment Protection Authority (EPA)
- Department of Climate Change, Energy, the Environment and Water (DCCEEW) – Conservation Programs, Heritage and Regulation Group (CPHR)
- Mid-Western Regional Council (Council).

None of the government agencies or authorities objected to the Amended Modification 6, however further information or clarification of aspects of relevant assessments have been requested in some instances. The content of government submissions is discussed in detail in **Section 4.0**.

2.1.2 Community Submissions

Of the 256 submissions received from the community (including individuals and stakeholder organisations), 149 (58.2%) were in support of the Amended Modification 6 and 107 (41.8%) were objections (refer to **Figure 2.1**).

No commenting submissions were received on the Amended Modification 6.



Figure 2.1 Community Submissions Breakdown

A breakdown of the community submissions is provided in **Table 2.2**.

Table 2.2 Community Submissions Breakdown

Group	Objection	Support	Comment
Individuals	89	142	0
Organisations	18	7	0
Total	107	149	0

In accordance with the Guidelines, submissions were analysed based on proximity to the UCC to determine the level of interest across the following three categories:

- local (up to 5 km from the UCC)
- regional (between approximately 5–100 km from the UCC)
- broader community (greater than approximately 100 km from the UCC).

It is noted that some residences in the suburbs listed as local may be greater than 5 km from the UCC. The analysis by suburb is therefore conservative in its approach as further interrogation is not possible with the data available. **Figure 2.2** and **Figure 2.3** illustrates the geographical origin of community submissions.



How submissions are characterised

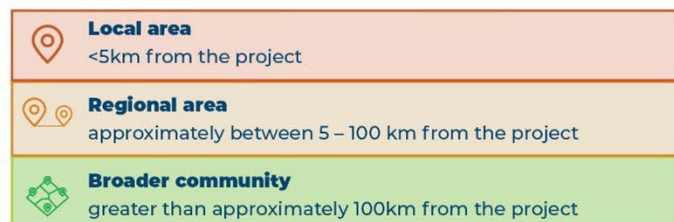
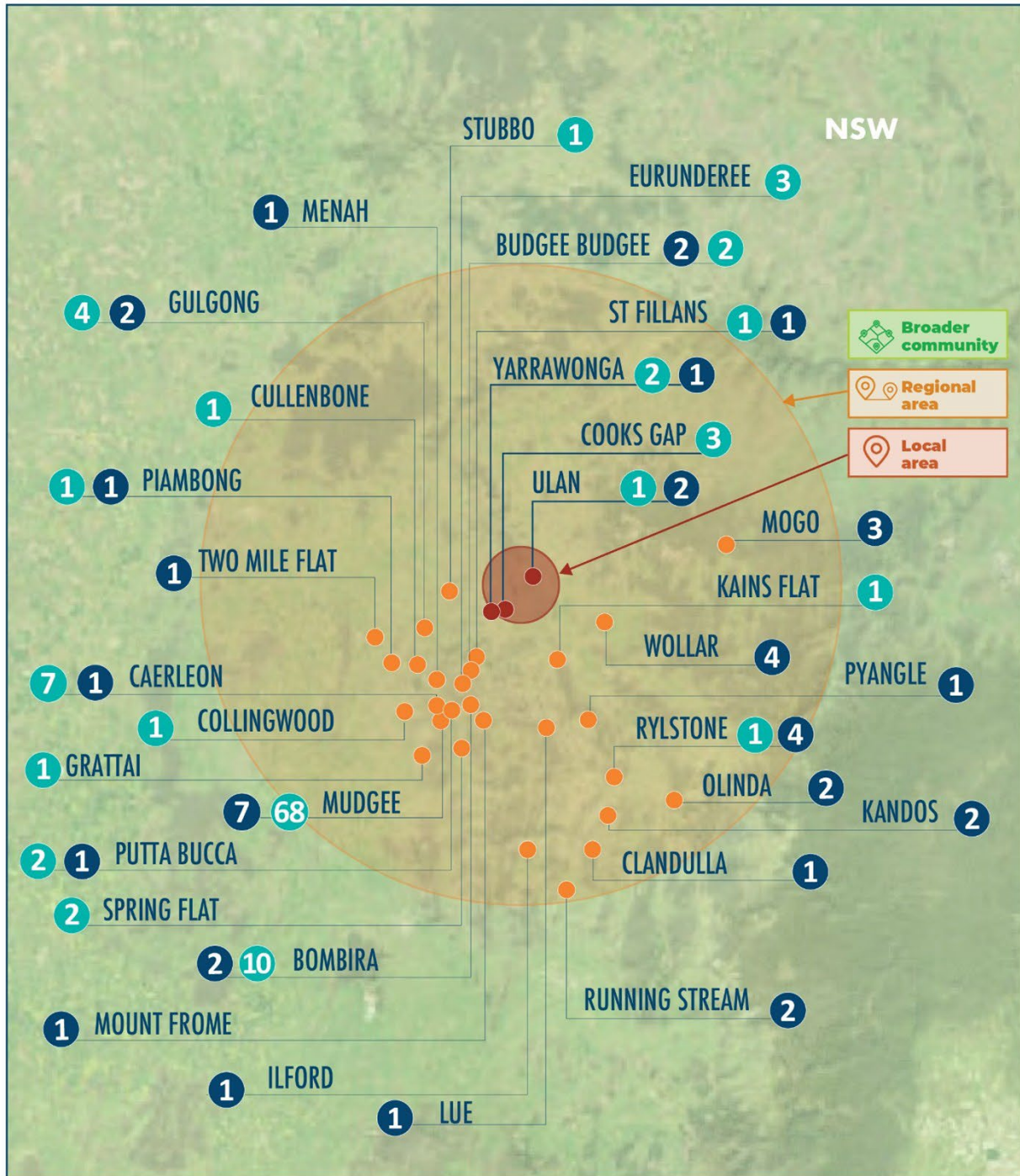


Figure 2.2 Community Submissions by Locality



	Support
	Object
	Comment
<p>A total of 256 public submissions (stakeholder groups and individuals)</p>	

How submissions are characterised

	Local area <5km from the project
	Regional area approximately between 5 – 100 km from the project
	Broader community greater than approximately 100km from the project

Figure 2.3 Community Submissions by Locality – Local and Regional

Of the 256 community submissions received (including objections, comments and supports), 9 (3.5%) were received from the local area, 147 (57.4%) from the regional area and 100 (39.1%) from the broader community (refer to **Figure 2.4**).



Figure 2.4 Community Submissions by Proximity

2.1.2.1 Objecting Submissions

As outlined above, a total of 107 submissions objected to the Amended Modification 6, including 89 from individual community members, and 18 from organisations. Based on the analysis, three (2.8%) objections were received from the local area (within approximately 5 km), 40 (37.4%) from the regional area (between approximately 5–100 km) and 64 (59.8%) from the broader community (greater than approximately 100 km from the UCC) (refer to **Figure 2.5**).

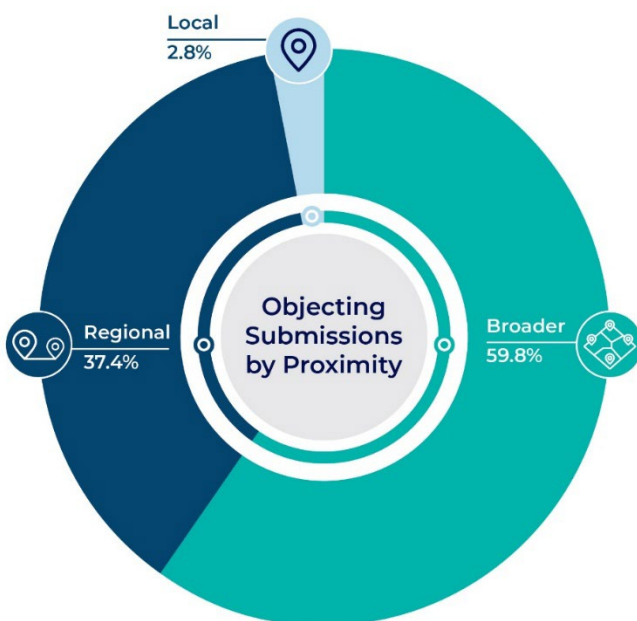


Figure 2.5 Objecting Submissions by Proximity

2.1.2.2 Supporting Submissions

A total of 149 submissions were received in support of the Amended Modification 6 from community members. Based on the analysis, six (4.0%) supporting submissions were received from the local area (within approximately 5 km), 107 (71.8%) from the regional area (between approximately 5–100 km) and 36 (24.2%) from the broader community (greater than approximately 100 km from the UCC) (refer to **Figure 2.6**).

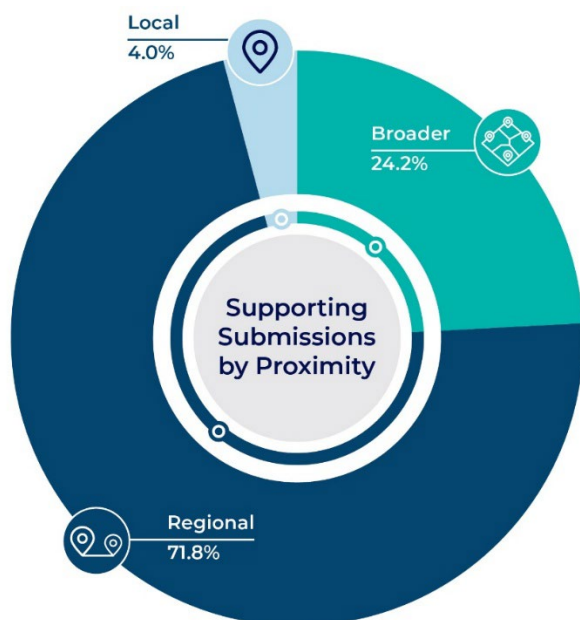


Figure 2.6 Supporting Submissions by Proximity

2.1.2.3 Commenting Submissions

No submissions received from the community were comments, i.e., not characterised as either supporting or objecting to the Amended Modification 6.

2.2 Categorising Issues

A content analysis was undertaken on all community submissions to gain an understanding of the key issues raised in relation to the Amended Modification 6. Objecting and supporting submissions were analysed separately, as the themes within the submissions were distinct.

In accordance with the Guidelines, issues raised in submissions were grouped into the following categories:

- the Amended Modification 6 (e.g., the site, the physical layout and design, key uses and activities, timing)
- procedural matters (e.g., level or quality of engagement, compliance with assessment requirements)
- the economic, environmental and social impacts of the Amended Modification 6 (e.g., water resources, biodiversity, heritage)

- the justification and evaluation of the Amended Modification 6 as a whole (e.g., consistency of the Amended Modification 6 with government plans, policies or guidelines)
- issues that are beyond the scope of the Amended Modification 6 (e.g., broader policy issues) or not relevant to the Amended Modification 6.

These broad categories were then divided into themes and sub-themes where relevant to provide greater definition of the issues raised. Further details of the categorisation of issues are provided in the following sections.

2.2.1 Objecting Submissions

Economic, environmental and social impacts of the Amended Modification 6 were the most frequently raised category of issues in objecting submissions (refer to **Figure 2.7**).

Issues relating to procedural matters were the second most frequently raised category of issues, followed by justification of the Amended Modification 6, design of the Amended Modification 6 and issues beyond the scope of the Amended Modification 6.

It is noted that many submissions raised multiple issue categories and multiple themes and sub-themes within each issue category.

As noted in **Section 2.1**, a significant number of objecting submissions were similar in nature in terms of content and wording. As a result, the key issues from those submissions heavily influenced the objecting submission categorisation.

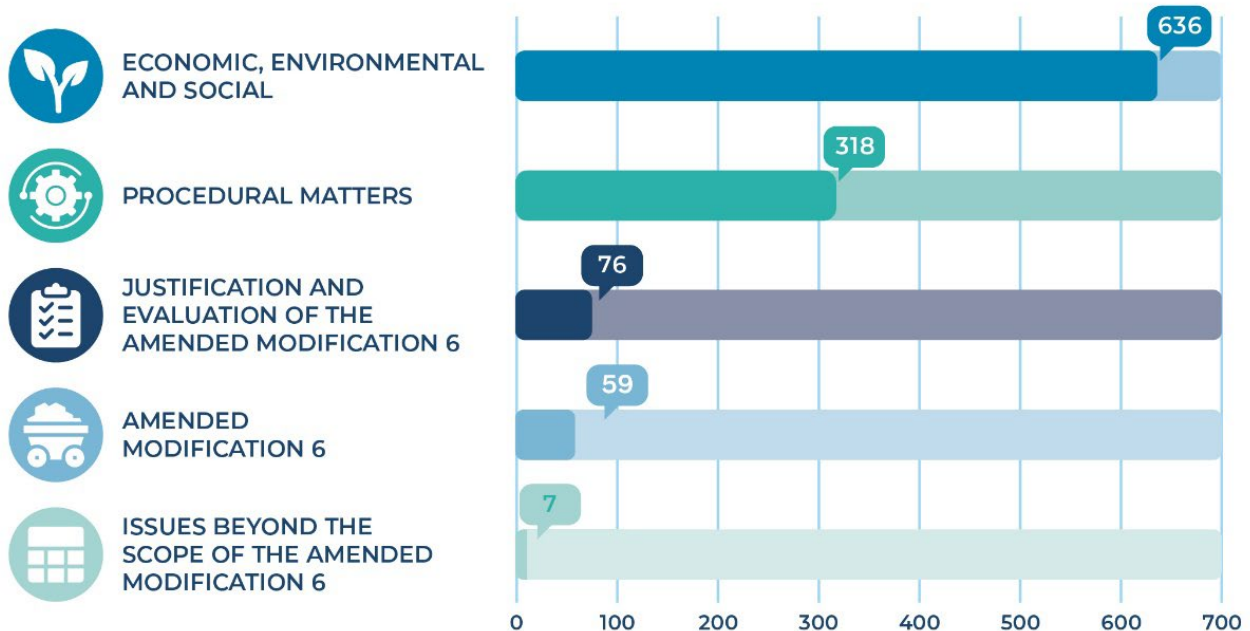


Figure 2.7 Categorisation of Issues in Objecting Submissions

2.2.1.1 Economic, Environmental and Social Impacts

There were eleven key themes to the economic, environmental and social issues raised in objecting submissions:

- greenhouse gases and climate change
- biodiversity
- water resources
- cumulative impacts (as they relate to other economic, environmental and social impacts)
- economics
- cultural heritage
- social
- subsidence
- amenity impacts on the community
- agriculture
- rehabilitation.

The most frequently raised theme was impacts relating to greenhouse gas and climate change, then biodiversity and water resources (refer to **Figure 2.8**).

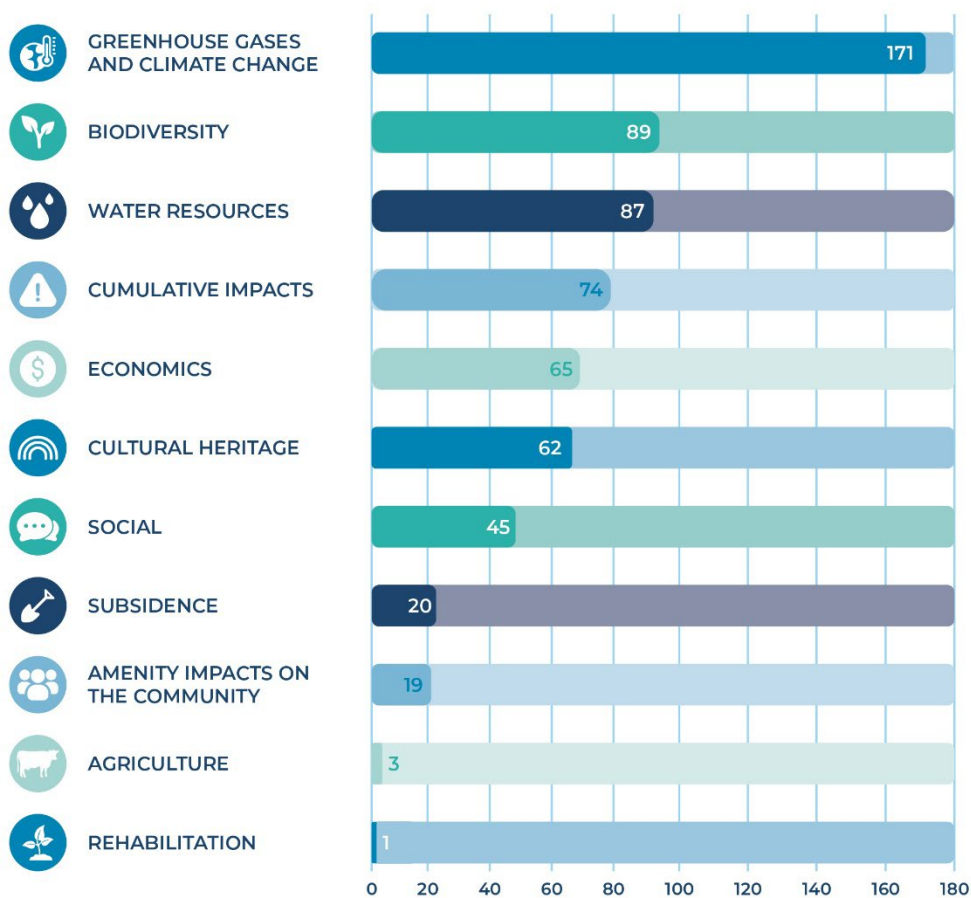


Figure 2.8 Economic, Environmental and Social Themes

Responses to objections raised in relation to economic, environmental and social issues are addressed in **Section 5.1**.

2.2.1.2 Procedural Matters

There were six key themes raised in relation to procedural matters, being:

- compliance with Government policy, including net zero and renewable energy zones (REZs)
- interactions/interdependence with Modification 8
- adequacy of assessments
- the planning process, primarily related to whether Modification 6 should be assessed as a modification or a new project
- the implications of the Modification 6 appeal
- lack of community consultation.

The most frequently raised theme related to compliance with Government policy and interaction with Modification 8 (refer to **Figure 2.9**).

Responses to objections raised in relation to procedural matters are addressed in **Section 5.2**.

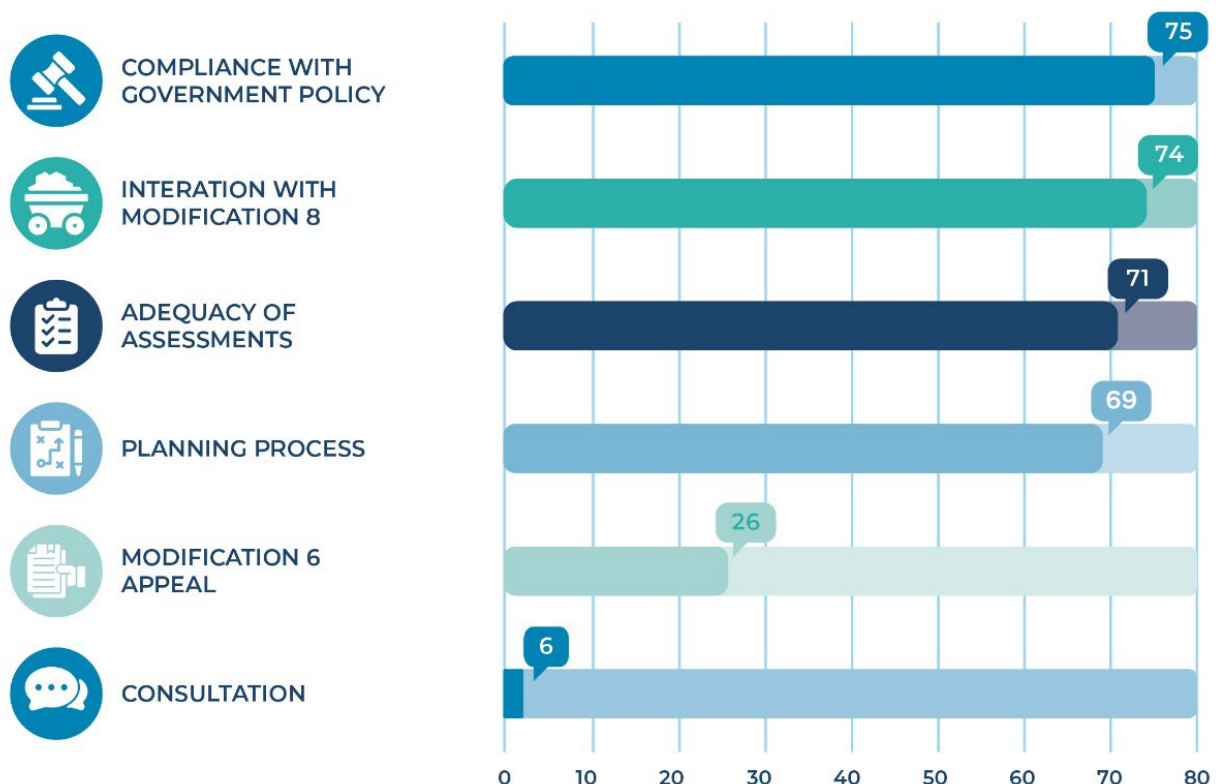


Figure 2.9 Procedural Matters Themes

2.2.1.3 Justification and Evaluation of the Amended Modification 6

There were 76 submissions that raised concerns about the justification of the Amended Modification 6. The primary objections in this category questioned the need for coal mining in relation to climate change and the transition to renewables energy.

Responses to objections made in relation to the justification and evaluation of the Amended Modification 6 are addressed in **Section 5.3**.

2.2.1.4 Amended Modification 6

There were 59 objections that raised concerns around the project design of the Amended Modification 6. The key themes related to the perceived lack of changes between the originally proposed Modification 6 and the Amended Modification 6, and the proposed surface infrastructure.

Responses to the objections raised in relation to the design of the Amended Modification 6 are addressed in **Section 5.4**.

2.2.1.5 Issues Beyond the Scope of the Amended Modification 6

This category includes broader policy issues or issues that are not directly related to the merits of the Amended Modification 6. The main theme raised under this category was primarily related to GHG reporting from the existing operations.

Responses to objections raised in relation to issues beyond the scope of the Amended Modification 6 are addressed in **Section 5.5**.

2.2.2 Commenting Submissions

As outlined in **Section 2.1.2.3**, no submissions received from the community were comments, i.e., not characterised as either supporting or objecting to the Amended Modification 6.

2.2.3 Supporting Submissions

Economic, environmental and social benefits of the UWCO Modification were the most frequently raised category of issues in supporting submissions (refer to **Figure 2.10**). The most frequent responses related to economic benefits, employment and social benefits relating to the ongoing operations.

The justification of the Amended Modification 6 was the second most frequently raised category in supporting submissions, followed by the design of the Amended Modification 6, procedural matters, and issues beyond the scope of the Amended Modification 6.

In terms of procedural matters, the existing and ongoing contributions made by UCMPL were frequently noted as a benefit of the Amended Modification 6. Similarly, the strong record of the existing UCC operations and positive reputation of UCMPL was raised frequently (categorised as issues beyond the scope of the UWCO Modification).

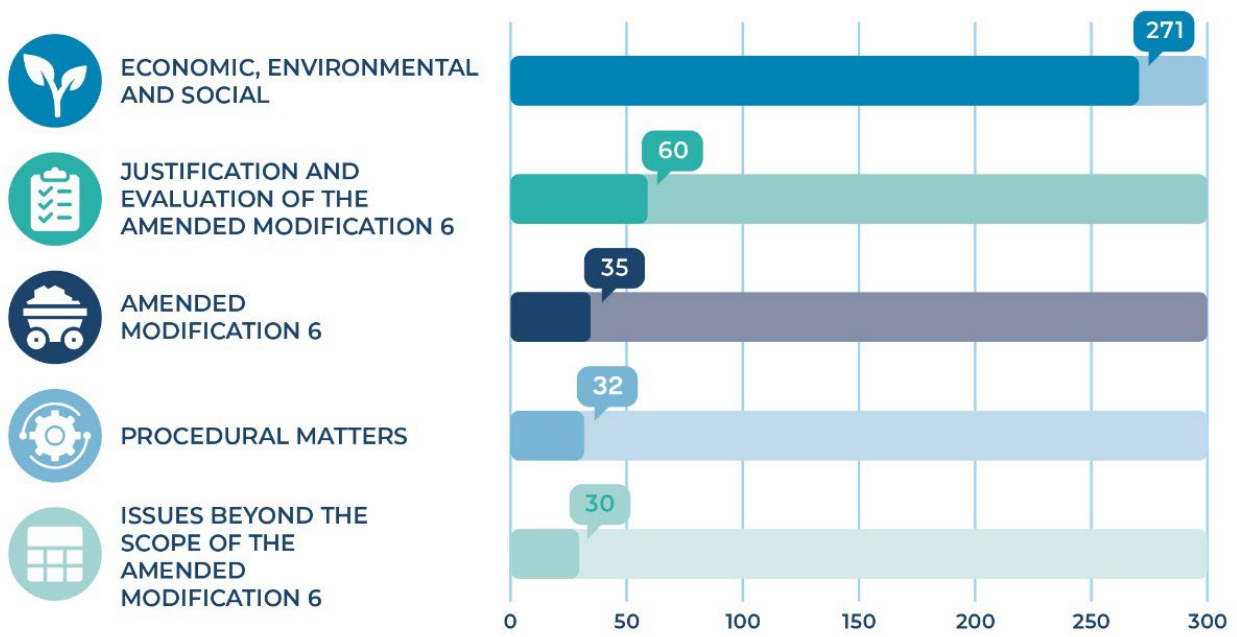


Figure 2.10 **Categorisation of Issues in Supporting Submissions**

3.0 Actions Taken Since Exhibition

3.1 Ongoing Stakeholder Engagement

Since submission of the Ulan Modification 6 Amendment Report, UCMPL has undertaken ongoing consultation with government agencies and the community in relation to the Amended Modification 6. Key consultation activities are outlined in **Table 3.1**.

Table 3.1 Consultation following exhibition of the Amendment Report

Agency/Group	Date	Topic
Ulan Community Consultative Committee	26 March 2026	An update was provided to Ulan Community Consultative Committee on the Amended Modification 6.
DPHI and NSW EPA	25 February 2026	A meeting was held to discuss the EPA comments relating to the Revised GHG Assessment.
Commonwealth DCCEEW	21 January 2026	A meeting was held to provide an update on the Amended Modification 6 process, including proposed changes to surface infrastructure subject to the Amended Modification 6.
Commonwealth DCCEEW	10 December 2025	A meeting was held to discuss the Amended Modification 6 process.
Ulan Community	December 2025	An update was provided in the December 2025 Community Newsletter on Amended Modification 6.
Ulan Community Consultative Committee	4 December 2025	An update was provided to Ulan Community Consultative Committee on Amended Modification 6.

3.2 Project Refinements

No further refinements to the Amended Modification 6 are proposed.

Modification 6 has been through several refinements throughout the assessment process. Notably, UCMPL amended the proposed underground mine plan with a reduced underground mining area within the original modification footprint (refer to **Figure 1.3**). The proposed amendments also resulted in a set back from the 4th order Mona Creek stream banks, limiting the potential for additional direct impacts on Mona Creek from Modification 6.

As outlined in the Amendment Report (Umwelt, 2025), the currently proposed Development Footprint has been subject to several revisions and refinements by UCMPL both prior to and during the planning process and ecological assessment for the Amended Modification 6, to avoid and minimise impacts on biodiversity values. The design process has sought to maximise the use of existing mining facilities, with the location of surface infrastructure positioned along areas of previously disturbed vegetation with poorer condition (lower Vegetation Integrity (VI) scores), such as access tracks and within areas previously cleared for agricultural activities. The Amended Modification 6 has also sought to avoid impacts to habitat connectivity and species movement, where possible.

3.3 Further Assessment

A Revised GHG Assessment was prepared to accompany this Submissions Report and is provided as **Appendix 3**. In this revision, the assessment of GHG emissions was updated utilising the latest GHG emission factors available. These updates to the emissions factors pertain to the Scope 2 and Scope 3 emissions related to electricity consumption and do not materially change the GHG emissions estimates from those previously determined. Additionally, the Revised GHG Assessment also considered the requirements of the *NSW Guide for Large Emitters* (EPA, 2025) and provided additional information to address items raised in the EPA submission, as detailed in **Section 4.1**.

While it is not a mandatory requirement of the *NSW Guide for Large Emitters* (EPA, 2025) as the Amended Modification 6 is not anticipated to exceed Scope 1 and 2 emissions of 100,000 tonnes of CO₂-e per year, UCMPL also voluntarily commissioned an expert review of proposed GHG mitigation measures. The review assessed whether the Scope 1 and 2 mitigation measures proposed by UCMPL follow the mitigation hierarchy and are considered industry best practice. The expert review is provided in **Appendix 4**.

4.0 Response to Government Submissions

Government agencies and public authorities make submissions relating to their areas of responsibility and typically deal with technical matters. In addition, government submissions frequently raise matters that require consideration by the consent authority and recommend consent conditions for inclusion in approvals.

The following section responds to the specific matters raised by each government submission. Submission wording is provided in text boxes, with the response following each text box.

4.1 Environment Protection Authority

4.1.1 Greenhouse Gas

1. The extraction and product export rates used to estimate emissions are to be reconciled against rates the Applicant seeks for the modification.

The estimated emissions for the ‘*Modified Business*’ scenario are based on ROM extraction rates ranging between 2.2 and 13.5 million tonnes per annum (Mtpa). The product export rates for the same scenario range between 2.2 and 12 Mtpa.

To be consistent with requirements in the NSW Guide for Large Emitters (the guide), the assumed quantities are to be reconciled with the current and proposed changes to conditions of consent. This is needed to demonstrate that the estimates are representative of the maximum ROM extraction and export product rates sought by the Applicant.

This information is required to verify conclusions regarding the GHG estimates, the mitigation assessment and emissions reduction commitments.

Recommendation:

It is recommended a revised GHG assessment is provided that:

- reconciles the activity data (e.g., ROM extraction rate, product rate, diesel combustion, etc) used to estimate emissions with the proposed changes to conditions of consent.
- includes GHG estimates reflective of the maximum proposed ROM extraction and product export rates.

Under PA 08_0184 operations at the UCC are approved for the export of up to 20 Mtpa from the site, with no more than 4.1 Mtpa of ROM coal from the open cut mining operations on site. No change has been proposed to these extraction rates under either Modification 6 or the Amended Modification 6.

As identified in the Revised GHG Assessment (refer to **Appendix 3**), the estimated emissions for the Amended Modification 6 ‘*Modified Business*’ scenario are based on ROM extraction rates ranging between 2.2 Mtpa and 13.5 Mtpa. The product export rates for the same scenario range between 2.2 Mtpa and 12 Mtpa.

The open cut operations are currently in care and maintenance therefore production from the open cut is not included in the current ‘*Modified Business*’ scenario.

The *NSW Guide for Large Emitters* (EPA, 2025) requires that Scope 1 and Scope 2 emissions are estimated based on maximum capacity and planned operational throughput. However, for the Amended Modification 6 the assessment is based on planned operational throughput, which fluctuates over time due to various factors, including coal resource characteristics, mining methods and equipment specifications. Because of the complex and inter-dependent nature of resource extraction, it is not practical to develop a separate scenario based solely on hypothetical maximum extraction rates. A hypothetical maximum extraction scenario would be highly artificial and would not be deliverable given the mining deposit parameters and equipment constraints. The results provided in this assessment therefore reflect a single (planned) operational condition. This aligns with the conceptual mine plan which formed the basis of the assessments undertaken for the Amended Modification 6, which was noted as being subject to change due to operational needs, geological conditions, technological advances and economic conditions.

2. The methodology to estimate fugitive emissions is to be justified.

The GHG assessment indicates that fugitive emissions were estimated using the average of the last three reported financial years and adjusted to ROM on a pro-rata basis. However, this approach has not been justified, and no supporting evidence is provided to show that previous monitoring and sampling data can be considered representative of proposed areas to be mined.

Recommendation:

Since historical reporting is the basis of the fugitive emissions provided in the GHG assessment, the EPA recommends supporting evidence is provided to justify the adopted methodology. Considerations should be given to:

- a. Provide a summary of historical reporting data and an analysis of trends to justify the use of the average of the 3 last reported years.
- b. Discuss why previous monitoring data can be considered representative of emissions from the proposed areas to be mined. Justification may include (but not limited to) a summary of findings of gas sampling event/s, monitoring data and analysis of gas content and ratios for the target seams.

Section 3.5 of the Revised GHG Assessment (refer to **Appendix 3**) presents the historical National Greenhouse and Energy Reporting Scheme (NGERS) data that was used to calculate usage and emission intensities for the Amended Modification 6.

Gas content data are also discussed in Section 3.5 of **Appendix 3** to confirm that the historical data is suitable for quantifying emissions from areas proposed to be mined.

3. Input data, assumptions and estimates for the ‘Business-as-Usual’ scenario are to be included to verify results and conclusions in the GHG assessment.

The GHG assessment does not include the emissions estimates for the *‘Business as usual’* scenario. To be consistent with assessment requirements in the guide, input data, assumptions and estimates are to be provided. This information is required to verify conclusions regarding the GHG estimates for the modification.

This information is also needed to better understand the anticipated reduction and subsequent spike in extraction rates and activity intensity for ‘Project Only’ scenario between 2030–2032. These fluctuations are not consistent with the rates in other years.

Further, it can be used to understand why the activity rates between *‘Modified Business’* and *‘Project Only’* scenario differ for the proposed two-year extension. If no operations under the current consent are to be undertaken beyond August 2033, activity rates for these scenarios, for these years, should be the same.

Recommendation:

The EPA recommends that prior to determination, the GHG assessment is revised to:

- a. Include input data, assumptions and annual estimates for the ‘*Business as usual*’ scenario.
- b. Discuss the fluctuations in extraction and product rates as well as activity intensity for the other activities for years 2030–31 and 2031–32.
- c. Discuss discrepancies, if any, between activity rates for years 2033–34 and 2034–2035.

Appendix C of the Revised GHG Assessment (refer to **Appendix 3**) now includes copies of the input data and emission estimates for the ‘Business as usual’ scenario.

Fluctuations are discussed in response to Item 1 above.

Fluctuations in production rates and associated activity intensity associated with the ‘Project Only’ scenario (as shown in Figure 3 of the Revised GHG Assessment) are the result of:

- production tonnages and associated emissions during FY27 to FY29 are being driven primarily by development related activities within the Amended Modification 6 areas (rather than longwall extraction)
- production tonnages and associated emissions are increasing during FY30 due to increased longwall extraction within the Amended Modification 6 areas
- production tonnages and associated emissions are reducing during FY31 primarily due to development related activities (rather than extraction)
- production tonnages and associated emissions are increasing in FY32 to FY34 due to increased longwall extraction within the Amended Modification 6 area.

Emissions are directly proportional to production output. As detailed above, the periods where production output is higher align with longwall extraction rather than development activities only. This change in production profile varies due to the location of mining activities within that FY period. There are periods where no longwall extraction is carried out within the Amended Modification 6 area as the longwall is extracting in another area of the approved Ulan West mining lease.

4. The GHG assessment does not include a detailed discussion or supporting evidence to demonstrate that mitigation measures have been adequately evaluated.

The estimated emissions show that fugitive emissions are the main source of Scope 1 emissions, followed by diesel combustion from stationary equipment.

The GHG assessment reasoned that the mine has negligible methane content hence the mitigation assessment has focused on diesel usage and electricity. However, there is insufficient evidence to demonstrate that mitigation measures have been adequately evaluated. For example, the GHG assessment does not include supporting analysis to show that the gas characteristics are not suitable for implementing GHG mitigation measures.

It is also noted that the mitigation assessment does not discuss site-specific considerations such as the fleet readiness to adopt low carbon alternatives to fossil diesel.

Recommendation:

Additional information is provided to show that the mitigation assessment has considered gas characteristics and suitability for implementing mitigation measures to reduce fugitive emissions.

Additional information in relation to gas characterisation and the feasibility of mitigation measures for fugitive emissions is provided in both the Revised GHG Assessment (refer to **Appendix 3**) and the expert review of mitigation measures (refer to **Appendix 4**). UCMPL has voluntarily commissioned an expert review of the proposed mitigation options. This review concludes that the Revised GHG Assessment has considered all applicable mitigation areas outlined in the *Greenhouse Gas Mitigation Guide for NSW Coal Mines* (EPA, 2026b). Negligible fugitive methane levels at the UCC meet the definition of a non-gassy mine, limiting the feasibility of fugitive methane mitigation options. Additionally, the underground mining fleet currently has a high level of electrification (100% of underground mining equipment which is directly involved in coal extraction activities in development and longwall is electrified) and non-fossil diesel options for the remaining ancillary fleet (e.g., vehicles used for the transportation of equipment and personnel, such as loaders, graders, Special Mobility Vehicles (SMVs), etc.) will continue to be assessed on a 3-yearly basis as described in **Appendix 3**.

5. The GHG assessment does not specify site-specific emissions reduction goals.

The analysis of the emission trajectory for the project in Table 7 of the GHG assessment shows that future operations will result in higher emissions than the 2025–26 period and a reduction in emissions is anticipated for the 2033–34 and 2034–35 periods. However, these reductions are due to decrease in activity intensity towards the end of the proposed project life, rather than due to implementation of mitigation measures.

Consistent with the guide, Applicants are expected to nominate emissions reduction goals for the proposal in the greenhouse gas assessment. Setting reductions goals upfront demonstrates the Applicant’s efforts to reduce emissions for the proposal and to be consistent with the NSW or industry specific emissions reduction trajectory.

If the project emissions trajectory does not align with the overall NSW net zero emissions trajectory, the Applicant must explain why the emission reduction trajectory still represents a meaningful contribution to NSW’s emission reduction targets or supports NSW to decarbonise.

The EPA recognises that emission reduction trajectories may be ‘lumpy’ and may depend on the implementation of different technologies or processes at different stages of a project. Therefore, when setting up reduction goals, a description of uncertainties in the timing and feasibility of emerging technologies being relied upon to support progress towards emissions reduction goals should be discussed.

Recommendation:

- a. The greenhouse gas assessment be revised to nominate clear and site-specific emission reduction goals. Scope 1 goals are to be specified in absolute terms (i.e., tonnes CO₂-e for a given year), with emission intensity goals specified where appropriate.
- b. If reduction goals rely on the timing and feasibility of emerging technologies, any uncertainties are to be discussed. Contingencies should be described in case technologies are not feasible for implementation.

The Revised GHG Assessment (refer to **Appendix 3**) includes site-specific emission reduction goals.

Given the variable and incremental nature of the mining areas associated with the Amended Modification 6, UCMPL proposes both qualitative and quantitative goals for the ‘Modified Business’ to support practical implementation. While the *NSW Guide for Large Emitters* (EPA, 2025) only requires goal-setting at the Project level, UCMPL is voluntarily extending these emission goals to the broader business to support practical application and to acknowledge the wider climate-related policy changes recently introduced by the NSW EPA for Environment Protection Licence (EPL) holders (EPA, 2026a).

Scope 1 and 2 emissions from UCC with the Amended Modification 6 represent a very small proportion of NSW emissions, and decline in a similar emissions trajectory as for NSW, representing a meaningful contribution to NSW emissions reduction targets. As such, UCMPL is proposing specific quantitative net emissions reduction goals for the 'Modified Business' (UCC with the Amended Modification 6) as follows:

- FY2030: Scope 1 and 2 emissions (net) = 0.084 Mt CO₂-e
- FY2035: Scope 1 and 2 emissions (net) = 0.012 Mt CO₂-e.

These quantitative targets are dependent on the following assumptions and conditions:

- The electricity grid decarbonises in line with current forecasts.
- Feasible technologies or options for reducing diesel emissions become available during the life of the modified business.
- For fugitive emissions, it is acknowledged that due to the project's low fugitive intensity (primarily CO₂), commercially viable mitigation solutions for low-concentration methane or carbon dioxide are unlikely to become available within the life of the modified business.

If the targets cannot be met through the above measures, alternative means will be considered, consistent with the mitigation hierarchy. Where any element of this target conflicts with the requirements of the Safeguard Mechanism (SGM), the SGM requirements will take precedence. If future Climate Change Licensee Requirements for coal mine EPL holders impose conflicting obligations, the targets will need to be reviewed.

UCMPL also proposes the following qualitative GHG management practices:

- UCC intends to maintain its low emission intensity operations by continuing with current operational and business planning practices to minimise electricity and diesel consumption.
- On a 3 yearly basis, UCMPL will also monitor and evaluate existing and emerging technologies to reduce GHG emissions from the Amended Modification 6 and will consider the mitigation hierarchy in the *NSW Guide for Large Emitters* (EPA, 2025) in its evaluation of options for emissions reduction.

4.1.2 Comments

The EPA would like to recommend the Department of Planning, Housing and Infrastructure (DPHI) consider the EPA's previous correspondence from 28 June 2024 and 6 October 2024, providing comment and recommended conditions from the original assessment of the proposal as they are still relevant to the proposal and should be considered for inclusion in any approval.

This comment regarded recommended conditions of approval is noted.

4.2 Conservation Programs, Heritage and Regulation Group

CPHR is satisfied that the Addendum BDAR meets the requirements of the Biodiversity Assessment Method (BAM).

It is, however, noted that while Table A4.1 of Appendix 4 of the BDAR has been updated to incorporate most changes associated with the Amended Modification 6, it does not include specific mitigation measures to reduce the impact of the loss of hollow-bearing trees as detailed in section 6.1.5 of the BDAR. CPHR recommend that Table A4.1 be updated to include all mitigation measures in the Amended Modification 6 BDAR.

Table A4.1 of the Amendment Report contained an updated summary of mitigation measures for PA 08_0184 as modified (incorporating the Amended Modification 6). This table has been updated to include mitigation measures to reduce the impact of the loss of hollow-bearing trees as detailed in Section 6.1.5 of the Amendment Report and Section 4.2.1 of the Addendum BDAR and is provided as **Appendix 2** of this Submissions Report.

4.3 Mid-Western Regional Council

4.3.1 Area Reconciliation

The BDAR identifies the Development Footprint as 15.96 hectares. However, the report also states that native vegetation clearing totals 15.20 hectares, with an additional 0.52 hectares of disturbance associated with non-native tracks. These figures do not reconcile with the stated Development Footprint, leaving approximately 0.24 hectares unaccounted for. Clarification and reconciliation should be provided for all disturbance areas.

In addition, it is recommended that all area-based terminology be clearly defined at the beginning of the report for consistency and clarity, consistent with the approach adopted in the Eco Logical Australia report.

For the purposes of the Amended Modification 6, the Addendum BDAR addresses the proposed surface infrastructure amendments. The Subject Land is the area of land which was assessed under the Biodiversity Assessment Method (BAM), totalling 18.97 ha. The Subject Land was subject to comprehensive biodiversity surveys and assessment to enable refinement of the Development Footprint. Of the 18.97 ha, formed access tracks totalled 0.52 ha and the remainder was native vegetation.

The Development Footprint is located within the Subject Land and is the area of land that will be directly impacted by the development. For the Amended Modification 6, the Development Footprint covers an area of 15.96 ha, of which 15.2 ha is the direct impact area which is covered by native vegetation across six Plant Community Types (PCTs) which will require offsets. The remaining areas are either:

- existing access tracks void of native vegetation
- water courses and dams
- vegetation below the Vegetation Integrity (VI) threshold.

4.3.2 Riparian Buffer Evidence

The BDAR identifies Mona Creek (fourth order) and a third-order tributary as Key Fish Habitat and states that no physical works will occur within the 40-metre riparian buffer. While the narrative indicates that all power poles and temporary disturbance will be located outside the buffer, no supporting tabulated data has been provided.

A schedule ought to be included, identifying power pole locations, coordinates, and minimum distances from the riparian buffer to clearly demonstrate compliance with the stated avoidance measures.

UCMPL has made a commitment to avoid the 40 m riparian buffer of Mona Creek when locating power poles for the electricity transmission line within the previously cleared grassland of the northern alignment of the Development Footprint. Exact locations for power poles will be determined during detailed design prior to construction, ensuring that minimum buffer distances are maintained.

4.3.3 Erosion and Sediment Control Plan Commitments

The BDAR references implementation of the UCMPL Mine ESCP (ULNCX-111515275224); however, the commitments are largely qualitative. ESCP-related commitments would be strengthened by incorporating measurable performance outcomes, such as:

- Water quality performance criteria (e.g. turbidity or NTU limits),
- Minimum setbacks to watercourses,
- Stabilisation and rehabilitation timeframes.

The Erosion and Sediment Control Plan (ESCP) is not a stand-alone document but is part of a suite of management plans and procedures that guide activities on the UCC.

The ESCP should be read in conjunction with other procedures and plans referenced within, which contain additional detail on design standards and performance criteria, including but not limited to:

- Water Management Plan (WMP)
- Goulburn River Diversion Remediation Program (GRDRP)
- Surface Water Monitoring Program (SWMP)
- Groundwater Monitoring Program (GWMP)
- Surface Water and Groundwater Response Plan (SWGWRP)
- Rehabilitation Management Plan
- Environmental inspections detailed in the Environmental Management Strategy (EMS)
- Biodiversity Management Plan
- Pre-Clearing Survey and Habitat Tree Felling Procedure
- Land Clearing and Topsoil Stripping Procedure.

Erosion and sediment controls will be implemented to mitigate the impacts of construction and mining operations on nearby watercourses and the surrounding environment. Standard erosion and sediment control techniques will be used in accordance with the requirements of *Managing Urban Stormwater: Soils and Construction* (the Blue Book Volumes 1 and 2E) (Landcom, 2004 and DECC, 2008).

The objective of the ESCP is to ensure that appropriate structures and programs of work are in place to:

- fulfil the statutory requirements of PA08_0184 and EPL 394
- identify activities that could cause erosion and generate sediment
- describe the location, function and capacity of erosion and sediment control structures required to minimise soil erosion and the potential for transport of sediment downstream
- ensure erosion and sediment control structures are appropriately maintained
- meet the requirements of the Blue Book (Landcom, 2004 and DECC, 2008).

Further site-specific controls relating to the management of sediment laden runoff are outlined in the ESCP. The ESCP will be updated to consider the relevant elements of the Amended Modification 6, including water quality performance criteria, minimum setbacks to watercourses, and stabilisation and rehabilitation timeframes.

4.3.4 Hollow-Bearing Trees

While the BDAR identifies the presence of 28 hollow-bearing trees within the subject land, it does not clearly specify how many HBTs will be removed versus retained, nor does it detail salvage or replacement measures.

It is recommended that the Biodiversity Management Plan include:

- The number of HBTs to be removed and retained;
- A salvage and reinstatement strategy;
- Nest box provisions, including number, type (e.g. microbat, arboreal mammal, bird), placement criteria and maintenance arrangements;
- Procedures for fauna handling during pre-clearing surveys or in the event of unexpected finds.
- Note: Where external wildlife carers (e.g. WIRES or local veterinary services) are proposed to be involved, confirmation of availability and resourcing should be obtained in advance.

As detailed in **Section 4.2** above, the consolidated mitigation measures table has been updated to include mitigation measures to reduce the impact of the loss of hollow-bearing trees as detailed in Section 6.1.5 of the Amendment Report and Section 4.2.1 of the Addendum BDAR and is provided as **Appendix 2** of this Submissions Report.

4.3.5 Offset Timing Commitment

The BDAR outlines ecosystem and species credit requirements and potential offset options; however, no explicit commitment is provided regarding the timing of credit retirement. It is recommended that confirmation be provided that all required ecosystem and species credits will be secured and retired prior to the commencement of any clearing or ground disturbance associated with the modification.

The required timing for biodiversity offset commitments to be undertaken is set by the consent authority as part of conditions in PA 08_0184. Commonly this will be worded as being ‘prior to commencement of vegetation clearing’, or ‘prior to the carrying out of development that could directly or indirectly impact biodiversity values requiring offset’, while in other instances a specific time frame may be applied. Should the Amended Modification 6 be approved, UCMPL will comply with the offset requirements set in the modified PA 08_0184.

5.0 Response to Community Submissions

As outlined in **Section 2.0** a total of 256 community submissions were received in relation to the Amended Modification 6, of which 25 were from stakeholder organisations and 231 were from individuals. Of the 256 community submissions, 149 were in support and 107 were in objection to the Amended Modification 6.

Several of the organisation and community submissions received were similar or had consistent themes. Where this is the case, the theme of the concern has been provided text boxes below with a response.

Responses to the issues raised in these submissions are included in the following sections.

As outlined in **Section 2.2**, issues have been characterised in accordance with the Guidelines (DPIE, 2022) into the following broad groups:

- the economic, environmental and social impacts of the Amended Modification 6 (e.g., water resources, biodiversity, heritage)
- procedural matters (e.g., level or quality of engagement, compliance with assessment requirements)
- the justification and evaluation of the Amended Modification 6 as a whole (e.g., consistency of the Project with government plans, policies or guidelines)
- the Amended Modification 6 (e.g., the site, the physical layout and design, key uses and activities, timing)
- issues that are beyond the scope of the Amended Modification 6 (e.g., broader policy issues) or not relevant to the Amended Modification 6.

5.1 Economic, Environmental and Social Impacts

Of the objecting submissions, issues relating to economic, environmental or social impacts were raised on 636 occasions. As outlined in **Section 2.2.1.1**, the key themes related to:

- greenhouse gases and climate change
- biodiversity
- water resources
- cumulative impacts (as they relate to other environmental, economic and social impacts)
- cultural heritage
- economics
- social
- subsidence
- amenity impacts on the community
- agriculture
- rehabilitation.

The key themes are addressed below.

5.1.1 Greenhouse Gases and Climate Change

GHG emissions and climate change were the most frequently raised concern from objecting submissions. Issues relating to GHG emissions and climate change impacts were raised on 171 occasions, however it is noted that in most instances a submission raised both GHG emissions and climate change. The key themes are addressed below.

Issues raised in relation to the adequacy of the GHG and climate change assessments are addressed in **Section 5.2**.

Submissions indicate that the total resulting greenhouse gases from the Amended Modification 6, and cumulatively with the UCC, would significantly harm the Australian environment.

The Amended Modification 6 will result in the production of GHG, as outlined in Section 6.4 of the Amendment Report (Umwelt, 2025).

As acknowledged in Section 6.4.6 of the Amendment Report (Umwelt, 2025), the international scientific community accepts that increases in GHG emissions due to human activity have been the dominant cause of observed global warming since the mid-20th century (CSIRO, 2025). Continued emissions of GHG are projected to cause further warming and changes in components of the climate system.

Evaluation of mitigation measures is embedded in the business planning processes of the UCC. Annual business planning processes forecast GHG emissions and assess the feasibility of mitigation measures.

UCMPL has considered the mitigation hierarchy of the *NSW Guide for Large Emitters* (EPA, 2025) in its evaluation of options for emissions reduction for the Amended Modification 6. Emission estimates for the Amended Modification 6 reflect current operational practices at UCC to maximise energy efficiency and minimise diesel and electricity consumption. They also reflect the avoidance of significant fugitive emissions due to UCC's low gas environment (fugitive emissions contain negligible methane in ventilation air, for which there is no feasible mitigation measure). As such, the Amended Modification 6 has primarily considered measures to reduce electricity and diesel-related emissions.

Management practices are currently utilised at the UCC to minimise emissions and are proposed to be maintained during the life of the Amended Modification 6, as detailed in the Amendment Report (Umwelt, 2025). The measures represent the full range of leading practice design, technology and management measures that can be implemented for Scope 1 and 2 emissions. This has been confirmed by an expert review of GHG mitigation measures (**Appendix 4**).

It is acknowledged that any new or continuing source of GHG emissions, including the Amended Modification 6, would contribute to climate change globally. Given the minor proportional contribution to GHG emissions, the Amended Modification 6 is unlikely to significantly influence projected climate change impacts in Australia. At the NSW level, as outlined in Section 6.4.7.2 of the Amendment Report (Umwelt, 2025), direct annual GHG emissions from the Amended Modification 6 represent approximately 0.010% of NSW emissions. Climate change considerations, including potential impacts on the locality are discussed in Section 6.4.8 of the Amendment Report (Umwelt, 2025).

Submissions contest that the position that the UCC is a ‘non-gassy mine with negligible methane’ is unsubstantiated. Further, submissions indicate that recent studies have shown that methane is greatly underestimated in Australian coal mines. It is suggested that UCMPL’s position should be verified independently.

The UCC is a National Greenhouse and Energy Reporting (NGER) facility with low fugitive emission intensity (due to being a non-gassy mine with negligible methane), with predominant use of electricity-powered underground equipment (rather than diesel-powered equipment).

GHG emissions associated with operation of the UCC are well understood, given that the mine is currently operating. Independent testing is undertaken for coal samples across the UCC operations, in accordance with Australian Standard *AS 3980-1999 Guide to the determination of gas content of coal – Direct desorption method*.

An expert review of GHG mitigation measures has confirmed that the UCC is a non-gassy mine with negligible methane based on NGER historical reporting and gas testing results (refer to **Appendix 4**).

5.1.2 Biodiversity

Eighty-nine objecting submissions raised concerns relating to biodiversity. The key issue related to direct impacts to threatened species and ecological communities associated with the Amended Modification 6. The other issue raised related to impacts on the wetlands and inner floodplains of the Macquarie Marshes. The key themes are addressed below.

In relation to biodiversity, submissions contend that the Amended Modification 6 will have a direct and irreversible impact on threatened species and ecological communities. The key themes relate to:

- impacts on threatened species habitat particularly Large-eared Pied Bat, Eastern Cave Bat, Powerful Owl, Barking Owl, Southern Myotis
- the cumulative loss of the critically endangered Box Gum Woodland ecological community.

Further, submissions suggest that the cumulative impacts have not been assessed for Serious and Irreversible Impact (SAIL).

Impacts to threatened species and ecological communities

Direct, indirect and prescribed impacts to threatened species and their habitats have been assessed in the Addendum BDAR using the NSW Biodiversity Assessment Method (BAM) in accordance with the *Biodiversity Conservation Act 2016*. It is noted that none of the species identified in submissions (Large-eared Pied Bat, Eastern Cave Bat, Powerful Owl, Barking Owl, Southern Myotis) are at risk of Serious and Irreversible Impacts (SAIL) due to the Amended Modification 6.

Where required, species credits to offset the impacts of the Amended Modification 6 have been calculated and an offset strategy to compensate for the unavoidable loss of ecological values has been identified. Under the NSW Biodiversity Offset Scheme (BOS), there is an established approach to like-for-like offsetting, such that the biodiversity matters being impacted by the Amended Modification 6 will be offset with similar biodiversity values. This ensures that the offsetting approach contributes to the ongoing viability of the specific matter impacted, whether it is a species, community or PCT listed under the BC Act or the EPBC Act.

Cumulative impacts

The NSW Government has a comprehensive framework in place to manage cumulative impacts at the strategic level. The BAM provides one such strategic framework for the assessment of biodiversity impacts. Key proposed or approved projects in the area include:

- the existing approved UCC
- the existing approved Moolarben Coal Complex and the proposed OC3 Extension Project
- the existing approved Wilpinjong Coal Mine and current proposed modification (Modification 3)
- a number of renewable energy projects in the wider region associated with the Central West Orana Renewable Energy Zone.

The biodiversity impacts of each of the above projects have been assessed individually by their proponents using the BAM.

Although the Amended Modification 6 will include minor biodiversity impacts to some of the same threatened species and communities as the other approved and proposed projects in the region, it will also add to the cumulative area of land conserved for these threatened entities in the form of offset areas, thereby contributing to the ongoing viability of affected species and communities.

The assessment of the extent and severity of impact on entities at risk of SAI (i.e. Box Gum Woodland critically endangered ecological community) was undertaken against criteria outlined in section 9.1 of the BAM and Appendix B of *Guidance to assist a decision-maker to determine a serious and irreversible impact* (DPIE 2019). This is provided in Section 9.1.1 of Appendix 2 of the Addendum BDAR.

Submissions identified that the Australian Government officially listed the Wetlands and Inner Floodplains of the Macquarie Marshes as an Endangered Ecological Community under the EPBC Act on 15 January 2026. It is contended that as the Talbragar River is a tributary of the Macquarie River which flows into the Macquarie Marshes, a loss of flow in that ecosystem from the Amended Modification 6 would impact the now listed Macquarie Marshes.

It is acknowledged that the *Wetlands and inner floodplains of the Macquarie Marshes* was added to the list of endangered ecological communities under s178, s181 and s183 of the EPBC Act commencing 15 January 2026.

While the proposed underground mining area associated with Modification 6 lies within the Mona Creek catchment which is part of the Talbragar River system and the Macquarie River catchment, there are no predicted changes to surface water flow in this river system that would impact ecosystems in the Macquarie Marshes.

The Surface Water Impact Assessment (SWIA) undertaken for Modification 6 (the results of which are unchanged by the Amended Modification 6) concluded that there would be no change to flow regimes in Mona Creek and negligible changes to flow regimes in the Talbragar River. The Groundwater Impact Assessment undertaken for Modification 6 (the results of which are unchanged by the Amended Modification 6) predicted impacts to baseflow in the Talbragar River would be comparatively small to imperceptible and would be accommodated under existing Water Access Licences. Therefore, there will be no significant loss of flow in the ecosystems of the Macquarie Marshes which are located over 200 km downstream.

5.1.3 Water Resources

Impacts on water resources, including groundwater and surface water, were raised in 87 objecting submissions. The Amended Modification 6 did not result in any changes to impacts on water resources compared to the previously proposed Modification 6. Regardless, submissions reiterated concerns related to loss of groundwater associated with underground mining and the subsequent loss of flow to river systems.

Issues raised in relation to the adequacy of water resource assessments are addressed in **Section 5.2.**

Submissions reiterated concerns relating to the proposed impacts to water resources caused by underground mining. Concerns relate to loss of groundwater associated with underground mining and the subsequent loss of flow to river systems, noting the Talbragar River is a major tributary of the Macquarie River in the Murray Darling Basin.

Further, submissions suggest that cumulative loss of flows from current approvals and the Amended Modification 6 have not been considered.

Impacts to water resources were not reassessed as part of documentation for the Amended Modification 6 as there are no changes to impacts from those assessed for Modification 6. The Groundwater Impact Assessment (GIA) (included as Appendix 8 to the Modification Report) assessed groundwater impacts to baseflow in the Talbragar River and specifically noted the following:

Predicted impacts to baseflow in the Talbragar River system from the Proposed Modification will be comparatively small to imperceptible and there is also very low potential for impacts on groundwater quality.

Similarly, the SWIA (included as Appendix 9 to the Modification Report) included the following statement in its key findings:

No change to flow regimes in Mona Creek and negligible changes to flow regimes in the Talbragar River.

The GIA considered and assessed cumulative groundwater impacts associated with Modification 6, the approved operations and the neighbouring Moolarben mine. The numerical model was set up to assess the following scenarios:

- No Mine model – simulates no mining in the model domain.
- Only Moolarben – simulates the presence of Moolarben mine but excludes all Ulan mining (thus can be used to isolate the Ulan only impacts from a cumulative model run).
- Approved Mine – simulates the mine plan approved under Modification 4 and also simulates the Moolarben Mine.
- Modification Model – simulates the approved and additional proposed mining at Ulan and the mining at Moolarben.

Section 8.6 of the GIA (Appendix 8 of the Modification Report) described the predicted cumulative impacts of mining on groundwater and concluded that there is minimal interaction between the Moolarben mine and Modification 6.

5.1.4 Cultural Heritage

Impacts on cultural heritage were raised in 62 objecting submissions. In addition to concerns relating to a perceived lack of assessment (refer to **Section 5.2**), the key theme related to cumulative loss of significant First Nations cultural heritage in the Ulan area.

Submissions indicated that a significant number of cultural heritage sites, and associated values, will be impacted by the Amended Modification 6, in addition to those already approved. Further, submissions noted that there is ample evidence of continuous Wiradjuri occupation of the region with spiritual connection to country.

The continuing connection of the Wiradjuri people to the lands across the UCC is acknowledged. UCMLP has a long-standing working relationship with local Registered Aboriginal Parties (RAPs) in relation to the continued management of cultural values across the UCC and a large body of research has identified numerous archaeological sites and provides a sound understanding of archaeological site patterning in the local area.

Aboriginal cultural heritage assessments undertaken for Modification 6 determined that there would be no direct impacts to Aboriginal heritage sites from the establishment of surface infrastructure. Similarly, the proposed refinements to surface infrastructure layouts have sought to avoid known archaeological sites and as a result there will be no additional direct impacts to Aboriginal cultural heritage from the Amended Modification 6.

Two known artefact scatter sites (MC403 and MC366) are located outside the proposed surface infrastructure amendment area but within close proximity to the proposed powerline corridor and hence will be subject to the management measures implemented through the existing Heritage Management Plan (HMP).

5.1.5 Economics

Issues relating to economic considerations were raised on 65 occasions. The key theme related to potential negative economic impacts, particularly a perceived negative impact of ongoing employment on the diversification of the job market in the region. The key themes are addressed below.

Submissions suggested that ongoing employment from the Amended Modification 6 was a negative outcome and would hinder the diversification of the job market in the Central West Orana region.

While forecasts show that the clean energy transition will stimulate a jobs boom in regional communities, research shows many of the new renewable energy jobs are short-term, as they are heavily focused on the construction and installation phase of projects rather than long-term operations (Snell and Rainnie, 2026). The delays in the NSW energy transition also present additional challenges for workers and their communities. The NSW Government's recently released strategic statement on coal, *NSW Coal Industry 2026–50*, acknowledges the need for coal regions to diversify their economic base in recognition of the expected natural decline in global coal demand.

The ongoing operation of the coal industry during the energy transition period provides secure employment for local and regional communities. Alongside continuing coal mining, the Future Jobs and Investment Authority will facilitate locally informed investment outcomes to support economic development in coal mining regions (NSW Government, 2026).

As noted in **Section 2.2.3**, the most frequent supporting submissions for the Amended Modification 6 related to economic benefits, employment and social benefits relating to the ongoing operations.

Submissions indicated that the economic benefits of the Amended Modification 6 were overstated and the Amended Modification 6 wouldn't result in a positive economic outcome.

The Economic Impact Assessment (EIA) for Modification 6 (refer to Appendix 17 of the Modification Report) prepared by Ernst & Young, which remains applicable for the Amended Modification 6, followed the economic assessment framework set out in the *Guidelines for the economic assessment of mining and coal seam gas proposals* (NSW Government, 2015).

Consistent with these Guidelines, the EIA included a Cost Benefit Analysis (CBA) and a Local Effects Analysis (LEA). The CBA provided an estimate of the net benefits of the proposed development to NSW. The LEA is based on analysis for the Lithgow-Mudgee local region (as defined by the Australian Bureau of Statistics SA3 region).

The EIA described a range of positive benefits from the Modification 6 that will result at a local, regional and State level. These benefits include:

- continued employment of approximately 930 full time equivalent employees for an additional two years
- a net benefit of \$292.6 million to NSW, in NPV terms
- a net benefit of \$45.2 million to the Lithgow-Mudgee region, in NPV terms.

More recently and in a more general sense, the economic benefits of the mining industry in NSW have been reported in the NSW Minerals Council's latest annual member Expenditure Survey, which reveals participating NSW mining companies supported record levels of mining jobs and near record levels of direct spending in NSW in the last financial year (NSW Minerals Council, 2026).

An economic analysis of the Expenditure Survey results found the regional impact of mining spending of the participating mining companies was equivalent to 15% of the Gross Regional Product (GRP) of the Central West region.

5.1.6 Social

Social related themes were raised on 45 occasions. The submissions relating to social impacts were generally non-specific, relating to a perceived impact to local communities from ongoing operations. The other theme related to intergenerational equity and ESD.

Concerns were raised in relation to the perceived impact to local communities from ongoing operations at the UCC.

A detailed Social Impact Assessment (SIA) was prepared for Modification 6 (included as Appendix 16 to the Modification Report) and remains applicable to the Amended Modification 6. The SIA acknowledged that predicted social impacts include both negative and positive impacts and strategies were provided to enhance the positive impacts while addressing any significant negative social effects. Recommended mitigation and enhancement strategies included the continued implementation of the Stakeholder Engagement Strategy, continuation of the existing Community Investment Program and ongoing and early engagement with potentially impacted landholders regarding eligibility for relevant management and mitigation measures.

Issues related to intergenerational equity, including concerns for future generations, were raised.

As outlined in Section 8.3 of the Modification Report, Modification 6 was assessed against the principles of Ecologically Sustainable Development (ESD), including the principle of intergenerational equity, as required by the EP&A Act. This assessment concluded that Modification 6 was consistent with the principles of ESD. The same assessment is applicable to Amended Modification 6, which will result in reduced potential impacts compared to Modification 6, while maintaining the majority of the potential benefits.

5.1.7 Subsidence

Twenty submissions raised concerns relating to subsidence from the Amended Modification 6. The Amended Modification 6 didn't result in any changes to the proposed mine plan, and therefore subsidence, compared to the previously proposed Modification 6. Regardless, submissions reiterated concerns relating to the impacts on the landscape as a result of underground mining.

Submissions raised concerns relating to subsidence related impacts from underground mining, and the 'very significant' impacts on the landscape.

A detailed Subsidence Assessment was prepared for Modification 6 (included as Appendix 7 of the Modification Report) and remains applicable to the Amended Modification 6 as there are no changes to underground mining and hence there will be no change to predicted subsidence levels as a result of the amendments.

Subsidence behaviour observed at the UCC has been generally consistent with expected levels, as reported in the Subsidence Assessment. The approach to estimating subsidence effects is based on a review of previous experience over more than 40 longwall panels at the UCC. This method is an empirical approach suitable for providing a reasonable estimate of the upper limit of key subsidence parameters.

Subsidence impact assessment involves using the subsidence predictions to forecast the level of impact on natural and human-made surface features within the subsidence affectation area. A comprehensive review of all relevant natural features, archaeological sites and items of surface infrastructure potentially impacted by subsidence has been completed with detailed subsidence predictions and impact assessment provided for each aspect.

Overall subsidence impacts are expected to be consistent with or less than the predictions for the approved operations, subsidence performance measures outlined in PA 08_0184, and the monitoring experience since PA 08_0184 was granted.

With specific reference to steep slopes, sandstone and cliff formations, the Subsidence Assessment states that impacts are expected to be consistent with forecasts for the approved UCC, subsidence performance measures outlined in the conditions of PA 08_0184 and the monitoring experience for mining since the PA 08_0184 was approved.

5.1.8 Amenity Impacts

Amenity impacts were raised on 19 occasions, relating to air quality, noise and associated public health and safety issues. The key themes are addressed below.

Submissions contend that the Amended Modification 6 would result in air quality impacts, which has the potential to impact on the health of surrounding areas.

A comprehensive Air Quality Impact Assessment (AQIA) was prepared for Modification 6 (included as Appendix 14 of the Modification Report) and remains applicable to the Amended Modification 6. The AQIA concluded that during both construction and operation, potential air quality impacts would remain within EPA criteria for particulate matter, deposited dust and nitrogen dioxide.

The existing proactive and reactive air quality emission management measures currently implemented as part of the existing approved Air Quality and Greenhouse Gas Management Plan at the UCC will continue to be adopted as part of the Amended Modification 6. This will include the continued implementation of operational controls during adverse weather conditions to minimise impacts.

Submissions identified the Amended Modification 6 would result in noise impacts for surrounding residents.

A Noise Impact Assessment (NIA) was prepared for Modification 6 (included as Appendix 13 of the Modification Report) and remains applicable to the Amended Modification 6. The NIA concluded that, other than occasional construction work outside of recommended standard construction hours, construction activities would comply with noise management levels at all receivers. Construction work outside standard hours would be avoided, however where necessary such work would be carefully managed to minimise impacts to potentially affected receivers. UCMPL has committed to the implementation of a range of measures during construction to mitigate any noise impacts.

Once operational the NIA found that noise levels would comply with criteria at all receiver locations under all meteorological conditions.

5.1.9 Land Management

Four submissions noted impacts to land management. The themes related to impacts to agricultural activities in the area or the Amended Modification 6 delaying rehabilitation activities at the UCC. The key themes are addressed below.

Submissions suggested that agricultural activities in the area may be impacted as a result of the Amended Modification 6, primarily as a result of subsidence induced water impacts reducing access to water.

A Soils and Land Impact Assessment (SLIA) was prepared for Modification 6 (included as Appendix 6 of the Modification Report) and remains applicable to the Amended Modification 6.

The SLIA concluded that the ability for the land above the proposed additional mining areas to continue to be used for grazing will remain throughout mining and post-subsidence. It is predicted that minor repairs to surface infrastructure such as tracks, fencing and dams will be required, however, this is not predicted to change the land capability classification. The Amended Modification 6 is not anticipated to materially impact on the agricultural value of the land above the additional underground mining area.

As described in **Section 5.1.3** above, the SWIA prepared for Modification 6 concluded that the modification would have no adverse impact on the potential use of water for downstream users or basic landholder rights on local creek systems or rivers as there is:

- no change predicted to baseflow in Mona Creek
- limited potential for minor runoff capture during the time between mining and the completion of any required subsidence remediation works, and
- negligible predicted surface water take and downstream impacts following subsidence in both watercourses and out of channel areas.

Further, where drawdown at private bores is greater than 2 m, 'make good' measures apply under the existing conditions of consent where UCMPL refurbishes the bore to address the supply change, or provides an alternative water supply.

Concern was raised in relation to rehabilitation commitments being delayed as a result of the Amended Modification 6.

Rehabilitation of mined areas at UCC is undertaken progressively over the life of the mine. The primary objective of rehabilitation and revegetation of the post-mining disturbance areas is to create a stable final landform, being self-sustaining native vegetation communities 'characteristic of the pre-mining composition, with a future land use of conservation.

Rehabilitation activities are undertaken in accordance with the relevant conditions outlined in the UCMPL approvals, relevant legislation and policies and guidelines. Schedule 3, Condition 57 of PA 08_0184 outlines the requirement to prepare a Rehabilitation Management Plan (RMP) for the UCC. The UCC currently operates under an approved RMP which covers the requirements of both PA 08_0184 and the Resource Regulator. The RMP will be updated to include the Amended Modification 6, should it be approved. While the Amended Modification 6 will delay completion of rehabilitation activities by two years in some areas, the existing rehabilitation commitments will continue to be upheld.

5.2 Procedural Matters

Issues relating to procedural matters were raised 318 times in the objecting submissions. As outlined in **Section 2.2.1.4**, the key themes related to:

- compliance with government policy
- interaction with Modification 8

- adequacy of assessments
- planning process
- the Modification 6 appeal
- consultation.

The key themes are addressed below.

5.2.1 Compliance with Government Policy

Compliance with government policy was raised in 75 objecting submissions. The key themes are addressed below.

Submissions contend that there is no justification for additional coal mining and that it would be contrary to government legislation and scientific opinion. Submissions reference the *Climate Change (Net Zero Future) Act 2023* and Net Zero Commission's *Coal Spotlight Report 2025*.

The NSW Government recently released an updated strategic statement on coal, *NSW Coal Industry 2026–50* (NSW Government, 2026) which presents a holistic NSW Government position on the future for coal mining in NSW. *NSW Coal Industry 2026–50* establishes a pathway for coal mining and represents a balanced approach to meeting the social, economic, and environmental needs of the state while continuing to ensure energy security for the people of NSW.

The International Energy Agency (IEA) forecasts that global demand for coal will plateau in 2026 ahead of a gradual decline. In the longer term, global coal consumption is expected to decline between 8–60% by 2035 and 20–92% by 2050 (IEA, 2025a). This is supported by higher natural gas prices, slower coal plant retirements, and continued growth in India and Southeast Asia (IEA, 2025b). There is significant variability and uncertainty on the trajectory of this decline, as it is highly dependent on the implementation of other countries' energy policies in the context of rising energy demand overall.

Owing to its stable regulatory environment and established reputation, NSW is a trusted supplier of thermal and metallurgical coal in the Asia-Pacific region (NSW Government, 2026). Demonstrating NSW's commitment as a reliable and trusted international trading partner during this shift in demand is key to securing a managed and orderly transition for coal-producing communities. NSW will continue to supply high-quality thermal and metallurgical coal internationally, ensuring that producers continue to honour their export commitments and retaining our role as a trusted and reliable supplier as our partners meet their net zero commitments (NSW Government, 2026).

NSW Coal Industry 2026–50 clearly states that the NSW Government will continue to consider applications for extensions of existing coal mines and recognises that extensions will contribute to industry job security in the short to medium term. The NSW Government will continue to accept applications for exploration licences, planning approvals and mining leases to allow a mine to continue operating, building on existing development consents (NSW Government, 2026). Applications for extensions of existing NSW coal mines and operational allocation for exploration will continue to be assessed on their merits under NSW's regulatory and planning framework. This includes the rigorous assessment of Scope 1 and Scope 2 GHG emissions and the local impacts of Scope 3 emissions (NSW Government, 2026).

In December 2025, after lodgement of the Amendment Report, the Net Zero Commission published its *Coal Mining Emissions Spotlight Report* (Net Zero Commission, 2025) which stated that the expansion of coal mining in NSW would be inconsistent with emission reduction targets.

This report singles out the NSW coal industry which contributes only 12% of the State's total emissions and ignores the NSW coal industry's proven track record on emissions reduction, which have reduced 28% since 2005, faster than any other sector in NSW and more than the state average of 25% (NSW Minerals Council, 2025).

In addition, a large proportion of the coal industry sector's emissions are captured under the Commonwealth Government Safeguard Mechanism emissions reduction framework, with regulated requirements to reach net zero by 2050. While the UCC is not a Safeguard Facility as it emits less than 100,000 tonnes of CO₂-e of Scope 1 emissions (direct emissions produced on-site) in a year, UCMPL is proposing specific quantitative net emissions reduction goals for the 'Modified Business' (UCC with the Amended Modification 6), subject to specified assumptions and conditions, as follows:

- FY2030: Scope 1 and 2 emissions (net) = 0.084 Mt CO₂-e
- FY2035: Scope 1 and 2 emissions (net) = 0.012 Mt CO₂-e.

The main drivers for UCC's current status as a non-Safeguard Facility are its low fugitive emission intensity (due to being a non-gassy mine producing negligible methane in ventilation air) and its predominant use of electricity-powered underground equipment rather than diesel-powered equipment.

The 'Safeguard Mechanism document' (DCCEEW, 2024) includes default (industry average) Scope 1 emissions intensities of production for various industries. The industry average emissions intensity for coal mining is an average of 0.0653 tonnes of CO₂-e per tonne of ROM coal. The estimated Scope 1 emissions intensity of the Amended Modification 6 is in the order of 0.004 tonnes of CO₂-e per tonne of ROM coal, which is 7% of the industry average emissions intensity. The 'Safeguard Mechanism document' (DCCEEW, 2024) also lists the best practice benchmark for Scope 1 emissions intensity as 0.00592 tonnes of CO₂-e per tonne of ROM coal. The Scope 1 emission intensity of the Amended Modification 6 is lower than the best practice emission intensity (approximately 68% of the best practice emission intensity).

Submissions note that the UCC is located proximal to the Central West Orana Renewable Energy Zone (CWO REZ). Submissions contend that the Amended Modification 6 is not aligned to the NSW Government policy in relation to renewable energy transition.

In NSW, Renewable Energy Zones (REZs) have been located in areas with abundant sun and wind resources, close to existing power lines and with populations large enough to support and benefit from long-term industries. In addition, one of the primary goals of REZs is to coordinate the development of transmission infrastructure, taking advantage of the existing infrastructure where appropriate (EnergyCo, 2026). It is therefore to be expected that there would be some overlap between REZs and traditional coal mining areas as transmission infrastructure and population hubs are also a feature of these areas, as evidenced by the locations of the Hunter-Central Coast and Illawarra REZs.

The declaration of a REZ does not preclude the operation of other industries within that land area. REZ development is simply a mechanism to facilitate the transition to a sustainable energy system by providing designated areas for the development of renewable energy generation, storage and transmission facilities. The continued operation of coal mining operations within or adjacent to REZs does not impact the operation of a REZ and a managed, gradual transition from traditional fossil fuels to renewable energy allows time for local populations to develop renewable energy capacity, retrain workers, and diversify regional economies.

Submissions contend that Amended Modification 6 does not conform to Ecologically Sustainable Development as required by the objects of the EP&A Act.

As outlined in Section 8.3 of the Modification Report, Modification 6 was assessed against the principles of ESD, as required by the EP&A Act. This assessment concluded that Modification 6 was consistent with the principles of ESD. The same assessment is applicable to Amended Modification 6, which will result in reduced potential impacts compared to Modification 6, while maintaining the majority of the potential benefits.

5.2.2 Interaction with Modification 8

It is noted that UCMPL currently has two modifications in process, being Amended Modification 6 and Modification 8 (known as UWCO Modification). Of the objecting submissions received, 74 raise the interaction between the Amended Modification 6 and UWCO Modification.

Issues related to assessment adequacy are discussed in **Section 5.2.3**.

Submissions contended that the dependency of the UWCO Modification on the Amended Modification 6 has not been recognised.

Each proposed modification is independently assessed on its own merits in accordance with a rigorous statutory framework, and each modification is subject to its own consultation and submissions process. There is no statutory requirement for the proponent to identify any dependencies between applications as the scope of each modification and the operations it seeks to amend are specified in each application.

5.2.3 Adequacy of Assessments

Issues pertaining to the adequacy of assessments undertaken for the Amended Modification 6 was raised in 71 submissions. The key themes are addressed below.

Submissions suggest that cumulative impacts were not adequately assessed. The key themes in the submissions noted:

- non-compliance with the *Cumulative Impact Assessment Guidelines for State Significant Development 2022*
- cumulative impacts of the UCC with the UWCO Modification and Amended Modification 6 were not considered
- no assessment of cumulative impacts from existing mine approvals or expansion proposals across the three Mudgee mines, being the UCC, Moolarben and Wilpinjong
- impact of coal train movements were not considered, specifically on the Sandy Hollow rail line including delays to trip times at local rail crossings.

The *Cumulative Impact Assessment Guidelines for State Significant Projects* (Cumulative Impact Guidelines) (DPE, 2022) define cumulative impacts as the result of incremental, sustained and combined effects of human action and natural variations over time and notes that they can be both positive and negative. Cumulative impacts can be caused by the compounding effects of a single project or multiple projects in an area, and by the accumulation of effects from past, current and future activities as they arise.

As a modification, the Modification Report had regard for the Cumulative Impact Guidelines, where relevant. The Cumulative Impact Guidelines recognise the ability to predict cumulative impacts, and the limitations of proposed methods, while having regard to approved assessment methods for relevant matters (e.g., the BAM). As per the Cumulative Impact Guidelines, the NSW Government has a comprehensive framework in place to manage cumulative impacts at the strategic level.

Regardless, appropriate cumulative impact assessment was applied across all relevant technical studies that supported the Modification Report for Modification 6. All of the environmental assessments considered impacts in the context of the current and/or predicted impacts of the existing approved operations at UCC. In this regard, the assessments represent the cumulative scenario of the existing approved development operating in conjunction with Modification 6 (and Amended Modification 6).

The cumulative impacts of the operation of the neighbouring Moolarben and Wilpinjong Coal Mines, including proposed extensions as relevant, have also been assessed for those environmental aspects where regional cumulative impacts are considered relevant. For example, the groundwater impact assessment modelled the impacts of both the existing and proposed UCC operations plus the neighbouring Moolarben operations. Similarly, the assessment of Aboriginal cultural heritage assessed cumulative impacts which included consideration of the Amended Modification 6 in combination with other mining projects in the region such as Moolarben and Wilpinjong.

Submissions relating to the adequacy of the biodiversity assessment indicated that the following matters were not addressed:

- cumulative loss of Box Gum Woodland CEEC across the region as a SAIL entity
- the Macquarie Marshes as an EEC under the EPBC Act.

The BDAR was prepared using the *Biodiversity Assessment Method* (BAM) (DPIE, 2020) in accordance with the BC Act. The assessment of SAIL entities was undertaken against criteria outlined in section 9.1 of the BAM and Appendix B of *Guidance to assist a decision-maker to determine a serious and irreversible impact* (DPIE 2019). This is provided in Section 9.1.1 of Appendix 2 of the Addendum BDAR.

All relevant information required by section 9.1 of the BAM was provided in the Addendum BDAR and it is noted that CPHR did not raise this as a deficiency of the report.

At the time of lodgement of the Amended Modification 6 application, the Macquarie Marshes was not listed as an endangered ecological community under the EPBC Act. This listing did not commence until 15 January 2026, therefore could not have been assessed as such in the Addendum BDAR. As discussed in **Section 5.1.2**, there are no predicted changes to surface water flow in the river system that would impact ecosystems in the Macquarie Marshes.

Submissions suggest that climate change impacts were not adequately assessed for the Amended Modification 6. The key themes in the submissions noted:

- the Amendment Report still fails to fully identify the impacts of the increased GHG emissions on the local environment, community and economy, as required under NSW planning law and as confirmed by the Court
- social or economic impacts of climate change have not been addressed
- there is no analysis of recent droughts, bushfires or flooding
- the Amended Modification 6 does not meaningfully assess total emissions, including downstream Scope 3 emissions and their contribution to climate change impacts
- the assessment fails to identify the cost and interruption to UCC operations and train transportation of product coal from extreme weather events.

An assessment of climate change impacts on the locality was undertaken and provided in Section 6.4.8 of the Amendment Report. The assessment included consideration of the GHG contributions of the Amended Modification 6 and projected climate change impacts. Projected impacts considered the *Climate Change Snapshot for the Central West and Orana region* (NSW DCCEEW, 2024) (the Snapshot). This Snapshot summarises the latest projections, known as the NSW and Australian Regional Climate Modelling (NARCLiM) project, for temperature, average rainfall, hot days over 35°C, cold nights under 2°C and severe fire weather at a 4 km resolution for NSW and the ACT. The Snapshot also discusses droughts, bushfires and flooding, and the Amendment Report acknowledges that climate change poses a number of key risks, including drought and bushfire.

The EIA undertaken for Modification 6, which remains applicable to the Amended Modification 6, followed the economic assessment framework set out in the *Guidelines for the economic assessment of mining and coal seam gas proposals* (EIA Guidelines) (NSW Government, 2015). In accordance with the EIA Guidelines, the EIA considered the Scope 1 and 2 greenhouse gas emissions that would occur due to Modification 6. The EIA Guidelines and Technical Notes do not require consideration of Scope 3 emissions. The value of this externality is estimated from interim estimates of the social cost of carbon. Over the assessment period, the estimated social cost of carbon ranges from \$202 per tonne of carbon dioxide (t CO₂-e) in 2021 to \$238 per t CO₂-e in 2032. The total value of this externality was then apportioned as the ratio of the population of NSW to the world population, consistent with the approach outlined in the Guidelines. While it is acknowledged that the Amended Modification 6 will contribute to global GHG emissions, this contribution will be minor as a proportion of global GHG emissions and as a result is not expected to materially affect the extent, severity or timing of climate change impacts which are driven by global cumulative emissions.

Many of the climate impacts predicted to occur in the locality are projected to occur under a range of global emissions pathways, including where the Amended Modification 6 does not proceed. Therefore, these projections of impacts of climate change on the locality are not expected to be materially impacted by the Amended Modification 6.

Predicted Scope 3 emissions for the Amended Modification 6 are addressed in the Revised GHG Assessment. Further, NARCLiM 2.0, on which the analysis of climate change impacts was based, is built on a selection of emissions scenarios, global climate models and regional climate models that, together, capture a range of climates that could occur.

In carrying out the Amended Modification 6, and consistent with the EPA’s Large Emitters Guide, UCMPL will undertake a number of management and mitigation measures with respect to GHG emissions as described in Section 6.4.5 of the Amendment Report. Potential climate change impacts in the locality including variable rainfall have been considered in the design and assessment of the Amended Modification 6 where applicable. The UCC operations, including the Amended Modification 6, will continue to be monitored and appropriate management strategies implemented, including through relevant management plans.

Train movements on the Ulan line are managed by Australian Rail Track Corporation (ARTC), not by individual rail users, such as UCMPL. The ARTC *Annual Report 2024-25* recognises that climate issues are a material consideration for the business, and the *2025-30 ESG Strategy (Enhancing Rail’s Climate Resilience pillar)* aims to ensure that the network is able to withstand more frequent and extreme weather events and that climate-related delays to customers are minimised.

In addition, the ARTC *Guideline for Rail Traffic Crew Reporting in Extreme Wet Weather and Flooding Events* (EHS-GL-002) provides guidance to rail traffic crew and network controllers for actions and reporting to be undertaken in flooding and extreme weather events, including but not limited to rainfall, floods, electrical storms, and damaging winds which demonstrate potential to impact on the ARTC rail network or the organisation’s operations.

Submissions relating to the adequacy of the GHG assessment noting the following matters:

- UCMPL has not provided a transparent and comprehensive assessment of the GHG emissions associated with the Amended Modification 6
- the GHG Assessment fails to properly assess all GHG emissions, including Scope 3 emissions
- there is no publicly reported data on methane emissions or plan to reduce fugitive methane emissions.

In February 2025, the *NSW Guide for Large Emitters* (the Guide) (EPA, 2025) was released by the NSW EPA to support proponents to consider climate change within the NSW planning process. The NSW Guide for Large Emitters states that the Guide does not apply to proposals that have progressed beyond the environmental impact assessment stage of the planning process at the time the consultation draft guide was published; that is, as at 20 May 2024. The GHG Assessment for Modification 6 was prepared prior to publication of the draft guide in May 2024. However, the Guide states that even if the Guide does not apply, planning authorities can use the guide to inform their considerations. Therefore, for completeness, an updated GHG Assessment was prepared for Modification 6 that included consideration of the requirements in the Guide. A summary of the updated GHG Assessment, including consideration of climate change impacts on the locality and further consideration of Scope 3 emissions, was provided in Section 6.4 of the Amendment Report.

Additional technical information on the GHG emissions of the Amended Modification 6 has been requested by the EPA and is provided in **Section 4.1.1** and a Revised GHG Assessment is provided in **Appendix 3**.

UCMPL reports GHG (including methane) as part of the National Greenhouse and Energy Reporting (NGER) Scheme. As described in the Revised GHG assessment, emissions from UCMPL are considered in Glencore's emissions reduction targets which are based on Scope 1, 2 and 3 emissions (with Scope 3 emissions including emissions from the use of coal).

Submissions suggest that impacts to water resources were not adequately assessed. The key themes in the submissions noted:

- cumulative impacts have not been addressed
- water assessments don't consider climate change
- a robust groundwater impact model is needed that is peer-reviewed, validated, and publicly disclosed, with comprehensive monitoring and mitigation conditions
- advice from the Independent Expert Scientific Committee has previously expressed a lack of confidence in the groundwater model.

As previously discussed in **Section 5.1.3**, impacts to water resources were not reassessed as part of documentation for the Amended Modification 6 as there are no changes to impacts from those assessed for Modification 6.

Comprehensive assessments of both groundwater and surface water were completed for Modification 6, and the approved UCC operations, by suitably experienced and qualified consultants. The former DPE – Water provided a submission on the Modification 6 assessments and did not raise any significant issues with either the Modification 6 or the adequacy of the assessments.

The groundwater model prepared by AGE for Modification 6, including the calibration and sensitivity analysis, was also peer-reviewed by EMM. The peer review indicated that *'the final groundwater impact assessment and supporting numerical groundwater flow modelling are broadly fit for purpose and meet the requirements of the NSW and Commonwealth Governments'* (refer to Appendix 8 of the Modification Report).

As required by PA 08_0184, the groundwater model is calibrated/validated on a two-yearly basis by a qualified groundwater consultant. Monitoring data from the network of standpipe piezometers and porewater pressure transducers provide the groundwater level information necessary for calibration/validation of the model. The estimated groundwater seepage to the underground operations, calculated through preparation of the site water balance, is used in the model calibration/validation process. Rainfall data, synthetic data derived from interpolation between surrounding point records held by the Bureau of Meteorology, is also used in the model calibration/validation process. If there are significant changes to the mining operations, then the groundwater model is recalibrated. In the event that monitoring data identifies a divergence in an adverse way from the predicted trends (i.e., from numerical groundwater modelling predictions), then such departures will initiate further actions, as outlined in the Trigger Action Response Plan of the Surface Water and Groundwater Response Plan.

Additional groundwater model runs were undertaken to explicitly assess the potential impacts of climate change, as required by the Commonwealth DCCEEW Assessment Requirements relevant to the EPBC Act. This assessment is located in Appendix C of the GIA (refer to Appendix 8 of the Modification Report). Similarly, a climate change assessment was included in Section 4.11 of the SWIA (refer to Appendix 9 of the Modification Report).

Cumulative impacts were also inherently included in the modelling for both surface water and groundwater assessments and are referenced throughout both the GIA and SWIA.

Advice from the Independent Expert Scientific Committee was considered and a detailed response to issues raised is publicly available on the DPHI Major Projects website: [Response to IESC](#).

Submissions noted that there is strong evidence of continuous Wiradjuri occupation of the region, and spiritual connection to Country. The submissions suggest that impacts to cultural heritage were not adequately assessed, particularly with regard to cumulative loss of cultural heritage items in the Ulan area and the UWCO Modification.

Many archaeological surveys and excavations have been previously undertaken within the UCMPL lease areas and surrounding locality, principally in relation to environmental impact assessments. This body of research has identified numerous archaeological sites and provides a broad understanding of archaeological site patterning in the local area.

Past heritage investigations at UCMPL have led to the recording of the Aboriginal sites/Potential Archaeological Deposits (PADs) in the UCMPL Aboriginal Site Database, which documents all known Aboriginal sites within the Approved Project Area.

The Aboriginal Cultural Heritage Assessment (refer to Appendix 12 of the Modification Report) includes an overview of the extensive history of past archaeological research undertaken within the Modification 6 investigation area, a summary of key information on investigation types and area, and the number of recorded archaeological sites. The ACHA was prepared in consultation with Registered Aboriginal Parties (RAPs) and with reference to the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (Department of Environment, Climate Change and Water (DECCW), 2010a), *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (Office of Environment and Heritage (OEH), 2011) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010b), along with the earlier *Aboriginal Heritage Standards and Guidelines Kit* (Department of Environment and Conservation, 1997) referenced in the Heritage Management Plan (HMP).

It is noted that the Wellington Valley Wiradjuri Aboriginal Corporation elders, Members and Knowledge Holders provided a submission in relation to the Modification Report stating that they agree to Modification 6. Heritage NSW was also consulted and agreed with the management recommendations outlined in the assessment provided, and as such, had no additional comments with respect to Modification 6 proceeding.

Submissions suggest that the Economic Assessment has overstated the net benefit to NSW by underestimating the social cost of carbon pollution and by apportioning that cost inappropriately. The methodology for deriving a cost for scope 1 and scope 2 emissions was challenged, including how the cost was apportioned to NSW. Further, it is contended that the Economic Assessment does not assess the full economic impacts to downstream emissions, because it fails to quantify or consider the social costs of carbon for Scope 3 emissions.

The Economic Impact Assessment was prepared consistent with the methodology set out in the *Guidelines for the economic assessment of mining and coal seam gas proposals* (the EIA Guidelines) (NSW Government, 2015).

The Technical Notes to the EIA Guidelines (DPE, 2018) include specific commentary around the use of market prices as a proxy for the costs of climate change impacts associated with greenhouse gas emissions. The Technical Notes initiate the discussion on this issue as follows:

“While at present there is no identified carbon price in Australia, it is suggested for NSW project appraisal purposes that proponents refer to the NSW Government Guide to Cost-Benefit Analysis (TPP17-03) which states that: Market prices should be used as a basis for valuing the costs of carbon emissions, where reliable evidence can demonstrate that those market prices are not significantly biased as a direct consequence of scheme design.”

The Technical Notes indicate a preference for the European Union credit price as a proxy for carbon costs – however, price jumps in the EU credit prices indicate that the current EU market price falls afoul of the last point identified in the extract above, namely that its price may be biased as a direct consequence of the scheme design. Indeed, it is likely that most carbon trading processes will be significantly influenced by the particular characteristics of each respective scheme and the relevant emissions targets set by countries, which would limit their appropriateness as a proxy for externalities.

The use of the US EPA Social Cost of Carbon, however, provides a robust assessment of the costs of GHG emissions on a per-unit basis, allowing for agencies to understand the potential social benefits (costs) of reducing (increasing) emissions, whilst not being influenced by domestic policy settings.

The Social Cost of Greenhouse Gas (SC-GHG) figure is the monetary value of the net harm to society associated with adding a small amount of that GHG to the atmosphere each year. In principle, it includes the value of all climate change impacts, including (but not limited to) changes in net agricultural productivity, human health effects, property damage from increased flood risk natural disasters, disruption of energy systems, risk of conflict, environmental migration, and the value of ecosystem services. The SCGHG, therefore, should reflect the societal benefit/cost of reducing (or increasing) emissions of the gas in question by one tonne.

To price the GHG emissions, EY applied the interim social costs of carbon emissions derived from the 3% discount rate figures, published by the US Government’s Interagency Working Group on Social Cost of Greenhouse Gases (2021). This resulted in a price per tonne of CO₂-e of \$76.52 to \$95.65 over the assessment period. On a global basis, the total estimated GHG cost attributed to Modification 6 is \$17.9 million in NPV terms. Attributing the GHG costs based on the NSW population, consistent with the Guidelines, results in an attributed GHG cost of \$0.019 million to NSW in NPV terms.

5.2.4 Planning Process

Issues relating to the NSW planning process were raised in 69 objecting submissions. The key themes are addressed below.

Submissions raised that the Amended Modification 6 should not be assessed as modification, rather it should be assessed as a new project.

Approval for the Amended Modification 6 is sought under section 4.55(2) of the EP&A Act. Section 4.55(2) requires that the modified development is ‘substantially the same’ as the development for which consent was originally granted, or as last modified under the former section 75W of the EP&A Act. In this instance, approvals up to and including Modification 4 are considered to be the original consent for the purpose of applying the substantially the same development assessment, as this was the last approval granted under the now repealed section 75W of the EP&A Act.

There have been numerous decisions in the Land and Environment Court which have considered the meaning of ‘substantially the same development’ for the purposes of section 4.55(2) of the EP&A Act. The relevant principles which have emerged from those decisions include the following:

- The question is essentially one of fact: *Hope v Council of the City of Bathurst* [1979] 144 CLR 1
- The Court will have regard to what is proposed and what has been approved by comparing the before and after situations in a process of comparison of both qualitative and quantitative aspects of the developments: *Vacik v Penrith City Council* [1992] NSWLEC 8

- It is the specific elements and impacts of the two developments which must be compared in order to determine the question: *Vacik v Penrith City Council* [1992] NSWLEC 8
- It is necessary to consider whether the modified development will be “essentially or materially the same as the currently approved development”: *Moto Projects No 2 v North Sydney Council* (1999) 106 LGERA 289; or “have the same essence” *Vacik v Penrith City Council* [1992] NSWLEC 8
- The comparison between the original development and the modified development involves “an appreciation, qualitative as well as quantitative, of the developments being compared”: *Moto Projects No 2 v North Sydney Council* (1999) 106 LGERA 289
- In the context of s.4.55, “to modify” means to alter without radical transformation and an application to modify which alters an essential characteristic of a development will generally not be permitted: *North Sydney Council v Michael Standley & Associates* (1998) 43 NSWLR 468
- Additional environmental impacts associated with a modification application do not necessarily preclude a conclusion that the development is substantially the same, but rather these are a matter to be considered as part of a deliberation on the merits: *Wolgan Action Group v Lithgow City Council* (2001) 116 LGERA 378
- Comparison can be made of the consequences, such as the environmental impacts of carrying out the proposed modified development: *Arrage v Inner West Council* [2019] NSWLEC 85 at [28].

These indicators are non-exhaustive and do not substitute for the statutory test of satisfaction by the decision-maker that the development is ‘substantially the same’ in the modified form (*Canterbury-Bankstown Council v Realize Architecture* [2024] NSWLEC 31). There is no prescribed method of arriving at that ultimate question and the method may vary as a function of the nature of the proposal and its modification.

As discussed in Section 4.0 of the Amendment Report, the Amended Modification 6 is considered to be substantially the same development as that approved under PA 08_0184 (up to and including Modification 4) as:

- The overall nature of the development remains unchanged.
- There is no proposed change in annual production rates, mining method, transportation, CHPP and key infrastructure.
- The majority of the key project components remain unchanged from that which is currently approved, as outlined in Section 3.0 of the Amendment Report.
- As outlined in Section 6.0 of the Amendment Report, there are no substantive changes to environmental impacts. The Amended Modification 6 can be undertaken in accordance with the approved environmental impact criteria contained in the current conditions of PA 08_0184.

Furthermore, consultation with DPHI at the time of submitting the original Modification 6 application confirmed that section 4.55 of the EP&A Act was available.

It is also noted that some submissions were concerned that part of the Modification 6 Area is on land subject to an Exploration Licence rather than a Mining Lease. Under the *Mining Act 1992*, a mining lease applicant must have development consent under the EP&A Act before NSW Resources can grant a mining lease. The process of obtaining the required Mining Leases will therefore follow the planning approval process.

Submissions contend that the Amended Modification 6 and UWCO Modification should be considered as a single new project. Submissions discuss that the UWCO Modification is dependent on the Amended Modification 6 and that they must be assessed together.

Further, submissions contend that the separation of the two projects by UCMPL is an attempt to artificially divide what should rightly be seen as one project, which has been done in order to avoid full and proper assessment and consideration of the combined proposal as a standalone development.

The two modifications being proposed and assessed separately is based on sequencing of mining operations, timing of extraction and the separate requirements for the continuation of mining in each geographic area.

Both the Amended Modification 6 and UWCO Modification have been subject to full and proper assessments to date in accordance with a rigorous statutory framework. It is UCMPL's expectation that both modifications will be subject to full merit assessments by DPHI.

Several submissions noted that third party merit appeal rights would be extinguished due to the modification approval pathway.

The DPHI has confirmed the appropriateness of the modification approval pathway for Modification 6 (and the Amended Modification 6).

In relation to biodiversity impacts, community submissions challenged offsetting as an appropriate mitigation measure.

The BDAR, Amended BDAR and Addendum BDAR have been prepared in accordance with the NSW BOS.

The offset options available under the BC Act and BC Regulation include:

- land based offsets through the establishment of new Stewardship Sites or by retiring credits from existing Stewardship Sites
- purchasing credits from the market, and/or
- paying into the Biodiversity Conservation Fund.

The biodiversity offset strategy for the Amended Modification 6 will be developed in consultation with the CPHR and DPHI and will be based on the credits required to be retired to offset the impacts of the Amended Modification 6.

It is important to note that under the NSW BOS, there is an established approach to like-for-like offsetting, such that the biodiversity matters being impacted by the Amended Modification 6 are offset with similar biodiversity values. This ensures that the offsetting approach contributes to the ongoing viability of the specific matter impacted, whether it is a species, community or PCT listed under the BC Act or the EPBC Act.

5.2.5 Modification 6 Appeal

As outlined in the Amendment Report, third party judicial review proceedings were commenced in the Land and Environment Court in respect to the approval of Modification 6, in August 2025.

Subsequently, by consent (on a limited basis) of the applicant to the proceedings and UCMPL, the original decision to approve Modification 6 was declared by the Land and Environment Court to be invalid and was set aside.

The Modification 6 proceedings were specifically noted in 26 submissions. Issues pertaining to adequacy of assessment required following the proceedings is addressed in **Section 5.2.3**.

Otherwise, submissions inferred that because the original approval of Modification 6 was set aside, that the Amended Modification 6 was compromised and shouldn't be approved.

Submissions inferred that the Amended Modification 6 is compromised as the original Modification 6 approval was set aside.

Modification 6 to PA 08_0184 was approved in May 2025 by the Executive Director Energy, Resource and Industry Assessments within DPHI under delegation by the Minister for Planning. In August 2025, third party judicial review proceedings were commenced in the Land and Environment Court in respect to the approval of Modification 6. Subsequently, by consent (on a limited basis) of the applicant to the proceedings and UCMPL, the original decision to approve Modification 6 was declared by the Land and Environment Court to be invalid and was set aside. The consent to the orders being made was solely on the basis of the failure by the consent authority to consider a mandatory consideration pursuant to s 4.15(1)(b) of the EP&A Act, namely the “likely impacts of [the] development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality”, having regard to the Court of Appeal’s decision in *Muswellbrook Scone Healthy Environment Group Inc v MACH Energy Australia Pty Ltd* [2025] NSWCA 163.

An Amendment Report was subsequently prepared to provide additional information to assist the DPHI with reassessing the Modification 6 application and to clarify conceptual surface infrastructure layouts under the amendment process described in section 113 of the EP&A Regulation.

5.2.6 Consultation

Three submissions raised concerns relating to community consultation. The key themes are addressed below.

Submissions suggested that there had been no proactive community engagement on the Amended Modification 6. Further, there was criticism of the timing of the exhibition period for the Amended Modification 6.

UCMPL has an established relationship with the surrounding community and other stakeholders and has implemented a process for ongoing engagement regarding its mining operations. UCMPL is committed to working with the community to ensure they can continue to coexist.

As outlined in the original Modification Report (Umwelt, 2022), UCMPL has an ongoing community engagement program which includes regular engagement with both individuals and groups from the local and regional communities via a range of mechanisms including:

- regular newsletters to update the community on operations and UCMPL initiatives
- meetings with individuals and/or groups as required/requested, including any meetings required in response to complaints
- regular meetings with the UCC Community Consultative Committee (CCC).

As the amendments to Modification 6 involve minor changes to surface infrastructure with no proposed changes to mining methods, workforce numbers, operating hours or the proposed life of mine, potential impacts on nearby private landholders will be consistent with those assessed in the original Modification Report. Key stakeholders were informed on the aims and progress of the proposed surface infrastructure amendments through existing mechanisms, including newsletters and the CCC.

Schedule 1, Part 1, Division 2 of the EP&A Act specifies that the minimum public exhibition period for an application for modification of development consent is 14 days. Clause 16 also requires that the period from 20 December to 10 January (inclusive) should be excluded from the calculation of a period of public exhibition.

The exhibition period for the Amended Modification 6 covered an extended period from 11 December 2025 until 27 January 2026, a period of 48 days. Excluding the 22 days of the Christmas/New Year period this equates to a public exhibition period of 26 days, which exceeds the minimum 14-day requirement.

5.3 Justification and Evaluation

Seventy-six submissions related to the justification of the Amended Modification 6. The need for coal mining was questioned in relation to climate change and the transition to renewable energy. The other key theme raised in submissions was the justification of the Amended Modification 6 in terms of continued employment for UCC employees. Submissions noted skilled labour shortages required in the construction, housing and renewable energy industries across NSW, including the Central West region.

Submissions challenged the justification of the Amended Modification 6. In particular, community members noted the renewable energy transition and the need to stop coal mining.

The NSW Government recently released an updated strategic statement on coal, *NSW Coal Industry 2026–50* (NSW Government, 2026) which presents a holistic NSW Government position on the future for coal mining in NSW. *NSW Coal Industry 2026–50* establishes a pathway for coal mining and represents a balanced approach to meeting the social, economic, and environmental needs of the state while continuing to ensure energy security for the people of NSW.

The International Energy Agency (IEA) forecasts that global demand for coal will plateau in 2026 ahead of a gradual decline. In the longer term, global coal consumption is expected to decline between 8–60% by 2035 and 20–92% by 2050 (IEA, 2025a). This is supported by higher natural gas prices, slower coal plant retirements, and continued growth in India and Southeast Asia (IEA, 2025b). There is significant variability and uncertainty on the trajectory of this decline, as it is highly dependent on the implementation of other countries' energy policies in the context of rising energy demand overall.

Owing to its stable regulatory environment and established reputation, NSW is a trusted supplier of thermal and metallurgical coal in the Asia-Pacific region (NSW Government 2026). Demonstrating NSW's commitment as a reliable and trusted international trading partner during this shift in demand is key to securing a managed and orderly transition for coal-producing communities. NSW will continue to supply high-quality thermal and metallurgical coal internationally, ensuring that producers continue to honour their export commitments and retaining our role as a trusted and reliable supplier as our partners meet their net zero commitments (NSW Government, 2026).

NSW Coal Industry 2026–50 clearly states that the NSW Government will continue to consider applications for extensions of existing coal mines and recognises that extensions will contribute to industry job security in the short to medium term. The NSW Government will continue to accept applications for exploration licences, planning approvals and mining leases to allow a mine to continue operating, building on existing development consents. Applications for extensions of existing NSW coal mines and operational allocation for exploration will continue to be assessed on their merits under NSW's regulatory and planning framework. This includes the rigorous assessment of Scope 1 and Scope 2 GHG emissions and the local impacts of Scope 3 emissions.

The Amended Modification 6 also supports the aims of the Future Jobs and Investment Authorities Issues Paper (Department of Regional NSW, 2024) by securing jobs in the mining sector in the Central West of NSW to ensure a stable transition period for regional communities as the coal industry declines.

The environmental, social and economic impacts of the Amended Modification 6 have been identified and subject to a detailed environmental assessment based on:

- assessment of the site characteristics (existing environment)
- focused consultation with relevant government agencies
- engagement with local community and other stakeholders
- application of the principles of ecologically sustainable development, including the precautionary principle, inter-generational equity and conservation of biological diversity and ecological integrity
- expert technical assessment.

The comprehensive environmental and social impact assessments as described in the Modification Report and the Amendment Report have found that with the continued implementation of existing management and mitigation measures and the addition of the new measures identified, it is anticipated that the Amended Modification 6 can proceed within acceptable environmental standards, without significantly increasing the environmental and social impacts of the approved operations. On the basis of the assessment findings, it is considered reasonable that with the implementation of the management, mitigation and offset measures proposed by UCMPL, the Amended Modification 6 will result in a net benefit to the NSW community.

Of the submissions that challenged the justification of the Amended Modification 6, another key theme centred on mining competing for skilled labour required in the construction, housing and renewable energy industries. For objecting submissions, job security offered by the Amended Modification 6 was not considered a justification or a benefit.

As discussed in **Section 5.1.5**, the delays in the NSW energy transition are presenting challenges for workforces and communities. While forecasts show that the clean energy transition will stimulate a jobs boom in regional communities, research shows many of the new renewable energy jobs are short-term as they are heavily focused on the construction and installation phase of projects rather than long-term operations (Snell and Rainnie, 2026). The ongoing operation of the coal industry during the energy transition period provides secure employment for local and regional communities.

It is noted that within supporting submissions from the community, the most frequent responses related to economic benefits, particularly employment relating to the ongoing operations at the UCC.

5.4 Amended Modification 6

Fifty-nine submissions raised issues relating to design of the Amended Modification 6. The key themes related to the lack of changes between the originally proposed Modification 6 and the Amended Modification 6, and the proposed surface infrastructure. The key themes are addresses below.

Submissions indicated that the Amended Modification 6 is very similar to the originally proposed Modification 6. The submissions indicated that further changes should be considered, although no recommendations were provided other than no further mining at the UCC.

As outlined in **Section 3.2**, Modification 6 has been through several refinements throughout the assessment process. Notably, UCMPL amended the proposed underground mine plan with a reduced underground mining area within the original modification footprint (refer to **Figure 1.3**). The proposed amendments also resulted in a set back from the 4th order Mona Creek stream banks, limiting the potential for additional direct impacts on Mona Creek from Modification 6.

As outlined in the Amendment Report (Umwelt, 2025), the currently proposed Development Footprint has been subject to several revisions and refinements by UCMPL both prior to and during the planning process and ecological assessment for the Amended Modification 6, to avoid and minimise impacts on biodiversity values. The design process has sought to maximise the use of existing mining facilities, with the location of surface infrastructure positioned along areas of previously disturbed vegetation with poorer condition (lower Vegetation Integrity (VI) scores), such as access tracks and within areas previously cleared for agricultural activities. The Amended Modification 6 has also sought to avoid impacts to habitat connectivity and species movement, where possible.

Under section 113 of the *Environmental Planning & Assessment Regulation 2021* (EP&A Regulation), the applicant for a modification application may, with the agreement of the consent authority, amend or vary an application at any time before it is determined.

In the case of Modification 6, the Amendment Report provided additional information to enable the consent authority to re-assess the modification in light of the Court of Appeal's decision in *Muswellbrook Scone Healthy Environment Group Inc v MACH Energy Australia Pty Ltd* [2025] NSWCA 163. The Amendment Report also provides for the rationalisation of the conceptual surface infrastructure layout resulting in a more efficient outcome with a reduced area of land clearing and reduced biodiversity impacts compared to those proposed under Modification 6.

Several submissions noted that the Amended Modification 6 had resolved the proposed infrastructure plan. The submissions suggested that the mine plan had previously been incomplete as different options for surface infrastructure has been proposed.

No changes were made to the mine plan in the Amended Modification 6. The amendments were solely based on the confirmation of the surface infrastructure design which had previously been conceptual, to provide for a single infrastructure layout. It was acknowledged in the Modification Report for Modification 6 that the final location of infrastructure was subject to further exploration and detailed mine planning. To retain flexibility in the location of surface infrastructure proposed, a number of options were considered and assessed to provide the worst-case potential impacts as part of the biodiversity assessment. This flexibility is now resolved in the Amended Modification 6 with a single infrastructure layout.

5.5 Issues Beyond the Scope of the Amended Modification 6

Seven objecting submissions raised issues beyond the scope of the Amended Modification 6. These primarily related to GHG reporting from the existing operations. One submission related to the foreign ownership of Glencore. The key themes are addressed below.

In relation to existing operations, submissions indicated that Glencore does not fully disclose or assess greenhouse gas emissions, including methane and emissions from burning the coal.

There is no evidence to support these submissions. UCMPL reports GHG (including methane) as part of the NGER Scheme.

As described in the Revised GHG assessment, emissions from UCMPL are considered in Glencore's emissions reduction targets which are based on Scope 1, 2 and 3 emissions (with Scope 3 emissions including emissions from the use of coal).

A submission identified that Glencore is a foreign owned corporation and suggested that Glencore primarily engages in exporting coal to customers in other countries, therefore almost all its profits are remitted to foreign shareholders.

Glencore is a publicly listed multi-national commodity trading and mining company. While Glencore has operations and significant assets in Australia, it is a global entity with its primary listing on the London Stock Exchange. As a publicly traded company, Glencore's shares are widely held, with its ownership divided among institutional investors, mutual funds and individual shareholders.

Glencore is committed to high standards of corporate governance and tax transparency including compliance with all applicable tax laws, rules and regulations. Glencore seeks to maintain long-term, open, transparent and cooperative relationships with tax authorities in all host countries in which it operates. As part of Glencore's commitment to Australian corporate tax transparency, from 2018 Glencore adopted the Australian Board of Taxation's Voluntary Tax Transparency Code. Glencore is committed to working with the Australian tax authorities in a transparent and collaborative manner.

Glencore complies with all tax and financial reporting obligations in Australia. In the last five years, Glencore operations have paid over \$22 billion in taxes and royalties in Australia, including \$10 billion in corporate income tax and over \$11 billion in royalties (Glencore, 2025).

6.0 Updated Project Justification

This detailed Submissions Report has been prepared to provide an analysis of the issues raised in agency and community submissions and to add further clarification on details of the Amended Modification 6 where necessary. Following consideration of the submissions, additional consultation with government agencies has been undertaken further technical information has been provided on the assessment of GHG emissions (as described in **Section 3.0**). This section provides an updated justification for the Amended Modification 6 as a whole.

6.1 Economic, Environmental and Social Impacts

As detailed in both the Modification Report and the Amendment Report, the environmental, social and economic impacts of the Amended Modification 6 have been identified and subject to detailed environmental assessment based on:

- assessment of the site characteristics (existing environment)
- focused consultation with relevant government agencies
- engagement with local community and other stakeholders
- application of the principles of ecologically sustainability development (ESD), including the precautionary principle, inter-generational equity and conservation of biological diversity and ecological integrity
- expert technical assessment.

The key issues identified were subject to comprehensive specialist assessment to identify the potential impacts on the existing environment. The impact assessments concluded that, with the implementation of feasible and reasonable mitigation measures, the Amended Modification 6 can proceed within acceptable environmental standards. The impacts of the Amended Modification 6 have been kept to a minimum by:

- obtaining a detailed understanding of the issues and impacts through scientific valuation and stakeholder engagement
- a commitment to proactive and appropriate strategies to avoid, minimise, mitigate, offset or manage a range of potential environmental impacts, building on the experience gained from many years of mining operations at the UCC site.

6.2 Suitability of the Site

The UCC is located in an area that has a long history of coal mining, with the Project Area itself subject to mining activity since the 1920s. The UCC is a well-established mining operation situated within the Western Coalfields of NSW.

Modification 6, as amended, will involve the extension of existing longwalls into adjacent EL areas, and construction of related infrastructure to support these additional underground mining activities. The longwall extensions adjoin and are continuous with the existing approved mining areas providing an efficient mine plan to continue to recover the coal resources in this area. Modification 6, as amended, will ensure that recovery of the coal resource present at the UCC is maximised and will

build upon existing approved activities and utilise existing infrastructure wherever possible. There would be minimal additional impacts on private and public assets or environmental features, consistent with those previously approved under PA 08_0184. Modification 6, as amended, will not limit the continued use of private landholdings for agricultural or residential purposes. Existing management and monitoring programs are in place to identify and manage the potential impacts on these land uses.

Modification 6, as amended, would allow for the efficient recovery of a valuable resource by maximising resource utilisation and use of existing infrastructure and workforce, thereby reducing capital costs and minimising environmental impacts compared with recovering this resource by another means.

6.3 Ecologically Sustainable Development

The EP&A Act includes an object to facilitate ESD by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment. Modification 6, as amended, requires approval from the Minister under section 4.55 of the EP&A Act. As such, the Minister needs to be satisfied that Modification 6, as amended, is consistent with the principles of ESD.

To justify Modification 6 with regard to the ESD principles, the benefits of Modification 6, as amended, in an environmental and socio-economic context should outweigh any negative impacts. The principles of ESD encompass the following:

- the precautionary principle
- inter-generational equity
- conservation of biological diversity
- valuation and pricing of resources.

Essentially, ESD requires that current and future generations should live in an environment that is of the same or improved quality than the one that is inherited. As outlined in Section 8.3 of the Modification Report, Modification 6 was assessed against the principles of ESD as required by the EP&A Act. This assessment concluded that Modification 6 was consistent with the principles of ESD. The same assessment is applicable to Amended Modification 6, which will result in reduced potential impacts compared to Modification 6, while maintaining the majority of the potential benefits.

6.4 Conclusion

Modification 6, as amended, proposes the efficient recovery of a valuable resource by maximising resource utilisation and use of existing infrastructure and workforce, thereby reducing capital costs and minimising environmental impacts compared with recovering this resource by another means.

The NSW Government recently released an updated strategic statement on coal, *NSW Coal Industry 2026–50* (NSW Government, 2026) which presents a holistic NSW Government position on the future for coal mining in NSW. *NSW Coal Industry 2026–50* establishes a pathway for coal mining and represents a balanced approach to meeting the social, economic, and environmental needs of the state while continuing to ensure energy security for the people of NSW. The statement confirms that coal will continue to play an important part in supporting regional jobs, investment and communities, within NSW's current legislated emissions reduction targets.

The International Energy Agency (IEA) forecasts that global demand for coal will plateau in 2026 ahead of a gradual decline. In the longer term, global coal consumption is expected to decline between 8–60% by 2035 and 20–92% by 2050 (IEA, 2025a). This is supported by higher natural gas prices, slower coal plant retirements, and continued growth in India and Southeast Asia (IEA, 2025b). There is significant variability and uncertainty on the trajectory of this decline, as it is highly dependent on the implementation of other countries' energy policies in the context of rising energy demand overall.

Owing to its stable regulatory environment and established reputation, NSW is a trusted supplier of thermal and metallurgical coal in the Asia-Pacific region (NSW Government, 2026). Demonstrating NSW's commitment as a reliable and trusted international trading partner during this shift in demand is key to securing a managed and orderly transition for coal-producing communities. NSW will continue to supply high-quality thermal and metallurgical coal internationally, ensuring that producers continue to honour their export commitments and retaining our role as a trusted and reliable supplier as our partners meet their net zero commitments (NSW Government, 2026).

NSW Coal Industry 2026–50 clearly states that the NSW Government will continue to consider applications for extensions of existing coal mines and recognises that extensions will contribute to industry job security in the short to medium term. The NSW Government will continue to accept applications for exploration licences, planning approvals and mining leases to allow a mine to continue operating, building on existing development consents (NSW Government, 2026).

Applications for extensions of existing NSW coal mines and operational allocation for exploration will continue to be assessed on their merits under NSW's regulatory and planning framework. This includes the rigorous assessment of Scope 1 and Scope 2 GHG emissions and the local impacts of Scope 3 emissions (NSW Government, 2026).

As an established operation supplying international market demand with access to significant coal reserves beyond the term of PA 08_0184, Modification 6, as amended, fits within the future pathway for coal mining in NSW which supports responsible coal production from existing operations.

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Appendix 1

Submissions Register



Table A1.1 Submissions Register

Name	Submitter ID	Reference
Government Agencies		
Environment Protection Authority	-	Section 4.1
Department of Climate Change, Energy, the Environment and Water – Conservation Programs, Heritage and Regulation Group	-	Section 4.2
Mid-Western Regional Council	-	Section 4.3
Community Stakeholder Organisations		
Currie Country Social Change	S-102916958	Section 5.1 and 5.3
Kyogle Environment Group	S-103991456	Section 5.1 and 5.2
Dubbo Environment Group Inc.	S-103994209	Section 5.1 and 5.3
Running Stream Water Users Association	S-104000209	Section 5.1, 5.2, 5.3 and 5.4
Lithgow Environment Group	S-104133957	Section 5.1, 5.2 and 5.4
Wollar Progress Association	S-104194739	Section 5.1, 5.2 and 5.3
Inland Rivers	S-104398206	Section 5.1, 5.2 and 5.5
Climate Change Balmain-Rozelle	S-104496207	Section 5.1, 5.2 and 5.4
Hunter Environment Lobby Inc.	S-104527211	Section 5.1, 5.2 and 5.4
Healthy Rivers Dubbo	S-104687210	Section 5.1, 5.2 and 5.3
Central West Environment Council	S-104691709	Section 5.1, 5.2 and 5.3
Mudgee District Environment Group	S-104701459	Section 5.1, 5.2, 5.3 and 5.4
Cumberland Bird Observers Club	S-104725206	Section 5.1, 5.2 and 5.3
Rylstone District Environment Society	S-104737456	Section 5.1, 5.2 and 5.3
Environmentally Concerned Citizens of Orange	S-104743458	Section 5.1, 5.2 and 5.3
Lock the Gate Alliance	S-104762959	Section 5.1, 5.2 and 5.3
BirdLife Southern New South Wales	S-104764207	Section 5.1, 5.2, 5.3, 5.4 and 5.5
The Nature Conservation Council of NSW	S-104786206	Section 5.1 and 5.2
Wellington Valley Wiradjuri Aboriginal Corporation	S-102150208	Section 2.2.3
Rotech Australia Pty Ltd	S-102405208	Section 2.2.3
Doctors 4 Mudgee Region Inc	S-102541956	Section 2.2.3
Longwall Haul	S-102784457	Section 2.2.3
Quarry Mining & Construction Equipment Pty Ltd	S-102932463	Section 2.2.3
Australian Conveyor Technologies Pty Ltd	S-103120706	Section 2.2.3
Custom Safety & Engineering Pty Ltd	S-104733456	Section 2.2.3
Individuals		
Dick Clarke	S-103832961	Section 5.1, 5.2 and 5.4
Name Withheld	S-103833980	Section 5.1, 5.2, 5.3 and 5.4

Name	Submitter ID	Reference
Glenda Odgers	S-103835236	Section 5.1, 5.2, 5.3 and 5.4
Roger Graham	S-103836208	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-103836211	Section 5.1, 5.2, 5.3, 5.4 and 5.5
Keri James	S-103837209	Section 5.1, 5.2 and 5.4
Kim Zegenhagen	S-103837211	Section 5.1, 5.2, 5.3 and 5.4
Alan Pursch	S-103845457	Section 5.1 and 5.2
Name Withheld	S-103845710	Section 5.1, 5.2, 5.3 and 5.4
Michael Julien	S-103852956	Section 5.1, 5.2, 5.3 and 5.4
Colleen Roche	S-103857206	Section 5.1 and 5.3
Tibor Kovats	S-103861456	Section 5.1, 5.2, 5.3 and 5.4
Andrew Moody	S-103867956	Section 5.1, 5.2 and 5.4
Name Withheld	S-103880206	Section 5.1, 5.2 and 5.3
Joanne Stevenson	S-103890710	Section 5.2 and 5.3
Geoffrey Schembri	S-103941206	Section 5.1, 5.2, 5.3 and 5.4
Eric van Beurden	S-103957706	Section 5.1, 5.2, 5.3 and 5.4
Phillip Cornwell AM	S-103958456	Section 5.1, 5.2 and 5.3
Name Withheld	S-103967213	Section 5.1, 5.2 and 5.3
Timothy Carroll	S-103983207	Section 5.1, 5.2, 5.3 and 5.4
Michael Dulihanty	S-103983957	Section 5.1, 5.2 and 5.3
Name Withheld	S-103984456	Section 5.1, 5.2, 5.3 and 5.4
Sarah Brennan	S-103995236	Section 5.1, 5.2 and 5.3
Craig Shaw	S-104000207	Section 5.1, 5.2, 5.3 and 5.4
Fiona Sim	S-104000211	Section 5.1, 5.2, 5.3 and 5.4
Justin McKee	S-104035706	Section 5.1, 5.2 and 5.3
Name Withheld	S-104036706	Section 5.1, 5.2 and 5.3
Name Withheld	S-104038457	Section 5.1, 5.2, 5.3, 5.4 and 5.5
Maddison O'Brien	S-104062956	Section 5.1, 5.2, 5.3 and 5.4
Thomas Wiedmann	S-104073711	Section 5.1, 5.2, 5.3 and 5.4
Phillip Ward	S-104121459	Section 5.1 and 5.2
Don White	S-104128460	Section 5.1, 5.2, 5.3 and 5.4
Sally Neaves	S-104214717	Section 5.1, 5.2, 5.3 and 5.4
Derek Finter	S-104223460	Section 5.1 and 5.3
Clare Grundy	S-104267709	Section 5.1, 5.2 and 5.3
Rick Mcgregor	S-104270962	Section 5.1 and 5.2
Jessica McLean	S-104279456	Section 5.1, 5.2, 5.3 and 5.4
Roman Suwald	S-104287209	Section 5.1, 5.2 and 5.4

Name	Submitter ID	Reference
Alexandra Mateer	S-104303706	Section 5.1 and 5.2
Name Withheld	S-104379458	Section 5.1, 5.2, 5.3 and 5.4
Kristie Smiles	S-104419962	Section 5.1, 5.2 and 5.3
Sharyn Munro	S-104481466	Section 5.1, 5.2 and 5.4
Barry Hadaway	S-104543460	Section 5.1, 5.2 and 5.4
Name Withheld	S-104545213	Section 5.1, 5.2 and 5.3
Bernadette Harvey	S-104554710	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104557458	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104582456	Section 5.1, 5.2 and 5.4
Anthea Nicholls	S-104590956	Section 5.1, 5.2 and 5.3
Name Withheld	S-104595716	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104598222	Section 5.1 and 5.3
Name Withheld	S-104646708	Section 5.1, 5.2, 5.3 and 5.4
Jean Ellis	S-104662206	Section 5.1 and 5.2
Phyllis Setchell	S-104668206	Section 5.1 and 5.2
Coral Wynter	S-104668456	Section 5.1, 5.2, 5.3 and 5.4
Christopher Ware	S-104677207	Section 5.1, 5.2, 5.3 and 5.4
Rod Pryor	S-104682213	Section 5.1, 5.2 and 5.3
Marie Hensley	S-104689208	Section 5.1, 5.2 and 5.3
Melissa Gray	S-104690707	Section 5.1
Christine Moloney	S-104690957	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104698706	Section 5.1, 5.2 and 5.4
Name Withheld	S-104698971	Section 5.1, 5.2 and 5.5
Holly Manwaring	S-104702458	Section 5.1 and 5.2
Jane Crosskill	S-104732956	Section 5.1, 5.2, 5.3 and 5.4
Mick Boller	S-104735206	Section 5.1, 5.2 and 5.3
Carolyn Barlow	S-104736457	Section 5.1, 5.2 and 5.3
Beverley Smiles	S-104740712	Section 5.1, 5.2, 5.3 and 5.4
Tracey Carpenter	S-104743969	Section 5.1, 5.2, 5.3 and 5.4
Tane Schmidt	S-104744212	Section 5.1, 5.2, 5.3 and 5.4
Colin Imrie	S-104747207	Section 5.1, 5.2, 5.3 and 5.4
Julie Hunter	S-104750207	Section 5.1, 5.2, 5.3 and 5.4
James Duffy	S-104751456	Section 5.1, 5.2 and 5.3
Melanie Pegg	S-104763720	Section 5.1 and 5.2
Name Withheld	S-104767217	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104772956	Section 5.1 and 5.4
Julia Imrie	S-104773206	Section 5.1 and 5.2

Name	Submitter ID	Reference
Desmond Bowden	S-104776491	Section 5.1, 5.2, 5.3 and 5.4
Anthony Lonergan	S-104776709	Section 5.1 and 5.4
Kim Michelle Hansen	S-104778956	Section 5.1, 5.2 and 5.3
Pamela Reeves	S-104781456	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104783216	Section 5.1 and 5.2
Jacob Rohr	S-104783223	Section 5.1, 5.2, 5.3 and 5.4
Name Withheld	S-104784456	Section 5.1, 5.2, 5.3, 5.4 and 5.5
Belinda Wright	S-104784959	Section 5.1, 5.2 and 5.4
Graham Fry	S-104785973	Section 5.1, 5.2 and 5.3
Name Withheld	S-104795706	Section 5.1 and 5.2
Name Withheld	S-104797706	Section 5.1, 5.2, 5.3 and 5.4
Katherine Kotarska	S-104799206	Section 5.1, 5.2 and 5.3
Name Withheld	S-104799209	Section 5.1, 5.2 and 5.3
Heather Mclean	S-104801207	Section 5.1, 5.2 and 5.4
Bevan North	S-101937707	Section 2.2.3
Name Withheld	S-101941709	Section 2.2.3
Troy Standing	S-101961456	Section 2.2.3
Name Withheld	S-101963243	Section 2.2.3
Dylan King	S-101982218	Section 2.2.3
Name Withheld	S-101990956	Section 2.2.3
Name Withheld	S-102004706	Section 2.2.3
Name Withheld	S-102044206	Section 2.2.3
Name Withheld	S-102084456	Section 2.2.3
Name Withheld	S-102084472	Section 2.2.3
Steve Mini	S-102095470	Section 2.2.3
Name Withheld	S-102095706	Section 2.2.3
Liam MacLennan	S-102121710	Section 2.2.3
Name Withheld	S-102132964	Section 2.2.3
Nicolas Mclehorse	S-102133709	Section 2.2.3
Name Withheld	S-102133711	Section 2.2.3
Cameron Quarmby	S-102140957	Section 2.2.3
Name Withheld	S-102205957	Section 2.2.3
Edward Rowe	S-102207206	Section 2.2.3
Name Withheld	S-102210706	Section 2.2.3
Timothy Pond	S-102217207	Section 2.2.3
Samuel Crowe	S-102220706	Section 2.2.3
William Stathopoulos	S-102232461	Section 2.2.3

Name	Submitter ID	Reference
Jeff Dray	S-102250207	Section 2.2.3
Timothy Pond	S-102251464	Section 2.2.3
Name Withheld	S-102254212	Section 2.2.3
Name Withheld	S-102257209	Section 2.2.3
Jaye Hawkins	S-102272461	Section 2.2.3
Name Withheld	S-102304226	Section 2.2.3
Clive Waller	S-102312971	Section 2.2.3
Jacob Edmonds	S-102316234	Section 2.2.3
Steven Moylan	S-102424960	Section 2.2.3
Name Withheld	S-102485958	Section 2.2.3
Kara Newbury	S-102498206	Section 2.2.3
Daniel Delahunty	S-102508706	Section 2.2.3
Sudin Ranjitkar	S-102514959	Section 2.2.3
Name Withheld	S-102515720	Section 2.2.3
Damien Ryba	S-102552714	Section 2.2.3
Name Withheld	S-102554706	Section 2.2.3
Name Withheld	S-102593709	Section 2.2.3
Mark Huff	S-102610466	Section 2.2.3
Clark Potter	S-102613711	Section 2.2.3
Name Withheld	S-102628458	Section 2.2.3
Darren Heath	S-102721467	Section 2.2.3
Steven Hill	S-102765456	Section 2.2.3
Name Withheld	S-102802706	Section 2.2.3
Name Withheld	S-102827707	Section 2.2.3
Name Withheld	S-102827711	Section 2.2.3
Name Withheld	S-102885707	Section 2.2.3
Name Withheld	S-102989456	Section 2.2.3
Name Withheld	S-103000456	Section 2.2.3
Josh Carter	S-103052706	Section 2.2.3
Name Withheld	S-103163206	Section 2.2.3
Christopher Nicholls	S-103172706	Section 2.2.3
Name Withheld	S-103233466	Section 2.2.3
Jack Baker	S-103257210	Section 2.2.3
Jacob Lewis	S-103268956	Section 2.2.3
Name Withheld	S-103365957	Section 2.2.3
Name Withheld	S-103445456	Section 2.2.3
Name Withheld	S-103667706	Section 2.2.3

Name	Submitter ID	Reference
David Watson	S-103721457	Section 2.2.3
Anthony Billings	S-103758465	Section 2.2.3
Name Withheld	S-103759706	Section 2.2.3
Name Withheld	S-103816707	Section 2.2.3
Name Withheld	S-103823469	Section 2.2.3
Rebecca Chadwick	S-103832964	Section 2.2.3
Jarod Chadwick	S-103833957	Section 2.2.3
Name Withheld	S-103851715	Section 2.2.3
Name Withheld	S-103868457	Section 2.2.3
Name Withheld	S-103868708	Section 2.2.3
Alexandra White	S-103868733	Section 2.2.3
Lucy Hord	S-103868748	Section 2.2.3
Harrison Livingston	S-103873712	Section 2.2.3
Name Withheld	S-103893709	Section 2.2.3
Denise Newbury	S-103949206	Section 2.2.3
Shaun Wilson	S-103953956	Section 2.2.3
Peter Hord	S-103967216	Section 2.2.3
Name Withheld	S-103968207	Section 2.2.3
Name Withheld	S-103992207	Section 2.2.3
Brett McMahon	S-104017707	Section 2.2.3
Morgan Casey	S-104085469	Section 2.2.3
Mathew Croake	S-104097713	Section 2.2.3
Name Withheld	S-104099720	Section 2.2.3
Lauren Morton	S-104102706	Section 2.2.3
Name Withheld	S-104106723	Section 2.2.3
Name Withheld	S-104109474	Section 2.2.3
David Bond	S-104114208	Section 2.2.3
Ellen Griffiths	S-104117985	Section 2.2.3
Ben Streckeisen	S-104129206	Section 2.2.3
Mark Scicluna	S-104138234	Section 2.2.3
Robynne Ribaux	S-104155707	Section 2.2.3
Name Withheld	S-104159211	Section 2.2.3
James McGeachie	S-104190460	Section 2.2.3
Name Withheld	S-104194725	Section 2.2.3
Kaine Cross	S-104232211	Section 2.2.3
Mathew Gouldstone	S-104264956	Section 2.2.3
Name Withheld	S-104266707	Section 2.2.3

Name	Submitter ID	Reference
Kehan Sully	S-104359958	Section 2.2.3
Jason Martin	S-104360206	Section 2.2.3
Blake Hjorth	S-104366706	Section 2.2.3
Name Withheld	S-104404206	Section 2.2.3
James Murray	S-104477956	Section 2.2.3
Name Withheld	S-104486956	Section 2.2.3
Name Withheld	S-104540207	Section 2.2.3
Garry Manwarring	S-104551713	Section 2.2.3
Clancy Power	S-104564206	Section 2.2.3
Name Withheld	S-104564458	Section 2.2.3
Name Withheld	S-104564706	Section 2.2.3
Mathew Reh	S-104565720	Section 2.2.3
Name Withheld	S-104566963	Section 2.2.3
Max Beechey	S-104567720	Section 2.2.3
Name Withheld	S-104568213	Section 2.2.3
Name Withheld	S-104568708	Section 2.2.3
Adrian Rogers	S-104574456	Section 2.2.3
Shaun Forster	S-104580970	Section 2.2.3
Name Withheld	S-104580972	Section 2.2.3
Scott Organ	S-104602957	Section 2.2.3
Name Withheld	S-104607956	Section 2.2.3
Johannes Greeff	S-104608207	Section 2.2.3
Martin Olsen	S-104697971	Section 2.2.3
Peter Walsh	S-104710956	Section 2.2.3
Name Withheld	S-104713460	Section 2.2.3
Name Withheld	S-104719206	Section 2.2.3
Name Withheld	S-104721459	Section 2.2.3
Name Withheld	S-104722707	Section 2.2.3
Name Withheld	S-104725208	Section 2.2.3
Name Withheld	S-104726457	Section 2.2.3
Shane McClure	S-104726956	Section 2.2.3
Name Withheld	S-104726959	Section 2.2.3
Jerald James	S-104728959	Section 2.2.3
Name Withheld	S-104732207	Section 2.2.3
Name Withheld	S-104737975	Section 2.2.3
Name Withheld	S-104742707	Section 2.2.3
Name Withheld	S-104743971	Section 2.2.3

Name	Submitter ID	Reference
Greg Norris	S-104744716	Section 2.2.3
Catherine Flack	S-104749707	Section 2.2.3
Name Withheld	S-104750457	Section 2.2.3
Name Withheld	S-104751721	Section 2.2.3
Name Withheld	S-104760458	Section 2.2.3
Name Withheld	S-104760478	Section 2.2.3
Name Withheld	S-104795207	Section 2.2.3
Name Withheld	S-104796959	Section 2.2.3

Appendix 2

Updated Mitigation Measures



Consolidated Mitigation Measures

Table A2.1 provides an updated summary of mitigation measures for PA 08_0184 as modified (incorporating the Amended Modification 6). It is intended that **Table A2.1** would replace the Statement of Commitments in Appendix 9 of PA 08_0184.

Table A2.1 Consolidated Mitigation Measures

Aspect	No.	Mitigation Measures
Hours of Operation	1.1	Mining and associated activities for the Project may be undertaken 24 hours a day, seven days a week.
	1.2	Construction will generally be undertaken within recommended standard construction hours. Construction activities may occur outside these hours when UCMPL is satisfied that such activities are inaudible at nearest private residences.
Refinement of Mine Plan	2.1	Any refinements to the mine plan will be detailed and assessed as part of Extraction Plans required by the project approval or other relevant process.
	2.2	The locations of ancillary surface infrastructure required to support underground mining will be documented and detailed within the operational approvals required for UCMPL to continue its mining and associated activities.
Rail Haulage	3.1	The peak number of trains from UCMPL will be limited to a maximum of 10 per day (i.e. 20 train movements).
	3.2	No product coal will be transported from site by road transport except in an emergency situation with prior approval of the Director General.
	3.3	Annual average and maximum daily train movements and tonnages will be reported in the Annual Review (refer to Mitigation Measure 27.1).
Soils and Land	4.1	Areas for long-term soil stockpiles will be planned and designated adjacent to the disturbance area or within a short haul distance for rehabilitation at a later date and will not be placed near drainage lines.
	4.2	Material will be stripped to the depths required for engineered stability of surface infrastructure, separating topsoil (generally up to 0.2 m) and subsoil, subject to any further field investigations during construction activities. Soil will preferably be stripped in a slightly moist condition, and not in either excessively dry or wet conditions. Whilst construction schedules dictate stripping times, consideration will be given to near term weather forecasts.
	4.3	Treatment options for the amelioration of sodic soils will include the application of gypsum, lime or organic matter, or a combination of these materials.
	4.4	The surface of long-term soil stockpiles will be slightly roughened to promote infiltration and minimise erosion until vegetation is established.
	4.5	As a general rule, stockpiles will have a maximum height of 3 m. Clayey soils will be stored in lower stockpiles for shorter periods of time compared to coarser textured sandy soils.
	4.6	Stockpiles will be seeded and fertilised as soon as possible using an annual cover crop.
	4.7	An inventory of available soil will be maintained to ensure adequate topsoil materials are available for planned rehabilitation activities.
	4.8	Thorough seedbed preparation will be undertaken to ensure optimum establishment and growth of vegetation.

Aspect	No.	Mitigation Measures
Subsidence	5.1	Where a potential subsidence impact is predicted on private property, UCMPL will prepare a Private Property Subsidence Management Plan for each of the potentially affected private landholders. These plans will clearly outline impacts of mining on the property and the management and remediation measures to be implemented, by agreement with the landowner.
Groundwater	6.1	<p>A groundwater monitoring program will be implemented in accordance with the Water Management Plan. The groundwater monitoring program will include:</p> <ul style="list-style-type: none"> • Continued measurement of groundwater levels, pressures and water quality within the existing regional network of monitoring bores and an expanded network as underground mining progresses to the north and west, specifically considering: <ul style="list-style-type: none"> ○ depressurisation monitoring of at least three multi-level piezometer strings equipped with vibrating wire transducers (or equivalent) and distributed within the Permian Triassic strata; ○ strata hydraulic conductivity measurement on rock core obtained at these above noted piezometer locations; ○ daily or more frequent monitoring of pore pressures and piezometric elevations by installed auto recorders in selected new piezometers. • Mine water seepage monitoring, including: <ul style="list-style-type: none"> ○ measurement of all water pumped underground and all mine water pumped to surface on a daily basis. Measurement will be undertaken using calibrated flow meters or other suitable gauging apparatus; ○ routine monitoring of coal moisture content delivered from the working face, ventilation humidity and any build-up of water storage in the goaf. • Groundwater monitoring will include: <ul style="list-style-type: none"> ○ monthly monitoring of basic water quality parameters pH and EC in pumped mine water. ○ six monthly monitoring of pH and EC in the regional monitoring network. ○ annual measurement of total dissolved solids (TDS) and speciation of water samples in selected piezometers to support identification of mixing of groundwater types. ○ graphical plotting of basic water quality parameters and identification of trend lines and statistics including mean and standard deviation calculated quarterly. Comparison of trends with rainfall and any other identifiable processes that may influence such trends.
	6.2	The results of groundwater monitoring and a comparison of measured and predicted impacts will be reported in the annual review required by project approval conditions.
	6.3	Impacts on the privately owned licensed bores identified as being potentially affected, will be assessed by monitoring and, in the event that any utilised privately owned bore is significantly adversely affected, an alternative water supply will be provided by UCMPL until such time as the bore is re-established or replaced, or appropriate compensation established, in accordance with project approval requirements.

Aspect	No.	Mitigation Measures
	6.4	The groundwater monitoring results will be analysed (graphically and statistically) as new results become available (i.e. quarterly or six monthly). In addition, a monitoring review and verification process will be established as part of the Water Management Plan process, to verify regional groundwater losses as necessary to refine groundwater mitigation strategies.
	6.5	Identification of any changes or long term trends in groundwater outside the predicted impacts will result in an investigation to determine if the trend is a result of UCMPL operations and if so, identify management strategies to be implemented to address the identified issues as per UCMPL's Internal TARP process (T – Trigger; A – Action; R – Response; P – Plan).
	6.6	Review of depressurisation of coal measures and comparison of responses with aquifer model predictions will be completed every two years. Expert review will be undertaken by a suitably qualified hydrogeologist, and reported in accordance with the process set out in the Water Management Plan.
Surface Water	7.1	UCMPL will implement clean water divisions to minimise the volume of water to be handled within the mine water management system.
	7.2	The staged remediation strategy for the Goulburn River Diversion will be implemented, generally as described in the Approved Goulburn River Diversion Remediation Plan.
	7.3	In addition to the detailed mine water seepage monitoring outlined in Mitigation Measure 6.1, water usage, rainfall, dam volumes and discharges (including transfers) will be monitored to assist in the management of the mine water management system. This monitoring will be conducted in a manner that enables the detailed water balance to be maintained and updated at least annually for ongoing operations. The water balance will be used on an ongoing basis for operational management and will also be reported in the annual review required by project approval conditions.
	7.4	Subsidence monitoring will include pre and post mining within drainage lines. This will include monitoring of the presence of surface cracking, surface ponding or out of channel flows and remediation measures as appropriate.
	7.5	Water which is in excess of UCMPL operational needs will be managed in accordance with the following hierarchy: <ol style="list-style-type: none"> <li data-bbox="496 1373 699 1395">1. water sharing <li data-bbox="496 1417 770 1440">2. Bobadeen Irrigation <li data-bbox="496 1462 743 1485">3. offsite discharge.
	7.6	UCMPL will undertake a research study on the Talbragar River commenced at least six months prior to any discharge into this waterway. The study is to require UCMPL to satisfy the following: <ol style="list-style-type: none"> <li data-bbox="496 1597 1430 1664">1. establish baseline ecological, hydrological and geomorphological conditions of the Talbragar River downstream of the discharge point <li data-bbox="496 1664 1342 1731">2. develop a flow release protocol at the discharge point to maintain the conditions identified in (1) <li data-bbox="496 1731 1366 1798">3. develop a monitoring program to review the effectiveness of the release protocols.
	7.7	An additional surface water monitoring point will be added on Mona Creek downstream of subsidence impacted areas (potentially immediately upstream of Blue Springs Road) to continue to monitor potential water quality impacts in Mona Creek. The location of this replacement gauge will be determined as part of the updates to the WMP.

Aspect	No.	Mitigation Measures
Ecology	8.1	Underground mining will not be undertaken within the Brokenback Conservation Area.
	8.2	UCMPL will utilise existing disturbed ground areas, where practicable, for the placement of infrastructure associated with underground mining, to avoid impact on significant ecological features such as the Box Gum Woodland CEEC.
	8.3	Surface infrastructure, e.g. pipelines, power lines and roads, will be co-located, where practicable, to minimise native vegetation, habitat and ground disturbance.
	8.4	UCMPL will rehabilitate and revegetate the open cut to self-sustaining native vegetation communities, being Grey Box Woodland and Ironbark Open Forest Complex on Sandstone communities which are characteristic of the pre-mining composition.
	8.5	Revegetation works will use local provenance species, where possible.
	8.6	The results of the ecological monitoring and management measures will be reviewed and reported annually, in accordance with project approval requirements. Management measures will be adapted, as required, on the basis of monitoring outcomes.
	8.7	UCMPL will provide for the long term conservation of all required biodiversity offset areas. The appropriate mechanism for achieving this long term conservation security will be determined in accordance with project approval requirements.
	8.8	A rehabilitation area within the post-mining open cut area will be established to trial the success of <i>Acacia ausfeldii</i> seed germination. Should this trial prove unsuccessful UCMPL will establish a suitable offset which is located outside any future mining area in consultation with DEECCW and DPHI.
	8.9	The design and construction of water crossings will be undertaken in accordance with the NSW Fisheries guidelines for Fish Friendly Waterway Crossings and in liaison with NSW Fisheries.
	8.10	UCMPL will undertake pre-clearing surveys and vegetation clearing in accordance with the UCMPL Pre-Clearing Survey and Tree Felling Procedure.
	8.11	Impacts to HBTs will be avoided where possible, including marking trees that can be retained.
	8.12	Retention of trunks and stems containing identified hollows suitable for forest owls and South-eastern Glossy Black Cockatoo and relocation of salvaged habitat in accordance with the BMP and the UCMPL Salvage and Reinstatement of Habitat Features.
	8.13	Installation of nest boxes to provide compensatory habitat for other hollow-dependent fauna species where appropriate.
Aboriginal Cultural Heritage	9.1	Impacts to the Mona Creek rock shelter sites (ID# 180-187) will be avoided.
	9.2	Detailed recording of the stone arrangements (ID# 589, 603, 697 and 700) will be undertaken, prior to commencement of secondary extraction under these sites.
	9.3	Archaeological survey of all potential impact areas that could not be accessed during previous investigations will be completed prior to any impact occurring in these areas.
	9.4	Any refinements to conceptual surface infrastructure layouts will seek to avoid archaeological sites as far as practicable. Where required, further due diligence assessment will be undertaken and any impacts to sites or values will be managed in accordance with the HMP.

Aspect	No.	Mitigation Measures
Historic and Natural Heritage	10.1	UCMPL will carry out archival recording of Old Ulan Village and Bobadeen Homestead to Heritage Council of NSW, and DPHI standards prior to longwall mining within 100 m of the structure.
	10.2	A Conservation Management Plan or Strategy will be prepared for the site of Old Ulan Village, in accordance with project approval requirements, to ensure appropriate short- and long-term management strategies are determined. This will include a maintenance strategy for Old Ulan Village, to be developed prior to longwall mining within 100 m of the structure.
	10.3	The Talbragar Fish Fossil Reserve will be secured with appropriate fencing and suitable signage subject to landowner approval.
Air Quality	11.1	Measures to minimise dust emissions from the operation will be included in the project design such as enclosures on top of overland conveyors and spray systems for permanent coal stockpiles where practicable.
	11.2	The Project will minimise the total disturbance footprint and the area of untreated hardstand to the minimum practicable.
	11.3	UCMPL will continue to implement existing dust controls, including: <ul style="list-style-type: none"> • watering of active mining areas, active spoil emplacement areas and haul roads that are subject to frequent vehicle movements • all drill rigs are equipped with dust control systems and are regularly maintained for effective use • automatic sprays fitted to dump hopper and crushing plant to minimise dust from coal processing activities • topsoil stripping is preferentially undertaken when there is sufficient moisture content in the soil • minimising the area of disturbance by restricting vegetation clearing ahead of mining operations, rehabilitating mine spoil dumps as soon as practicable after mining and using existing facilities and infrastructure where possible • restricting blasting activities during adverse weather conditions.
	11.4	UCMPL will continue to implement the current spontaneous combustion management system to address the coal's susceptibility to spontaneous combustion, which includes procedures for identifying potential sources of carbonaceous material with spontaneous combustible properties and methods for handling and disposing of these materials.
Noise and Vibration	12.1	UCMPL will implement all reasonable and feasible measure to minimise the noise impact at residences.
	12.2	UCMPL will design and undertake blasts to ensure the relevant vibration and blast overpressure criteria are met at private residences, unless there is an agreement with these residents in relation to blast impacts above the relevant criteria.
	12.3	UCMPL will consult with residents surrounding the project area prior to the first blast on site and identify those residents that may wish to be notified of blasting times on an ongoing basis.
	12.4	UCMPL is committed to ameliorating any low frequency noise issues in accordance with best practice guidelines and management practices, when the issue is identified.

Aspect	No.	Mitigation Measures
	12.5	Minor blasts such as that associated with small scale construction projects i.e. construction of ventilation shafts will not be limited in terms of frequency or require monitoring where UCMPL confirms by design and prediction prior to blasting that the overpressure and vibration levels will be less than 95 dBL and 1 mm/sec at all private buildings or structures.
	12.6	Construction work will be scheduled, where practicable, to be conducted within recommended standard construction hours. However, due to the nature of the construction activities for the ventilation fan shafts and dewatering boreholes, construction work may be required outside of standard hours.
	12.7	The mitigation and management measures outlined in the Surface Infrastructure Construction Noise Management Plan prepared for Modification 4 will also apply to Modification 6.
Traffic and Transport	13.1	UCMPL will participate in the preparation and implementation of the Ulan Road Strategy, in accordance with project approval requirements.
Visual	14.1	<p>UCMPL will implement the following visual controls to screen or filter views of surface infrastructure from residential and public road locations:</p> <ul style="list-style-type: none"> • maintaining vegetation screening along Ulan Road • ensuring that all lighting complies with Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting • all buildings and infrastructure potentially visible to the public to be coloured in suitable non-reflective natural tones, where practicable • directing light towards work areas and not towards private residences • progressive decommissioning of infrastructure that no longer supports mining operations (or relocation if required) • progressive rehabilitation of disturbed areas • revegetation will be progressively undertaken of the Goulburn River Diversion, as described in the Approved Goulburn River Diversion Remediation Plan.
Greenhouse Gas and Energy	15.1	UCMPL will continue to implement their existing greenhouse gas and energy management commitments.
	15.2	UCMPL will investigate and implement where feasible GHG and energy management and mitigation initiatives during design, operation and decommissioning.
	15.3	UCMPL will continue to monitor and seek to improve its energy and greenhouse gas performance against performance targets.
	15.4	UCMPL will report greenhouse and energy performance via legislative reporting requirements.
	15.5	<p>Specific quantitative emissions reduction goals for the ‘Modified Business’ (UCC with the Amended Modification 6) are as follows:</p> <ul style="list-style-type: none"> • FY2030: Scope 1 and 2 emissions (net) = 0.084 Mt CO₂-e • FY2035: Scope 1 and 2 emissions (net) = 0.012 Mt CO₂-e. <p>These quantitative targets are dependent on the following assumptions and conditions:</p> <ul style="list-style-type: none"> • The electricity grid decarbonises in line with current forecasts. • Feasible technologies or options for reducing diesel emissions become available during the life of the modified business. • For fugitive emissions, it is acknowledged that due to the project’s low fugitive intensity (primarily CO₂), commercially viable mitigation solutions for

Aspect	No.	Mitigation Measures
		<p>low-concentration methane or carbon dioxide are unlikely to become available within the life of the modified business.</p> <p>If the targets cannot be met through the above measures, alternative means will be considered, consistent with the mitigation hierarchy. Where any element of this target conflicts with the requirements of the Safeguard Mechanism (SGM), the SGM requirements will take precedence. If future Climate Change Licensee Requirements for coal mine EPL holders impose conflicting obligations, the targets will need to be reviewed.</p> <p>UCMPL will undertake the following qualitative GHG management practices:</p> <ul style="list-style-type: none"> • UCC intends to maintain its low emission intensity operations by continuing with current operational and business planning practices to minimise electricity and diesel consumption. • On a 3 yearly basis, UCMPL will also monitor and evaluate existing and emerging technologies to reduce GHG emissions from the Amended Modification 6 and will consider the mitigation hierarchy in the NSW Guide for Large Emitters (EPA, 2025) in its evaluation of options for emissions reduction.
Decommissioning and Mine Closure	16.1	Within 12 months of project approval, UCMPL will revise the current conceptual mine closure plan. A detailed closure planning process will be undertaken five years prior to cessation of mining.
	16.2	Decommissioning of the mining operations and surface facilities will occur progressively throughout the life of the mine, in accordance with conditions of the relevant mining titles. This will include progressive decommissioning of mine entries, ventilation fans, ventilation shafts, borehole facilities and associated surface facilities. A decommissioning plan will be prepared for each stage as part of the extraction plan and/or rehabilitation management plan process.
Waste	17.1	Waste materials generated by the construction and operation of the mine will be managed through the design; procurement of construction materials and purchasing; identification and segregation of reusable and recyclable materials; processing materials for recycling; and considering environmental impacts for waste removal processes.
Community – Engagement and Decision Making	18.1	<p>UCMPL will continue to implement the Stakeholder Engagement Strategy, with key objectives:</p> <ul style="list-style-type: none"> • focus current engagement activities within the community on issues of key concern to the community • align with community identified preferences for engagement and information requirements • track and monitor community issues and perceptions of the operation over time and evaluate the success of strategies to manage and/or enhance social impacts • ensure near neighbours are kept informed of mining activities • provide access to monitoring data and detail of management strategies to reduce impacts • provide early and ongoing engagement with potentially impacted landholders to communicate eligibility for relevant management/mitigation measures and discuss any concerns.
Community – Economic Development – Employment,	19.1	<p>UCMPL currently aims to maximise local employment and provide training and education opportunities through:</p> <ul style="list-style-type: none"> • advertising employment, apprenticeships and traineeships in local media • providing an employment pack that allows local residents to register their interest in employment opportunities at the UCMPL office and providing

Aspect	No.	Mitigation Measures
Education and Training		<p>access to the corporate careers centre via the UCMPL website so that local residents can easily register their interest in employment online</p> <ul style="list-style-type: none"> • a formalised policy that gives local residents employment preference where they have the required skills and experience, and demonstrate a cultural fit with the organisation • sharing information about mining careers at UCMPL and corporate entity with local schools • offering training opportunities through partnerships with local tertiary education providers • participating in the corporate school scholarship program • continued implementation of Corporate and UCMPL Corporate Social Involvement (CSI) programs • developing partnerships with other local organisations, such as the Mudgee Regional Tourism Inc. Committee, to promote employment opportunities in non-mining related sectors to the families of UCMPL employees.
Community – Economic Development – Business Opportunities	20.1	UCMPL will continue to implement the Glencore Procurement Policy giving preference to sourcing materials and services from local companies where all other commercial factors are equal.
Community – Quality of Life – Community Investment	21.1	UCMPL will review its social involvement program three yearly in consultation with key stakeholders such as the Community Consultative Committee and Mid-Western Regional Council (MWRC) to ensure the program’s focus areas remain relevant and address issues of greatest community need/challenge.
	21.2	<p>UCMPL will continue to reduce the impacts of its workforce on local health services by continuing current activities such as:</p> <ul style="list-style-type: none"> • running an in-house annual influenza vaccination program • providing in-house employee medical assessments every three years • offering First Aid training to employees • delivering a health promotion program for UCMPL employees • encourage raising funds for health-related causes (e.g. hospital equipment, the Cancer Foundation etc) through staff volunteering and fund raising activities.
Community – Quality of Life – Road Safety	22.1	UCMPL will continue to promote safe driver practices in its internal newsletter and apply a driver fatigue policy to all employees.
	22.2	UCMPL will investigate the possibility of providing a bus to transport workers as part of the Ulan Road Strategy, required by project approval conditions.
Community – Cumulative Impacts	23.1	UCMPL will continue to work with representatives from neighbouring mines to discuss and address issues of common concern in relation to management of cumulative impacts, in accordance with project approval requirements.
	23.2	UCMPL will participate in any working parties / forums which Council or government may establish to address the impact of regional development on health care, land availability, education and childcare services.
Community – Residential Subdivision	24.1	UCMPL will develop the remaining 74 residential allotments required to complete the obligations outlined in the Deed of Agreement (1983) signed by the Minister, UCMPL and Council in relation to the development of 250 serviced residential lots, as part of the former approval of Ulan Colliery. This development will be completed in consultation with MWRC to stage the subdivision release to meet predicted residential demand in accordance with the MWRC Land Use Strategy.

Aspect	No.	Mitigation Measures
Community – Voluntary Planning Agreement	25.1	Continue to implement the Voluntary Planning Agreement undertaken with Council in accordance with Division 6 of Part 4 of the EP&A Act.
Annual Review	26.1	UCMPL will prepare an Annual Review, in accordance with project approval requirements.
Surrender of Redundant Development Consents	27.1	UCMPL will surrender all other development consents that relate to activities that are adequately covered in any new project approval, in accordance with the new project approval conditions.
Independent Environmental Audit	28.1	UCMPL will commission and pay the full cost of an Independent Environmental Audit in accordance with project approval conditions.

Appendix 3

Revised Greenhouse Gas Assessment



ULAN COAL COMPLEX MODIFICATION 6

Revised Greenhouse Gas Assessment

Final | Revision 1

1 April 2026

Project: 23035

Ulan Coal Complex Modification 6

Project number	23035
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Basis of Report: Modification 6 seeks to extend the current approved operations. The air emissions data used in the technical assessment is based on UCML's business plans (also referred to as the mine plan). Current approved operations and the associated production are governed by PA 08_0184.

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Acronyms and definitions

Abbreviation	Definition
CER	Clean Energy Regulator
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DPHI	Department of Planning, Housing and Infrastructure
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
GHG	Greenhouse gas
MIA	Mine Infrastructure Area
Mtpa	Million tonnes per annum
NGER Act	<i>National Greenhouse and Energy Reporting Act 2007</i>
NGERS	National Greenhouse and Energy Reporting Scheme
PA	Project Approval
ROM	Run-of-mine
UCC	Ulan Coal Complex
UCMPL	Ulan Coal Mines Pty Limited

Executive Summary

Ulan Coal Mines Pty Limited (UCMPL) operates the Ulan Coal Complex (UCC). Approved operations at the UCC consist of underground and open cut mining, and associated coal handling, processing and transport through to August 2033.

UCMPL proposed a modification to the existing project approval (PA 08_0184) pursuant to section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to maximise resource recovery from the existing underground mining operations within existing mining lease and Exploration Licence areas. The Modification (referred to as MOD 6) proposed an extension to the life of the existing operations by two years until 2035 to allow the recovery of an additional approximately 16.3 million tonnes (Mt) of product coal. MOD 6 was approved on 22 May 2025 by the Executive Director Energy, Resource and Industry Assessments. In August 2025 third party judicial review proceedings were commenced in respect to approval of MOD 6 in the NSW Land and Environment Court. Subsequently, by consent, the original decision to approve MOD 6 was declared by the Land and Environment Court to be invalid and was set aside.

This report provides updated estimates of the potential greenhouse gas (GHG) emissions from MOD 6, hereafter referred to as the MOD 6 Amendment. The assessment has adopted the most up-to-date GHG emission factors available (noting these differ to those of the original MOD 6 assessment [Umwelt, 2022b]) and has been prepared in consideration of the requirements recently outlined in the “NSW Guide for Large Emitters” (EPA, 2025), which was finalised after the original MOD 6 assessment. The updates to the latest GHG emissions factors, since the Amendment Report, pertain to the Scope 2 and Scope 3 emissions related to electricity consumption and have not materially changed the GHG emissions estimates. The report also considers advice received from the NSW Environment Protection Authority (EPA) on 27 January 2026.

Emissions were estimated in accordance with the principles of the Greenhouse Gas Protocol, using methods prescribed by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) and guidance from the NSW Environment Protection Authority (EPA).

The main outcomes of the assessment were as follows:

- The MOD 6 Amendment meets the EPA’s definition of a “large” emitter, and the “NSW Guide for Large Emitters” is therefore applicable.
- The UCC is a National Greenhouse and Energy Reporting (NGER) facility with low fugitive emission intensity (due to being a non-gassy mine with negligible methane) and predominant use of electric-powered underground equipment (rather than diesel-powered equipment). These characteristics represent the existing use of the avoidance, reduction, and substitution aspects of the mitigation hierarchy in the “NSW Guide for Large Emitters” (EPA, 2025).
- The material emission sources at the UCC are fugitive emissions (carbon dioxide dominant), electricity and diesel consumption.
- Annual average emissions (FY27 to FY35) from the MOD 6 Amendment are calculated to be:
 - Scope 1 = 0.010 Mt CO₂-e
 - Scope 2 = 0.005 Mt CO₂-e
 - Scope 3 = 5.047 Mt CO₂-e
- Total emissions (FY27 to FY35) from the MOD 6 Amendment are calculated to be:
 - Scope 1 = 0.080 Mt CO₂-e
 - Scope 2 = 0.036 Mt CO₂-e
 - Scope 3 = 40.373 Mt CO₂-e
- The Scope 1 emission intensity of the MOD 6 Amendment has been calculated to be in the order of 0.004 t CO₂-e / t ROM. This intensity is well below both the industry average emissions intensity (0.0653 t CO₂-e / t ROM) and the best practice emission intensity (0.00592 t CO₂-e / t ROM). It is also significantly below emissions intensities from other recently approved operations (for example, the recently approved Mod 3 Tahmoor South has a Scope 1 emission intensity of 0.406 t CO₂-e / t ROM).
- The average annual Scope 1 emissions from the MOD 6 Amendment represent ~0.009% of NSW emissions in 2023, and the expected overall declining trajectory in Scope 1 and 2 emissions from the UCC with the MOD 6 Amendment exceeds the NSW net zero emissions trajectory (i.e. decreases at a greater rate) for the FY27 to FY35 period.
- The UCC (including the MOD 6 Amendment) is not a Safeguard facility as it emits less than 100,000 tonnes of CO₂-e of Scope 1 emissions (direct emissions produced on-site) in a year.

- Emissions from the UCC are considered in Glencore’s emissions reduction targets for total Scope 1, 2, and 3 emissions.
Consistent with the commitment to responsibly manage the decline of its thermal coal portfolio, Glencore has established total Scope 1, 2 and 3 industrial CO₂-e emissions reduction targets (against a 2019 baseline) of: 15% reduction by the end of 2026; 25% reduction by the end of 2030; 50% reduction by the end of 2035; and a longer-term ambition of achieving net zero industrial CO₂-e emissions by the end of 2050, subject to a supportive policy environment.
Glencore recognises that thermal coal for electricity generation remains a necessary source of energy in many countries – providing grid stability, supporting energy access and security, and contributing to socioeconomic development in many markets. Glencore supports regulatory efforts to transition towards cleaner power generation and to reduce underlying demand for fossil fuels. To support anticipated global energy needs, Glencore plans to continue to progress select brownfield coal investments at existing mines but will continue to align with the Group emissions reduction targets and commitment to a managed decline of the coal portfolio overall.
- As Scope 1 and 2 emissions from UCC with the MOD 6 Amendment, for context, represent a very small proportion of NSW emissions, and decline in a similar emissions trajectory as for NSW, UCMPL is proposing specific quantitative net emissions reduction goals for the Modified Business (UCC with MOD 6 Amendment), subject to specified assumptions and conditions, as follows:
 - FY2030: Scope 1 and 2 (net) emissions = 0.084 Mt CO₂-e
 - FY2035: Scope 1 and 2 (net) emissions = 0.012 Mt CO₂-e
- UCMPL also proposes the following qualitative GHG management practices:
 - UCC will maintain its low emission intensity operations by continuing with current operational and business planning practices to minimise electricity and diesel consumption.
 - On a 3 yearly basis, UCMPL will monitor and evaluate existing and emerging technologies to reduce GHG emissions across the UCC and will consider the mitigation hierarchy in the “NSW Guide for Large Emitters” (EPA, 2025) in its evaluation of options for emissions reduction for the MOD 6 Amendment.

1 Introduction

1.1 Background

Ulan Coal Mines Pty Ltd (UCMPL) operates the Ulan Coal Complex (UCC) under Project Approval (PA) 08_0184. Approved operations at the UCC consist of underground mining in the Ulan Underground and Ulan West areas as well as open cut mining, and associated coal handling, processing and transport through to August 2033.

UCMPL proposed a modification to the existing project approval (PA 08_0184) pursuant to section 4.55(2) of the *Environmental Planning and Assessment Act 1979* (EP&A Act) to maximise resource recovery from the existing underground mining operations within existing mining lease and Exploration Licence areas. The Modification (referred to as MOD 6) proposed an extension to the life of the existing operations by two years until 2035 to allow the recovery of an additional approximately 16.3 million tonnes (Mt) of product coal. MOD 6 was approved on 22 May 2025 by the Executive Director Energy, Resource and Industry Assessments. In August 2025 third party judicial review proceedings were commenced in respect to approval of MOD 6 in the NSW Land and Environment Court. Subsequently, the original decision to approve MOD 6 was declared by the Land and Environment Court to be invalid and was set aside.

This report provides updated estimates of the potential greenhouse gas (GHG) emissions from MOD 6, hereafter referred to as the MOD 6 Amendment. The assessment of GHG emissions has been undertaken utilising the most up-to-date GHG emission factors available. The updates to the latest GHG emissions factors pertain to the Scope 2 and Scope 3 emissions related to electricity consumption and have not materially changed the GHG emissions estimates. Additionally, this assessment has also considered the requirements of the “NSW Guide for Large Emitters” (EPA, 2025) (the Guide), as the MOD 6 Amendment is classified as a large emitter as detailed in **Section 3**. The sector and subsector of the project emissions, based on the Intergovernmental Panel on Climate Change (IPCC) categories, is fugitive emissions (sector) and underground coal mines (subsector). **Appendix A** outlines how this report has addressed the “NSW Guide for Large Emitters” as well as advice received from the NSW Environment Protection Authority (EPA) on 27 January 2026.

1.2 MOD 6 Amendment Description

The UCC is located approximately 38 kilometres north-east of Mudgee and 19 kilometres north-east of Gulgong in New South Wales. Operations at the UCC are located approximately 1.5 kilometres east of the village of Ulan and entirely within the Mid-Western Regional Council Local Government Area (LGA). Coal mining has been undertaken in the Ulan area since the 1920s.

In summary, MOD 6 proposed:

- an extension to the life of the existing operations by two years until 2035.
- extraction of an additional approximately 16.3 Mt of product coal.
- extension of Ulan Underground longwall (LW) panels LWW9 to LWW11 to the west.
- widening of Ulan Underground LWW11 by approximately 30 metres.
- extension of Ulan West LW9 to LW12 to the north.

UCMPL is also proposing some minor changes to the surface infrastructure required to support underground mining activities including provision of:

- one ventilation shaft and associated infrastructure corridors.
- one dewatering bore and associated infrastructure corridors, to be co-located within the ventilation footprint.
- one service borehole (to deliver gravel and other construction materials and to provide access and power to the underground mine), to be co-located within the ventilation and dewatering bore footprint.
- an infrastructure corridor and service borehole (to deliver gravel and other construction materials and to provide access and power to the underground mine) to the south-west of Ulan West.
- other associated infrastructure required to service the approved and proposed underground mining operations.

1.3 Report Structure

The report is structured as follows:

- **Section 1** provides the background to the MOD 6 Amendment.
- **Section 2** outlines the key legislative and policy assessment requirements.
- **Section 3** provides an assessment of the greenhouse gas emissions.
- **Section 4** provides the conclusions of the assessment.

2 Policy Setting

2.1 Overview

GHG is a collective term for a range of gases that are known to trap radiation in the upper atmosphere, where they have the potential to contribute to the greenhouse effect (global warming). GHGs include:

- Carbon dioxide (CO₂); by far the most abundant GHG, primarily released during fuel combustion.
- Methane (CH₄); generated from the anaerobic decomposition of carbon-based material (including enteric fermentation and waste disposal in landfills).
- Nitrous oxide (N₂O); generated from industrial activity, fertiliser use and production.
- Hydrofluorocarbons (HFCs); commonly used as refrigerant gases in cooling systems.
- Perfluorocarbons (PFCs); used in a range of applications including solvents, medical treatments and insulators.
- Sulphur hexafluoride (SF₆); used as a cover gas in magnesium smelting and as an insulator in heavy duty switch gear.

It is common practice to aggregate the emissions of these gases to the equivalent emission of carbon dioxide. This provides a simple figure for comparison of emissions against targets. Aggregation is based on the potential of each gas to contribute to global warming relative to carbon dioxide and is known as the global warming potential (GWP). The resulting number is expressed as carbon dioxide equivalents (or CO₂-e).

GHG emissions that form an inventory can be split into three categories known as “Scopes”. Scopes 1, 2 and 3 are defined by the Greenhouse Gas Protocol (WRI, 2004) and can be summarised as follows:

- Scope 1 – Direct emissions from sources that are owned or operated by the organisation (examples include combustion of diesel in company owned vehicles or used in on-site generators).
- Scope 2 – Indirect emissions associated with the import of energy from another source (examples include importation of electricity or heat).
- Scope 3 – Other indirect emissions (other than Scope 2 energy imports) which are a direct result of the operations of the organisation but from sources not owned or operated by them (examples include business travel, by air or rail, and product usage).

The purpose of differentiating between the scopes of emissions is to avoid the potential for double counting, where two or more organisations assume responsibility for the same emissions.

2.2 Federal Policy

2.2.1 Conference of Parties

The 21st yearly session of the Conference of Parties (COP), held in Paris in 2015, was pivotal for developing an international treaty on climate change. It resulted in “The Paris Agreement”, an agreement “to achieve a balance between anthropogenic (human induced) emissions by sources and removals by sinks of greenhouse in the second half of this century”. Subsequent COPs have sought to develop policy architecture to deliver on the commitments of COP21. In particular, following COP21, international agreements were made to:

- Keep global warming well below 2.0 degrees Celsius, with an aspirational goal of 1.5 degrees Celsius (based on temperature pre-industrial levels).
- From 2018, countries are to submit revised emission reduction targets every five years, with the first being effective from 2020, and goals set to 2050.
- Define a pathway to improve transparency and disclosure of emissions.
- Make provisions for financing the commitments.

The *Climate Change Act 2022* operates as umbrella legislation to implement Australia’s net-zero commitments. It codifies Australia’s net 2030 and 2050 GHG emissions reductions targets under the Paris Agreement including targets to cut emissions by 43% by 2030 from 2005 levels and achieve net zero emissions by 2050.

2.2.2 National Greenhouse and Energy Reporting Act 2007

The Federal Government uses the *National Greenhouse and Energy Reporting Act 2007* (NGER Act) legislation for the measurement, reporting and verification of GHG emissions in Australia. This legislation is used for a range of purposes, including international GHG reporting. Under the NGER Act, constitutional corporations in Australia which exceed thresholds for GHG emissions or energy production or consumption are required to measure and report data to the Clean Energy Regulator (CER) on an annual basis. The UCC reports GHG emissions and energy production and consumption data to the CER in accordance with NGER Act requirements.

The NGER Act defines facility and corporate group emission thresholds. The facility thresholds are:

- 25,000 t or more CO₂-e (scope 1 and scope 2 emissions);
- production of 100 terajoules (TJ) or more of energy; or
- consumption of 100 TJ or more of energy.

The *National Greenhouse and Energy Reporting (Measurement) Determination 2008* (Measurement Determination) identifies several methodologies to account for GHGs from specific sources relevant to the MOD 6 Amendment. This includes emissions of GHGs from the extraction of coal, direct fuel combustion (fuels for transport energy purposes), emissions associated with consumption of power from direct combustion of fuel (e.g. diesel generators), and from consumption of electricity from the grid.

The Measurement Determination provides methods, criteria, and measurement standards for calculating and reporting greenhouse gas emissions and energy data under the NGER Act. It covers Scope 1 and Scope 2 emissions and energy production and consumption. The calculation methodologies have been based primarily on the National Greenhouse Accounts (NGA) Factors as these are used for the purposes of project assessment in NSW. The NGA Factors provide methods for the estimation of GHG emissions. Whilst drawing on the Measurement Determination, the NGA factors can be applied to a broader range of emissions estimates.

2.2.3 Safeguard Mechanism

The Safeguard Mechanism has been in place since 1 July 2016 and is a legislated framework that applies to all facilities that emit more than 100,000 tonnes of CO₂-e of Scope 1 emissions (emissions produced on-site) in a year. The Safeguard Mechanism places a limit on the amount of greenhouse gases Australia's largest industrial facilities can emit by assigning each facility covered by the Mechanism a 'baseline'. Each year, every large facility within the Safeguard Mechanism reports their emissions to the CER. Any facility that emits more greenhouse gases than allowed by their baseline has to take actions to reduce their emissions, for example, through purchasing Australian Carbon Credit Units.

Reforms to the Safeguard Mechanism took effect from 1 July 2023. Under these reforms, new baseline emissions numbers ('baselines') for designated large facilities are set on a declining trajectory aligned with achieving Australia's emissions reduction targets set out in the *Climate Change Act 2022* and its Nationally Determined Contribution (NDC) under the Paris Agreement. The decline rate for Safeguard baselines is currently 4.9% per year to 2030, followed by 3.285% per year thereafter. The UCC (including with the MOD 6 Amendment) is not a Safeguard facility as it emits less than 100,000 tonnes of CO₂-e of Scope 1 emissions (direct emissions produced on-site) in a year.

2.3 State Policy

Table 1 summarises the relevant NSW Government legislation and policy documents that are relevant to the MOD 6 Amendment, including policy documents from the EPA, the primary environmental regulator for NSW.

Table 1 Relevant NSW Government legislation and policy

Title	Description
NSW Guide for Large Emitters	The Guide outlines the EPA's assessment requirements for new projects likely to have large emissions and proposed modifications of existing facilities likely to significantly increase their emissions
Climate Change Licensee Requirements	The EPA is phasing in climate change requirements from 2027 for holders of Environment Protection Licences (EPLs). The requirements are detailed in the following documents: <ul style="list-style-type: none"> - Climate Change Licensee Requirements – March 2026 - Emission Reporting and Climate Change Mitigation and Adaptation Plans: Guidance for environment protection licensees – March 2026 - Greenhouse Gas Mitigation Guide for NSW Coal Mines – March 2026

Title	Description
<i>NSW Coal Industry 2026-50</i>	<i>NSW Coal Industry 2026-50</i> presents a holistic NSW Government position on the future for coal mining in NSW. Its key principles are that the coal industry will continue to support the local economy and deliver reliable supply to trading partners through extensions to existing operations subject to strict approval processes and regulatory frameworks.
<i>Climate Change (Net Zero Future) Act 2023</i>	Legislates NSW target reductions in GHG emissions of 50% of 2005 levels by 30 June 2030, 70% of 2005 levels by 30 June 2035, and net zero emissions by 2050. The Act does not impose any direct obligations on companies or facilities.
NSW Climate Change Policy Framework	Sets out the NSW Government's long-term goals of achieving net-zero emissions by 2050, and making NSW more resilient and better adapted to a changing climate.
Net Zero Plan Stage1: 2020-2030	Foundation for NSW's action on climate change. It outlines the NSW Government's plan to grow the economy, create jobs and reduce emissions during the 2020s.
Net Zero Plan Stage 1: 2020-2030 Implementation Update Net Zero Plan Implementation Update 2022	These provide updates on the key achievements of NSW Government under the Net Zero Plan and commit NSW to reducing emissions by 50% below 2005 levels by 2030, and 70% below 2005 levels by 2035.
NSW Climate Change Adaptation Strategy	Sets out the NSW Government's strategic approach for managing the impacts of climate change on the State.
NSW Waste and Sustainable Materials Strategy 2041	Sets out how NSW will transition to a circular economy over the next 20 years, including key reforms for reducing GHG emissions from materials (embedded carbon) and the waste sector.
<i>Protection of the Environment Administration Act 1991</i>	<p>Outlines the EPA's statutory objectives and duty to address climate change. Section 6 of the Act outlines the EPA's statutory objectives to protect the environment and human health. The key elements are:</p> <ul style="list-style-type: none"> - to protect, restore and enhance the quality of the environment in NSW, having regard to the need to maintain ecologically sustainable development - to reduce the risks to human health and prevent the degradation of the environment, including by taking action in relation to climate change. <p>Section 9 of the Act imposes a statutory duty on the EPA to develop environmental quality objectives, guidelines and policies to ensure environment protection. This includes protection of the environment from climate change.</p>
<i>Protection of the Environment Operations Act 1997</i>	Sets out EPA's statutory powers and regulatory tools, including environment protection licensing. Schedule 1 of the Act sets out the types of activities that need a licence. The EPA is required to consider its statutory objectives (above) when exercising its licensing functions.
Climate Change Policy	Supports and builds upon NSW Government's climate change policies and initiatives. The main purpose is to address: <ul style="list-style-type: none"> - the EPA's statutory objectives to protect, restore and enhance the quality of the environment in NSW, and to reduce the risks to human health and prevent the degradation of the environment - the EPA's statutory duty to develop environmental quality objectives, guidelines and policies to ensure environment protection from climate change.
Climate Change Action Plan 2023-26	Designed to deliver the Climate Change Policy. The Action Plan sets out: <ul style="list-style-type: none"> - the specific actions the EPA will take over the three years that it covers - the regulatory action the EPA will consider over the medium to longer term, where an increased regulatory response may be required to support the NSW Government's climate change commitments and policies, including achieving net-zero emissions in NSW by 2050.
Strategic Plan 2024-29	Describes how the EPA will deliver stewardship for the environment to protect, restore and enhance the environment and human health. It sets out commitments to effective regulation and a focus on high quality environmental outcomes across all of EPA's work. The plan details objectives and outcomes for three key areas: <ul style="list-style-type: none"> - caring for country - driving action on climate change - enabling a safe circular economy.
Waste Delivery Plan	Outlines the actions the EPA take to reduce the harmful impact of waste and drive behaviours that create a circular economy. The Waste Delivery Plan includes actions to reduce carbon emissions and building the resilience of the waste sector to climate change.

In January 2025, the EPA finalised their GHG assessment requirements in the "NSW Guide for Large Emitters" (EPA, 2025) (the Guide). The Guide outlines the assessment requirements for new projects likely to have large emissions and proposed modifications of existing facilities likely to significantly increase their emissions.

The Guide states that the requirements do not apply to proposals that have progressed beyond the environmental impact assessment stage of the planning process at the time the consultation draft guide was published; that is as at 20 May 2024 (which would include MOD 6). However, planning authorities can use the guide to inform their considerations. For completeness, and to assist the consent authority in informing the assessment of the MOD 6 Amendment, UCMLP has considered the Guide in preparing the updated GHG assessment.

There are two main tests to determine the applicability of the Guide. These consider whether the project is a large emitter, and if these emissions will be “significant” based on the development type. The potential applicability and requirements of the Guide are discussed in **Section 3**.

3 Greenhouse Gas Assessment

3.1 Overview

The level of assessment of the MOD 6 Amendment has been informed by the “NSW Guide for Large Emitters” (EPA, 2025). The assessment requirements of the Guide are applicable to a project if it meets the following three criteria:

- The project proposal requires development assessment and approval, or a change to an approval, under the *Environmental Planning and Assessment Act 1979*.
- The project involves one or more scheduled activities under Schedule 1 of the *Protection of the Environment Operations Act* (POEO Act) and / or will be carried out at an existing licensed premises.
- The project is likely to emit 25,000 tonnes or more of scope 1 and 2 emissions CO₂-e in any financial year during the operational life of the project (based on planned operational throughput and as designed).

Calculations in this assessment suggest that the MOD 6 Amendment will result in more than 25,000 tonnes of CO₂-e of Scope 1 and 2 emissions in at least one financial year during the operational life of the project (incremental to the emissions from the existing approved UCC mine) and meets the additional criteria above, so the “NSW Guide for Large Emitters” is applicable. The assessment is outlined below.

3.2 Assessment Boundary and Scenarios

The assessment boundary was developed to include all significant Scope 1, 2 and 3 emissions. The completeness principle states that all relevant emission sources within the chosen inventory boundary need to be accounted for so that a comprehensive and meaningful inventory is compiled (WRI, 2004).

Emission sources include the dominant sources at coal mining operations. **Table 2** lists the sources that have been included and excluded from the assessment. The source exclusions represent activity data where activity data for these sources will not materially change emissions; that is, expected to be less than 1% of the overall emissions inventory on the basis of historical data and the planned project activities.

Table 2 GHG source inclusions and exclusions

Activity	Description	Scope
Included sources		
Diesel (stationary)	Emissions due to fuel combustion (diesel) from on-site mobile and stationary plant and equipment	1, 3
Diesel (transport)	Emissions due to fuel combustion (diesel) from road registered transport vehicles	1, 3
Fugitive	Fugitive emissions from the extraction of coal	1
Electricity	Emissions due to consumption of purchased electricity	2, 3
Transport (rail)	Transport of product coal by rail to port	3
Transport (shipping)	Transport of product coal by ship to market	3
Energy production	Combustion of thermal coal in power generators by end users	3
Excluded sources		
Combustion of fuel for energy	Combustion of diesel fuel from on-site mobile and stationary plant and equipment for power generation	1
Construction diesel use	Combustion of diesel fuel from on-site equipment during the construction phase	1
Industrial processes	Sulphur hexafluoride (high voltage switch gear) Hydrofluorocarbon (commercial and industrial refrigeration)	1
Wastewater handling (industrial)	Methane emissions from wastewater management	1
Solid waste	Solid waste to landfill	3
Business travel	Employees travelling for business purposes	3
Employee travel	Employees travelling between their place of residence and UCC	3

Figure 1 shows a visual representation of the GHG assessment boundary, grouped by upstream and downstream sources, direct and indirect emissions, and by scope.

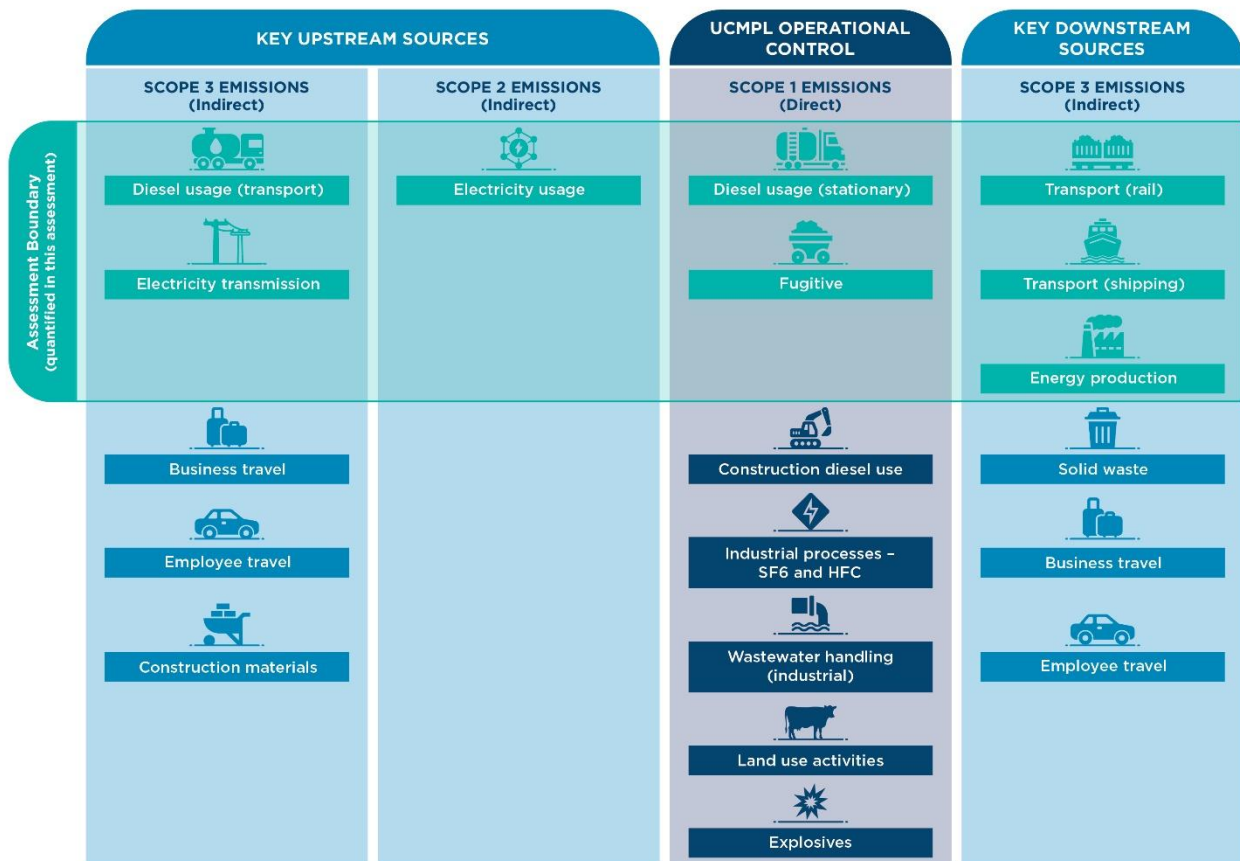


Figure 1 Visual representation of the GHG assessment boundary

Emissions have been considered for the operational life of the MOD 6 Amendment.

The emission scenarios were as follows:

- The UCC without the MOD 6 Amendment, referred to as “Business as usual”.
- The UCC with the MOD 6 Amendment, referred to as “Modified business”.
- The MOD 6 Amendment, referred to as “Project Only”

The emissions data used in the technical assessment are based on the UCC’s business plans. Current approved operations and the associated production are governed by PA 08_0184.

3.3 Source Prioritisation

This section identifies the most significant sources of GHG emissions and prioritises those sources when considering mitigation.

Section 3.5 provides the GHG emission inventories. **Figure 2** shows the distribution of the total life-of-mine Scope 1, 2 and 3 emissions (as CO₂-e) from the MOD 6 Amendment by source type. This inventory identifies fugitive, electricity usage and stationary diesel usage as the most significant Scope 1 and 2 sources. Energy production is the most significant Scope 3 source.

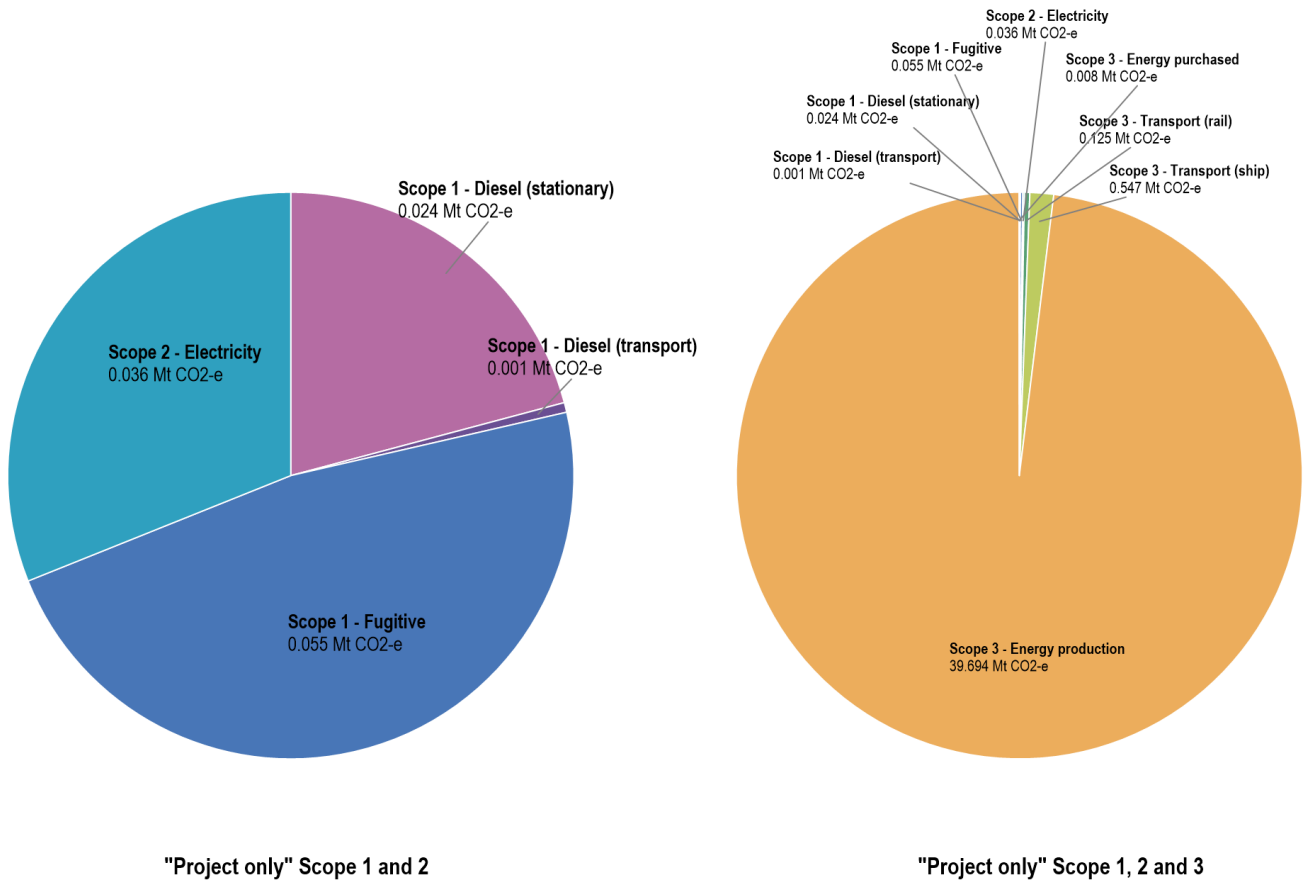
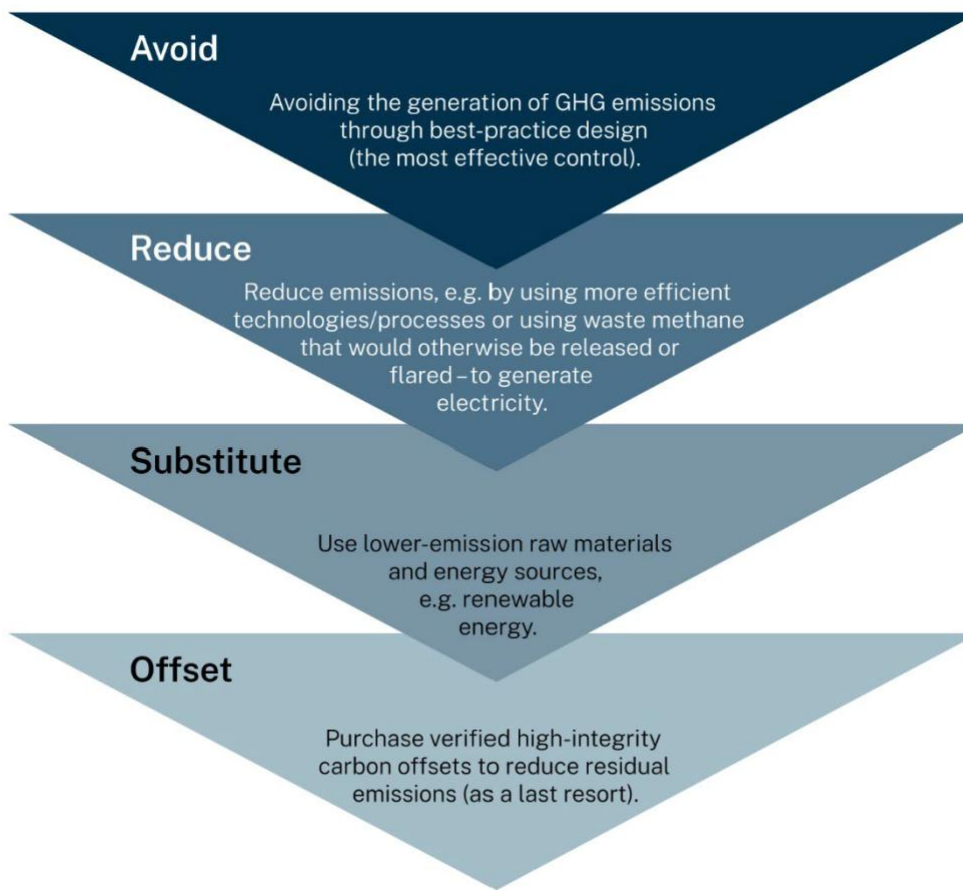


Figure 2 Distribution of GHG emission sources from the MOD 6 Amendment

The mining areas of the UCC have negligible methane content and consequently the UCC is classed as a “non-gassy” mine (i.e. negligible methane in ventilation air). Based on the distribution above, UCMPL has focused on diesel usage and electricity consumption when considering emission reduction measures for the MOD 6 Amendment.

3.4 Mitigation Measures

Evaluation of mitigation measures is embedded in the business planning processes of the mine. Annual business planning processes forecast GHG emissions and assess the feasibility of mitigation measures. UCMPL has considered the mitigation hierarchy in the “NSW Guide for Large Emitters” (EPA, 2025) in its evaluation of options for emissions reduction for the MOD 6 Amendment. **Figure 3** shows the mitigation hierarchy.



Source: EPA, 2025

Figure 3 GHG emissions mitigation hierarchy

The MOD 6 Amendment's emissions estimates reflect current operational practices at UCC to maximise energy efficiency and minimise diesel and electricity consumption. They also reflect the avoidance of significant fugitive emissions due to UCC's low gas environment; UCC's fugitive emissions consist of negligible methane concentrations in ventilation air, for which there is no feasible mitigation measure. As such, the MOD 6 Amendment has primarily considered measures to reduce electricity and diesel-related emissions.

The following management practices are currently utilised at the UCC to minimise emissions and are proposed to be maintained during the life of the MOD 6 Amendment:

- **Procurement policy:**
 - UCC's procurement policy typically includes the consideration of energy efficiency as a criterion in equipment selection, thereby reducing energy consumption and emissions.
- **Mine design, planning, and equipment section:**

UCC conducts annual Life-of-Mine (LOM) and Budget planning processes, incorporating the following practices to minimise energy consumption:

 - Optimised Mine Layout: Designing the mine layout to enhance operational efficiency and selecting appropriate equipment for mining and haulage activities.
 - Equipment selection: UCC's coal mining activities are mostly conducted using electrified production equipment and haulage is conducted via electrified conveyors. Ancillary equipment is typically diesel-fuelled.
- **Equipment Operation & Maintenance:**
 - The mining equipment, mobile equipment, and fixed plant are maintained in accordance with supplier specifications. Ad-hoc maintenance is conducted when equipment monitoring systems identify anomalies, ensuring optimal performance and energy efficiency.

- Equipment operation is carried out by competent personnel trained in the use of relevant equipment, including adherence to standard operating procedures. Training emphasises practices that maximise productivity and energy efficiency.

▪ **Performance Monitoring and Feedback:**

UCC conducts regular reporting of historical and actual performance as part of operational processes. This includes evaluations at intervals ranging from shift, weekly, and monthly to annual and multi-year assessments.

- UCC's performance is benchmarked against other Glencore operating sites to assess equipment performance and identify opportunities for improvement.

▪ **Evaluation of Existing and Emerging Emissions Reduction Technologies:**

- As part of the Procurement and Equipment Selection processes described above, UCMPL periodically evaluates opportunities to reduce emissions through new fleet options. For example, trials of electric underground transport vehicles have been undertaken over the last few years (with overall feasibility still under assessment), and fuel efficiency is routinely considered in procurement decisions for new equipment.
- As part of broader Glencore business planning processes, existing ("off-the-shelf") emissions reduction technologies are evaluated for potential future implementation at UCC, such as renewable energy from onsite installations or offsite sources.

Such initiatives for reducing emissions at UCC are typically examined using a techno-economic analyses, such as marginal abatement cost curves, which assess the feasibility of initiatives. These analyses consider a range of factors including the technical and economic feasibility of implementing abatement initiatives, as well as the potential emissions reduction that could be realised.

As UCC's mining equipment is largely electrified, there is a comparatively minor diesel consumption in ancillary diesel transport and haulage vehicles. The use of low carbon fuels (biodiesel, renewable diesel) or electrified transport vehicles has been considered; however, these are currently not feasible due to cost (low carbon fuels) and range and ramp limitations (ancillary diesel vehicles).

As UCC is connected to the grid, it will continue to support the greening of the grid through its electricity procurement arrangements. The use of onsite renewable energy or the purchase of offsite renewable energy has been considered for UCC, however these are currently not feasible due to cost and availability (for renewable energy purchase), and broader technical capacity and economic considerations for long-life capital investment (for onsite renewable energy).

- As part of broader Glencore business planning processes, emerging/developing emissions reduction technologies are monitored for potential future implementation at UCC, such as alternative drive trains.

At present, none of the assessed initiatives are considered practicable or feasible for implementation. However, Glencore will continue to review and update these assessments as part of its ongoing business planning processes, in support of UCC.

These measures represent the full range of leading practice design, technology and management measures that can be implemented for Scope 1 and 2 emissions. Whilst an independent expert review of the MOD 6 Amendment's GHG Assessment is not required (as explained in **Section 3.6**), UCMPL has voluntarily commissioned an expert review which concluded that the proposed mitigation measures (which are existing at the UCC and are intended to be maintained for the MOD 6 Amendment), in conjunction with the low emission intensity and highly electrified status of the UCC and MOD 6 Amendment, constitute best industry practice. In support of this view, UCMPL notes that the EPA's climate change licence requirements, including the Greenhouse Gas Mitigation Guide for NSW Coal Mines (EPA, 2026a), identify prescriptive measures such as underground gas drainage, Ventilation Air Methane (VAM) abatement, and large fleet electrification. An assessment of the applicability of these measures to the UCC is provided in **Table 3** below.

Table 3 Assessment against GHG Mitigation Guide for NSW Coal Mines

Mitigation measure	EPA requirements	Assessment
Drainage Gas (Table 1 EPA 2026a)	By 1 July 2027: Drainage gas with a methane concentration of greater than 30% must be flared or utilised at operational(a) underground mines that: <ul style="list-style-type: none"> - are located outside of the Western coalfields, and - emit $\geq 25,000$ t CO₂-e per year scope 1 and 2. 	The "Modified Business" will emit more than 25 kt CO ₂ -e per year (Scope 1), however its location in the Western coal fields, its very low gas content and dominant CO ₂ composition, and its classification as a non-gassy mine i.e., an underground mine that has less than 0.1% methane in the mine's return ventilation (<i>National Greenhouse and Energy Reporting (Measurement) Determination 2008</i>), makes pre or post gas drainage infeasible at the UCC.

Mitigation measure	EPA requirements	Assessment
Leaks from old mine workings (Table 1 EPA 2026a)	<p>By 1 July 2027:</p> <p>Methane entering ventilation air must be minimised by detecting and managing leaks from old mine workings at operational underground mines that:</p> <ul style="list-style-type: none"> - are located outside of the Western coalfields, and - emit $\geq 25,000$ t CO₂-e per year scope 1 and 2. 	<p>The "Modified Business" will emit more than 25 kt CO₂-e per year (Scope 1), however its location in the Western coal fields, its very low gas content and dominant CO₂ composition, and its classification as a non-gassy mine i.e., an underground mine that has less than 0.1% methane in the mine's return ventilation (National Greenhouse and Energy Reporting (Measurement) Determination 2008), makes detection and management of leaks from old mine workings infeasible at the UCC.</p>
Ventilation Air Methane (VAM) abatement (Table 1 EPA 2026a)	<p>VAM abatement must be installed at operational underground mines if the mine has consistently greater than 0.20% VAM concentration, and:</p> <ul style="list-style-type: none"> - is operating after 2030, and - is located outside of the Western coalfields, and - emits $\geq 100,000$ t CO₂-e/year scope 1. 	<p>While the mine will be operational beyond July 2032 the "Modified Business" Scope 1 emissions will be less than 100 kt CO₂-e per year and the mine is located outside of the Western coalfields, therefore the proposed measures for VAM abatement are not feasible at the UCC.</p>
Diesel Emissions (Section 3.3 EPA 2026a)	<p>The EPA has not mandated electrification of coal mining vehicles nor the adoption of low carbon liquid fuels. The EPA expects coal mines to continue to implement standard industry measures including the transition to USA EPA Tier 4 final emissions standard for surface vehicles (USEPA, 2004). The EPA strongly encourages mines to transition their vehicles to low emissions alternatives as soon as possible and use low carbon fuels as an interim step.</p>	<p>The 'Modified Business' will emit more than 25 kt CO₂-e (Scope 1) and plans to cease operation by July 2035.</p> <p>UCC mining is already conducted mainly by electrified equipment and coal haulage is via conveyors. Minor ancillary equipment is diesel powered and UCML has considered alternatives to fossil fuel consumption, such as alternative drive trains and low carbon fuels. Currently, alternative drive trains for minor ancillary equipment are not feasible due to either low technical/commercial readiness level, or due to technical limitations (such as ramp and range limitations). UCML has identified non-fossil diesel as a high-cost emissions reduction measure, which is therefore currently infeasible. Such fuels currently face barriers such as high cost, limited availability. Such fuels may also face issues of ethical provenance as their feedstocks may have the potential to displace food-growing activities and have land use impacts e.g. deforestation. However, UCML will continue to review the option of a replacement for fossil diesel (by considering criteria such as availability, cost, technical feasibility, and ethical provenance), such as biodiesels (which can typically be used up to blend limits subject to the equipment manufacturers' recommendation), or renewable diesel that is chemically identical to petroleum diesel (and can be used as a drop-in fuel), for applicable ancillary equipment. UCML's existing procurement processes (as described earlier in this section) will continue to allow opportunities for emerging technologies such as alternate drive trains to be considered as part of fleet replacement.</p>

As illustrated in **Table 3** above, these measures are not currently feasible for implementation at UCC, as the site already exhibits low fugitive emissions, a high degree of electrification of underground mining fleet, and barriers to adopting low carbon fuels for minor ancillary equipment (primarily cost barriers). Accordingly, the existing characteristics of UCC (and MOD 6 Amendment), when combined with the proposed mitigation measures, are considered to represent best practice.

Emissions from customer use of product coal comprise the major source of Scope 3 emissions for the MOD 6 Amendment. Based on historical data, saleable coal from the UCC has been predominantly sold to customers in export markets in Asia, with China being the largest export destination over the past three years. The primary countries that UCC coal has been exported to all have Nationally Determined Contributions (NDCs) under the Paris Agreement (or have followed international standards recognised by the UNFCCC and published their own NDCs document in support of the Paris Agreement). It is anticipated that future export destinations for UCC coal will continue to follow similar patterns. However, as coal sales are market driven, export destinations may change in the future.

3.5 Estimated Emissions

The GHG inventory in this document has been calculated in accordance with the principles of the GHG Protocol. The initial actions for a GHG inventory are to determine the sources of GHG emissions, assess their likely significance and set a boundary for the assessment. Creating an inventory of the likely GHG emissions has the benefit of determining the scale of the emissions and providing a baseline from which to assess options that may be reasonable and feasible for GHG reduction. The results of this assessment are presented in terms of the previously mentioned 'Scopes' to help understand the direct and indirect impacts of the MOD 6 Amendment.

The GHG Protocol (and similar reporting schemes) dictates that reporting Scope 1 and 2 sources is mandatory, whilst reporting Scope 3 sources is optional. Reporting significant Scope 3 sources is recommended. Scope 3 emissions are a consequence of the activities of the company, although occur from sources not owned or controlled by the company. Some examples of Scope 3 activities include the

extraction and production of purchased materials, transportation of purchased fuels, and use of sold products (i.e. burning of coal) and services. The inventory for this assessment includes all significant sources of GHGs (Scopes 1, 2 and 3) associated as per **Table 2**.

GHG emissions associated with operation of the UCC are well understood, given that the mine is currently operating. Future projections of production, fuel usage and electricity usage (from UCML) were used to determine the GHG emissions from the UCC with and without the MOD 6 Amendment. These activity data were estimated from historical usage and emission intensities as calculated from data reported under NGERs for a recent three-year period. **Appendix B** provides activity data and emissions reported under NGERs for FY21/22, FY22/23 and FY23/24.

The following three-year average usage and emission intensities were determined from the data in **Appendix B**:

- Diesel fuel usage = 0.00049 kL / t ROM coal, with 97% related to stationary and 3% to transport fuel usage
- Fugitive emissions = 0.00295 t CO₂-e/t ROM coal
- Electricity usage = 16.18338 kWh / t ROM coal.

Data provided by UCML depicts that the gas contents from areas mined in the recent three-year period examined above are typical of the Western coal fields and have ranged from approximately 0.28 to 0.67 m³/t, with a dominant carbon dioxide composition (UCML, 2026). Gas contents and composition in the MOD 6 Amendment areas are within this range, between 0.39 and 0.49 m³/t (UCML, 2026) and remain indicative of a non-gassy mine. These data support the approach of deriving emissions (and usage) data from recently reported data under NGERs and are considered suitable for assessment purposes.

Table 4 summarises the emission estimation methodologies for the key emission sources.

Table 4 GHG emission estimation methodologies

Activity	Description	Scope(s)	Emission estimation methodology
Diesel (stationary)	Emissions due to fuel combustion (diesel) from on-site mobile and stationary plant and equipment	1, 3	Emission factors from NGA Factors (DCCEEW, 2025). Consumption based on average of FY22 to FY24 (3 reported financial years), ROM pro-rata.
Diesel (transport)	Emissions due to fuel combustion (diesel) from off-site mobile plant and equipment	1, 3	Emission factors from NGA Factors (DCCEEW, 2025). Consumption based on average of FY22 to FY24 (3 reported financial years), ROM pro-rata.
Fugitive	Fugitive emissions from the extraction of coal	1	Measurement Determination Chapter 3, Part 3.2. Division 3.2.2, Subdivision 3.2.2.2, Method 4. Average of FY22 to FY24 (3 reported financial years), ROM pro-rata.
Electricity	Electricity usage	2, 3	Emission factor projections from DCCEEW (2024a). Consumption based on average FY22 to FY24 (3 reported financial years), ROM pro-rata.
Transport (rail)	Transport of product coal by rail to port	3	Emission factors from the Department for Environment, Food and Rural Affairs (DEFRA) (2024) for "Freighting goods / freight train".
Transport (shipping)	Transport of product coal by ship to market	3	Emission factors from DEFRA (2024), based on "Freighting goods / cargo ship, bulk carrier".
Energy production	Combustion of thermal coal in power generators by end users	3	Emission factors from NGA Factors (DCCEEW, 2025).

Table 5 shows the estimated emissions due to all identified GHG generating activities associated with the UCC. The direct (scope 1) annual GHG emissions from the MOD 6 Amendment are estimated to be 0.010 Mt CO₂-e/y on average, and a total of 0.080 Mt CO₂-e.

Table 5 Estimated GHG emissions

Year	Annual emission (t CO ₂ -e)								
	UCC without the MOD 6 Amendment "Business as usual"			UCC with the MOD 6 Amendment "Modified business"			Change due to the MOD 6 Amendment "Project only"		
	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3
2025-26	23,619	42,054	12,700,741	23,619	42,054	12,700,741	-	-	-
2026-27	46,660	70,704	25,896,597	46,944	71,135	26,030,225	285	431	133,628
2027-28	53,768	69,254	29,137,505	53,936	69,470	29,216,597	168	216	79,093

Year	Annual emission (t CO ₂ -e)								
	UCC without the MOD 6 Amendment "Business as usual"			UCC with the MOD 6 Amendment "Modified business"			Change due to the MOD 6 Amendment "Project only"		
	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3
2028-29	51,391	40,883	27,596,635	52,544	41,800	28,114,855	1,153	917	518,220
2029-30	32,437	18,432	17,902,023	53,487	30,394	27,386,421	21,050	11,961	9,484,398
2030-31	47,894	27,216	25,651,301	51,719	29,389	27,507,198	3,825	2,173	1,855,897
2031-32	37,277	18,358	17,232,991	51,502	25,364	26,183,893	14,226	7,006	8,950,902
2032-33	36,871	12,571	19,927,009	57,062	19,455	29,786,886	20,191	6,884	9,859,877
2033-34	27,014	9,210	15,227,540	46,542	15,868	24,718,310	19,528	6,658	9,490,770
2034-35	9,407	2,495	5,642,646	9,407	2,495	5,642,646	-	-	-
Average	36,634	31,118	19,691,499	44,676	34,742	23,728,777	10,053	4,531	5,046,598
Total	366,338	311,176	196,914,988	446,762	347,423	237,287,773	80,424	36,247	40,372,785

Figure 4 shows the estimated Scope 1 and 2 GHG emissions from the UCC. The projected annual emissions of the UCC with the MOD 6 Amendment are expected to exceed the NGER facility emission threshold (25 kt CO₂-e), so UCMPL will continue to have an obligation to report emissions from this facility under the NGER Act. Full details of the calculations by source and year are provided in **Appendix C**.

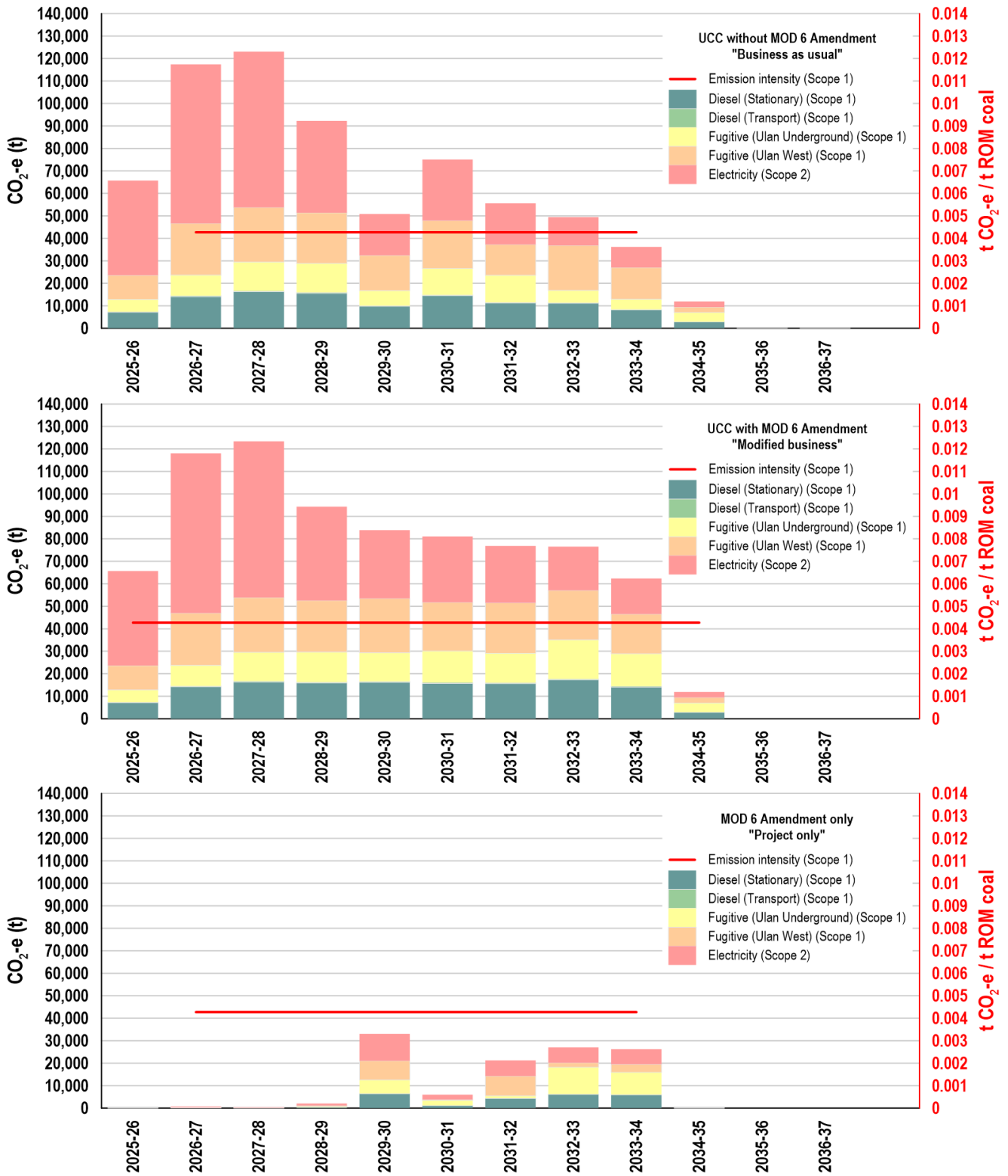


Figure 4 Estimated GHG emissions from the UCC

3.6 Independent Expert Review Outcome

As the MOD 6 Amendment's Scope 1 and 2 emissions do not exceed 100,000 tonnes CO₂-e per year at any time over the operational life of the project, an independent expert review is not required. Whilst not required by the Large Emitters Guide, an expert review of the mitigation measures has been voluntarily completed to support this assessment (Umwelt, 2026).

3.7 Benchmarking and Goal Setting

The GHG emissions associated with the MOD 6 Amendment have been quantified by source (see **Table 5** and **Figure 4**). Benchmarking of these emissions, and goal setting, is provided below.

3.7.1 Commonwealth Emissions Reduction Targets and Safeguard Mechanism

Table 6 shows the calculated GHG emissions in the National context. Direct (scope 1) annual GHG emissions from the MOD 6 Amendment are estimated to be 0.010 Mt CO₂-e/y, on average, representing approximately 0.002% of Australia's estimated emissions (that is 453.45 Mt CO₂-e for 2023, the latest year of estimates available).

Table 6 Comparison of emissions in the National context

Statistic	Value
Emissions in the Australian context	
Total reported Australia GHG emissions in 2023 (https://ageis.climatechange.gov.au/)	453.4489 Mt CO ₂ -e
MOD 6 Amendment annual average Scope 1 emissions	0.010 Mt CO ₂ -e
MOD 6 Amendment as a proportion of Australia's annual emissions	0.002 %

The 'Safeguard Mechanism document' (DCCEEW, 2024b) includes default (industry average) Scope 1 emissions intensities of production for various industries. The industry average emissions intensity for coal mining is an average of 0.0653 tonnes of CO₂-e per tonne of ROM coal. As per **Figure 4** the estimated Scope 1 emissions intensity of the MOD 6 Amendment is in the order of 0.004 tonnes of CO₂-e per tonne of ROM coal, which is 7% of the industry average emissions intensity. The 'Safeguard Mechanism document' (DCCEEW, 2024b) also lists the best practice benchmark for Scope 1 emissions intensity as 0.00592 tonnes of CO₂-e per tonne of ROM coal. The Scope 1 emission intensity of the MOD 6 amendment is lower than the best practice emission intensity (~68% of the best practice emission intensity).

The UCC is not a Safeguard facility as it emits less than 100,000 tonnes of CO₂-e of Scope 1 emissions (direct emissions produced on-site) in a year. This is driven by both the UCC's low fugitive emission intensity (due to being a non-gassy mine) as well as its main contributing source of extraction energy from electricity powered underground equipment rather than diesel powered equipment.

Figure 5 was provided by UCMP and compares the predicted average gross Scope 1 emissions intensity for the life of the MOD 6 Amendment with those for all Australian coal Safeguard Facilities in the year 2023-2024. The emissions data for other coal operations were taken from the publicly available dataset on the Clean Energy Regulator's Safeguard Mechanism website ([Clean Energy Regulator | Safeguard Data](#)). The ROM coal amounts were back-calculated using the published Safeguard Mechanism baselines, site-specific and industry average emission intensities, and the nominal decline rate. For facilities in NSW, the ROM amounts were verified using company-specific, publicly available data. It can be seen that the average emissions intensity for the MOD 6 Amendment would be very low relative to other Australian coal operations. For facilities in Queensland, the ROM amounts were verified with the Queensland Government Open Data Portal – Production by individual mines - Coal industry review statistical tables ([Qld Government | Coal Industry Review Statistical Tables](#)).

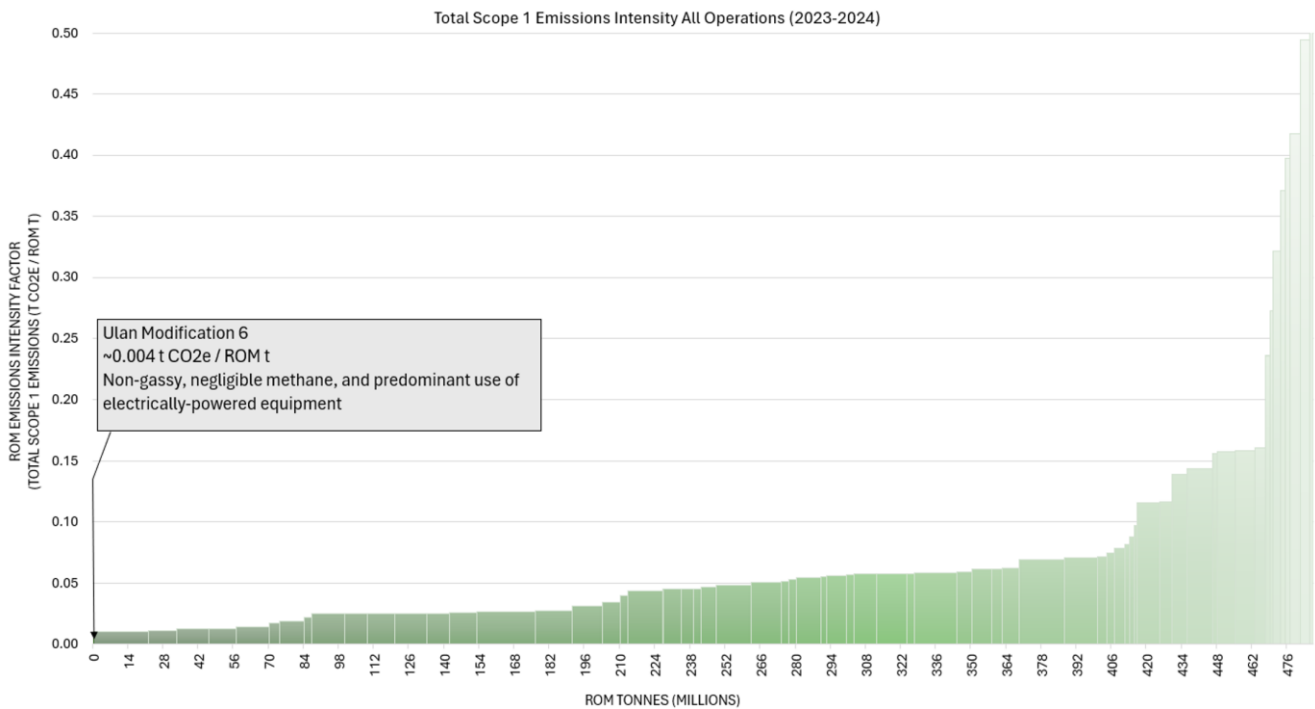


Figure 5 Scope 1 emissions intensity for all Australian Coal Safeguard Facilities (provided by UCMPL)

3.7.2 NSW State Emissions Reduction Targets as per Net Zero Future Act

Table 7 shows the calculated greenhouse gas emissions in the State context. Direct annual GHG emissions from the MOD 6 Amendment are estimated to be 0.010 Mt CO₂-e/y, on average, representing approximately 0.009% of NSW’s estimated emissions (that is 114.45 Mt CO₂-e for 2023, the latest year of estimates available).

Table 7 Comparison of emissions in the State context

Statistic	Value
Emissions in the State context	
Total reported NSW GHG emissions in 2023 (https://ageis.climatechange.gov.au/)	114.45 Mt CO ₂ -e
MOD 6 Amendment annual average Scope 1 emissions	0.010 Mt CO ₂ -e
MOD 6 Amendment as a proportion of NSW's annual emissions	0.009 %

The Scope 1 emissions intensity of the MOD 6 Amendment is well below emissions intensities from other operations, including for example the Scope 1 emissions intensity of the recently approved Tahmoor Modification 3 (0.406 t CO₂-e / t ROM) (EMM, 2024).

Comparisons have also been made with emission projections for NSW. The Net Zero Emissions Dashboard (‘the Dashboard’) presents past and projected future GHG emissions for NSW. The Dashboard presents emission trends and the progress being made towards the state’s emission-reduction objectives and includes three cases:

- An historical **actual emissions** scenario up to 2023, based on the NSW Greenhouse Gas Inventory and the National Greenhouse Accounts compiled by the Australian Government.
- A future **business as usual (BAU)** projection. The BAU scenario accounts for major factors impacting NSW emissions including past state policies but excludes the impact of actions under the Net Zero Plan and related Government policies.
- **Current policy** emissions projections up to 2050. This takes the BAU scenario and adjusts the emissions trajectory based on the designed abatement and timelines in existing NSW and Commonwealth policies and programs.

Table 8 shows projections of Scope 1 emissions from the Modified Business in comparison to NSW “current policy” emissions. The calculated changes in emissions have been made with reference to the expected start year of the MOD 6 Amendment, that is, FY27. The Scope 1 emissions of the Modified Business are expected to decrease to 20% of FY27 emissions by FY35. For comparison, the NSW emissions are expected to decrease to 54% of FY27 emissions over the same period.

Table 8 Projections of the trajectories of Modified Business (Scope 1) and NSW emissions

Year	"Modified Business" Scope 1 annual emissions (Mt CO ₂ -e)	Change in emissions of the "Modified Business" from FY27	"NSW current policy" annual emission (Mt CO ₂ -e)	Change in emissions of "NSW current policy" from 2026 (%)	"Modified Business" Scope 1 annual emissions as percentage of NSW current policy (%)
2025-26	0.024	-	103.32	-	-
2026-27	0.047	100%	107.06	100%	0.044%
2027-28	0.054	115%	100.75	94%	0.054%
2028-29	0.053	112%	97.54	91%	0.054%
2029-30	0.053	114%	82.97	77%	0.064%
2030-31	0.052	110%	84.13	79%	0.061%
2031-32	0.052	110%	81.19	76%	0.063%
2032-33	0.057	122%	76.75	72%	0.074%
2033-34	0.047	99%	61.55	57%	0.076%
2034-35	0.009	20%	57.44	54%	0.016%
Total decline (FY27-FY35):		-80%	-	-46%	-

Table 9 shows projections of Scope 1 and 2 emissions from the Modified Business in comparison to NSW "current policy" emissions. The Scope 1 and 2 emissions of the Modified Business are expected to decrease to 10% of FY27 emissions by FY35. Again, the NSW emissions are expected to decrease to 54% of FY27 emissions over the same period.

Table 9 Projections of the trajectories of Modified Business (Scope 1 and 2) and NSW emissions

Year	"Modified Business" Scope 1 and 2 annual emissions (Mt CO ₂ -e)	Change in emissions of the "Modified Business" from FY27	"NSW current policy" annual emission (Mt CO ₂ -e)	Change in emissions of "NSW current policy" from 2026 (%)	"Modified Business" Scope 1 and 2 annual emissions as percentage of NSW current policy (%)
2025-26	0.066	-	103.32	-	0.064%
2026-27	0.118	100%	107.06	100%	0.110%
2027-28	0.123	105%	100.75	94%	0.122%
2028-29	0.094	80%	97.54	91%	0.097%
2029-30	0.084	71%	82.97	77%	0.101%
2030-31	0.081	69%	84.13	79%	0.096%
2031-32	0.077	65%	81.19	76%	0.095%
2032-33	0.077	65%	76.75	72%	0.100%
2033-34	0.062	53%	61.55	57%	0.101%
2034-35	0.012	10%	57.44	54%	0.021%
Total decline (FY27-FY35):		-90%	-	-46%	-

3.7.3 Glencore Emissions Reduction Targets

Glencore's Climate Action Transition Plan (Glencore, 2024) describes Glencore's commitment to responsibly manage the decline of its global thermal coal portfolio. As the world moves towards a low-carbon economy, Glencore is focused on supporting the energy needs of today whilst investing in its transition metals portfolio. The metals Glencore produces, sources and markets will support the global ambition to decarbonise.

Consistent with the commitment to responsibly manage the decline of its thermal coal portfolio, Glencore has established total Scope 1, 2 and 3 industrial CO₂-e emissions reduction targets (against a 2019 baseline) of:

- 15% reduction by the end of 2026;
- 25% reduction by the end of 2030;

- 50% reduction by the end of 2035;
- A longer-term ambition of achieving net zero industrial CO₂-e emissions by the end of 2050, subject to a supportive policy environment.

Emissions from UCC are considered in Glencore's emissions reduction targets.

Glencore's 2024-2026 Climate Action Transition Plan outlines its position on climate and energy transition and the strategies it currently proposes to use to manage its transition, including:

- Recognising that thermal coal for electricity generation remains a necessary source of energy in many countries – providing grid stability, supporting energy access and security, and contributing to socioeconomic development in many markets. Glencore supports regulatory efforts to transition towards cleaner power generation and to reduce underlying demand for fossil fuels.
- To support anticipated global energy needs, Glencore plans to continue to progress select brownfield coal investments at existing mines but will continue to align with the Group emissions reduction targets and commitment to a managed decline of the coal portfolio overall.
- To continue driving improved operational performance in its industrial activities through a strong focus on identifying and delivering cost-effective emissions reduction opportunities.
- To continue to evolve technical and economic assessments to identify emissions reduction opportunities across the portfolio. This enables Glencore to identify and implement investments in abatement opportunities that are practically and commercially viable. Where opportunities are deemed not sufficiently ready, Glencore will continue to collaborate with industry and OEM partners to study and invest in research and development to drive technology maturation and scale requirements to improve commerciality.
- To identify and invest in value-enhancing growth opportunities in Glencore's metals portfolio that meet market requirements, including a focus on commodities fundamental for the transition to a low-carbon economy, such as copper, nickel, zinc, aluminium and cobalt

3.7.4 UCC Emission Goals

Given the variable and incremental nature of the mining areas associated with the MOD 6 Amendment, UCMPL proposes the following qualitative and quantitative goals for the Modified Business to support the practical implementation of emissions goals at the site-level, in recognition of the goal-setting requirements recently introduced by the NSW EPA. While the Large Emitters Guide only requires goal-setting at the Project level, UCMPL is voluntarily extending these emission goals to the broader business to enable effective on-site application and to acknowledge the wider climate-related policy changes recently introduced by the NSW EPA for EPL holders (EPA, 2026b).

1. Quantitative Targets for the Modified Project (Net Scope 1 and 2 emissions)

For context, Scope 1 and 2 emissions from UCC with the MOD 6 Amendment represent a very small proportion of NSW emissions, and decline in a similar emissions trajectory as for NSW, representing a meaningful contribution to NSW emissions reduction targets. As such, UCMPL is proposing specific quantitative emissions reduction goals for the Modified Business (UCC with the MOD 6 Amendment) as follows:

- FY2030: Scope 1 and 2 emissions (net) = 0.084 Mt CO₂-e
- FY2035: Scope 1 and 2 emissions (net) = 0.012 Mt CO₂-e

These quantitative targets are dependent on the following assumptions and conditions:

- The electricity grid decarbonises in line with current forecasts.
- Feasible technologies or options for reducing diesel emissions become available during the life of the Modified Business.
- For fugitive emissions, it is acknowledged that due to the project's low fugitive intensity (primarily CO₂), commercially viable mitigation solutions for low-concentration methane or carbon dioxide are unlikely to become available within the life of the modified business.

It is noted that some of the above assumptions and conditions are externalities and therefore outside UCMPL's direct control, and may impact on the ability to achieve the quantitative targets set out above. If the targets cannot be met through the above measures, alternative means will be considered, consistent with the mitigation hierarchy. It is also noted that where any element of this target

conflicts with the requirements of the Safeguard Mechanism (SGM), the SGM requirements will take precedence. In addition, if future Climate Change Licensee Requirements for coal mine EPL holders impose conflicting obligations, the targets will need to be reviewed.

2. Qualitative Management Practices for the Modified Project (as described in Section 3.4)

UCMPL also proposes the following qualitative GHG management practices:

- UCC intends to maintain its low emission intensity operations by continuing with current operational and business planning practices to minimise electricity and diesel consumption.
- On a 3 yearly basis, UCMPL will also monitor and evaluate existing and emerging technologies to reduce GHG emissions from the UCC and will consider the mitigation hierarchy in the “NSW Guide for Large Emitters” (EPA, 2025) in its evaluation of options for emissions reduction.

3.8 Offset Strategy

UCMPL has applied the mitigation hierarchy described in the “NSW Guide for Large Emitters” (EPA, 2025) with the MOD 6 Amendment primarily utilising avoidance, reduction, and substitution in order to reduce fugitive emissions, electricity and diesel related emissions. There is currently no projected requirement for UCC to implement an offset strategy for purposes such as compliance under Safeguard, or for voluntary purposes to achieve Glencore’s emissions reduction targets.

If offsets are required by UCC in the future, UCMPL will leverage its existing procurement strategies to secure offsets, compliant with the Commonwealth *Carbon Credits (Carbon Farming Initiative) Act 2011*, in a timely manner. These strategies typically account for market conditions, including supply, demand, pricing, volumes, timing, and the terms of purchase agreements. Reflecting the NSW EPA’s preference for offsets from NSW-based projects (domestic offsets), UCMPL will also consider purchasing NSW-based offsets where they are available and represent a cost-effective option.

4 Conclusions

This report provides a GHG assessment of the MOD 6 Amendment. Emissions were estimated in accordance with the principles of the Greenhouse Gas Protocol, using methods prescribed by the DCCEEW and by applying the guidance from the EPA's "NSW Guide for Large Emitters".

The main outcomes of the assessment were as follows:

- The MOD 6 Amendment meets the EPA's definition of a "large" emitter, and the "NSW Guide for Large Emitters" is therefore applicable.
- The UCC is an NGER facility with low fugitive emission intensity (due to being a non-gassy mine with negligible methane) and predominant use of electricity-powered underground equipment (rather than diesel-powered equipment). These characteristics represent the existing use of the avoidance, reduction, and substitution aspects of the mitigation hierarchy in the "Guide for Large Emitters" (EPA, 2025).
- The material emission sources at the UCC are fugitive emissions (carbon dioxide dominant), electricity and diesel consumption.
- Annual average emissions (FY27 to FY35) from the MOD 6 Amendment are calculated to be:
 - Scope 1 = 0.010 Mt CO₂-e
 - Scope 2 = 0.005 Mt CO₂-e
 - Scope 3 = 5.047 Mt CO₂-e
- Total emissions (FY27 to FY35) from the MOD 6 Amendment are calculated to be:
 - Scope 1 = 0.080 Mt CO₂-e
 - Scope 2 = 0.036 Mt CO₂-e
 - Scope 3 = 40.373 Mt CO₂-e
- The Scope 1 emission intensity of the MOD 6 Amendment has been calculated to be in the order of 0.004 t CO₂-e / t ROM. This intensity is well below both the industry average emissions intensity (0.0653 t CO₂-e / t ROM) and the best practice emission intensity (0.00592 t CO₂-e / t ROM). It is also significantly below emissions intensities from other operations (for example, the recently approved Mod 3 Tahmoor South has a Scope 1 emission intensity of 0.406 t CO₂-e / t ROM).
- The average annual Scope 1 emissions from the MOD 6 Amendment represent ~0.009% of NSW emissions in 2023, and the expected overall declining trajectory in Scope 1 and 2 emissions from the UCC with the MOD 6 Amendment exceeds the NSW net zero emissions trajectory (i.e. decreases at a greater rate) for the FY27 to FY35 period.
- The UCC (including the MOD 6 Amendment) is not a Safeguard facility as it emits less than 100,000 tonnes of CO₂-e of Scope 1 emissions (direct emissions produced on-site) in a year.
- Emissions from the UCC are considered in Glencore's emissions reduction targets for total Scope 1, 2, and 3 emissions.

Consistent with the commitment to responsibly manage the decline of its thermal coal portfolio, Glencore has established total Scope 1, 2 and 3 industrial CO₂-e emissions reduction targets (against a 2019 baseline) of: 15% reduction by the end of 2026; 25% reduction by the end of 2030; 50% reduction by the end of 2035; and a longer-term ambition of achieving net zero industrial CO₂-e emissions by the end of 2050, subject to a supportive policy environment.

Glencore recognises that thermal coal for electricity generation remains a necessary source of energy in many countries – providing grid stability, supporting energy access and security, and contributing to socioeconomic development in many markets. Glencore supports regulatory efforts to transition towards cleaner power generation and to reduce underlying demand for fossil fuels. To support anticipated global energy needs, Glencore plans to continue to progress select brownfield coal investments at existing mines but will continue to align with the Group emissions reduction targets and commitment to a managed decline of the coal portfolio overall.

- As Scope 1 and 2 emissions from UCC with the MOD 6 Amendment, for context, represent a very small proportion of NSW emissions, and decline in a similar emissions trajectory as for NSW, UCMPL is proposing specific quantitative net emissions reduction goals for the Modified Business (UCC with MOD 6 Amendment), subject to specified assumptions and conditions, as follows:
 - FY2030: Scope 1 and 2 (net) emissions = 0.084 Mt CO₂-e
 - FY2035: Scope 1 and 2 (net) emissions = 0.012 Mt CO₂-e

-
- UCMPPL also proposes the following qualitative GHG management practices:
 - UCC will maintain its low emission intensity operations by continuing with current operational and business planning practices to minimise electricity and diesel consumption.
 - On a 3 yearly basis, UCMPPL will monitor and evaluate existing and emerging technologies to reduce GHG emissions from the MOD 6 Amendment and will consider the mitigation hierarchy in the “NSW Guide for Large Emitters” (EPA, 2025) in its evaluation of options for emissions reduction for the MOD 6 Amendment.

5 References

- Airen (2024) "Ulan Coal Complex Modification 6 Amendment – Greenhouse Gas Assessment". Prepared by Airen Consulting, project 23035, dated 23 April 2024.
- DCCEEW (2024a) "Australia's emissions projections 2024". Department of Climate Change, Energy, the Environment and Water. November 2024.
- DCCEEW (2024b) Safeguard Mechanism document July 2021, republished October 2023, April 2024 and September 2024. Last updated 24 September 2024. Department of Climate Change, Energy, the Environment and Water.
- DCCEEW (2025a) "National Greenhouse Accounts Factors 2025". Department of Climate Change, Energy, the Environment and Water.
- DCCEEW (2025b) "Australia's emissions projections 2025". Department of Climate Change, Energy, the Environment and Water. November 2025.
- DEFRA (2024) "UK Government GHG Conversion Factors for Company Reporting".
- DPIE (2020) "Net Zero Plan Stage 1: 2020–2030". Department of Planning, Industry and the Environment. March 2020.
- EMM (2024) "Tahmoor South Modification 3 – Greenhouse gas assessment". November 2024. Prepared by EMM Consulting.
- EPA (2025) "NSW Guide for Large Emitters – guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes". January 2025. Environment Protection Authority.
- EPA (2026a) "Greenhouse Gas Mitigation Guide for NSW Coal Mines".
- EPA (2026b) "Climate Change Licensee Requirements".
- Glencore (2024) "2024-2026 Climate Action Transition Plan", available at <https://www.glencore.com/sustainability/esg-a-z/climate-change>.
- UCMPL (2024) "Air Quality and Greenhouse Gas Management Plan". Number: ULNCX-111515275-1653. Effective: 31/07/2024.
- Umwelt (2022a) "Ulan Coal Modification 6 – Underground Mining Extension – Modification Report – November 2022".
- Umwelt (2022b) "Ulan Coal Complex Underground Modification 6 – Greenhouse Gas and Energy Assessment". Report dated October 2022.
- Umwelt (2026) "Ulan Coal Complex Modification 6 – Expert Review of Greenhouse Gas Mitigation Measures". Report dated March 2026.
- US EPA (2004) "Control of Emissions on Air Pollution from Nonroad Diesel Engines and Fuel: Final rule".
- WRI (2004). "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard - REVISED EDITION". The Greenhouse Gas Protocol is a collaboration between the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The Protocol provides guidance on the calculation and reporting of carbon footprints.

Appendix A. NSW Guide for Large Emitters and EPA Advice checklists

Table A1 NSW Guide for Large Emitters checklist

Section	Subsection	Requirements	Section of report
Executive Summary	-	Provide a brief description of the project (including the name, proponent, location, project life, project stages etc.).	Executive Summary Section 1
		Describe the assessment boundary, emissions sources included and the key emissions sources.	Section 3.2
		Describe the results from the GHG emissions assessment including: <ul style="list-style-type: none"> - scope 1, 2 and 3 emissions estimates in tonnes of CO₂-e per year (average annual for both maximum capacity and planned operational throughput) - key mitigation measures - emission goals and commitment to continuous improvement to ensure they can be achieved (minimum 5 yearly). 	Section 3.5, 3.4, 3.7
		Describe project's Safeguard Mechanism or NGER reporting obligations if applicable.	Section 2.2.3, 3.5, 3.7.1
1. Introduction	-	Describe the project and specify whether it is a new development or modification.	Section 1
		Specify the triggers for the project being classified as a large emitter.	Section 3.1
		Identify the IPCC sectors and subsectors of the project emissions.	Section 1
		Describe the relevant stages of the project and include the period in years for each stage.	Section 1
2. Legislative and policy context	-	Provide an overview of the legislative and policy context as it related to GHG emissions assessment, mitigation and reporting. This should include the <i>Climate Change (Net Zero Future) Act 2023</i> , <i>Net Zero Plan Stage 1: 2020–2030</i> , <i>Protection of the Environment Administration Act 1991</i> , <i>Protection of the Environment Operations Act 1997</i> and other relevant legislation and policies, including anticipated NGER and Safeguard Mechanism requirements (if applicable).	Section 2
3. GHG emissions assessment	3.1 Assessment boundary	Describe the GHG assessment boundary clearly indicating sources to be included and excluded.	Section 3.2
	3.2 Emissions scenarios	Describe the 'project only' scenario for new developments and projects involving modifications, and the 'business-as-usual' and 'modified-business' scenarios for modification projects	Section 3.2
	3.3 Emissions sources (and emissions from any existing operations)	List GHG emissions sources within the project assessment boundary	Section 3.2 (Table 2)
	3.4 Mitigation measures	Address the scope 1, 2 and 3 emissions sources (consider using a figure to illustrate the emissions sources within the boundary).	Figure 1 Section 3.2 (Table 2)
		Prioritise sources for mitigation and, if required, referencing initial emission estimates excluding mitigations to inform prioritisation.	Section 3.3
For projects involving a modification, provide information on scope 1 and 2 emissions from existing operations, including: <ul style="list-style-type: none"> - inventoried emissions by source (see Appendix D) - mitigation measures and offset strategies being implemented - any obligations under the Safeguard Mechanism - current and planned emission goals. 		Appendix C Section 3.4 Section 2.2.3 Section 3.5 Section 3.7	
	Provide a description of measures to be implemented to avoid and reduce the project's scope 1, scope 2 and scope 3 emissions. For scope 1 and 2 mitigation measures, include the following details from the assessment of mitigation measures: <ol style="list-style-type: none"> a. whether the planned measures represent the full range of best-practice design, technology and management measures that could be implemented b. the feasibility and likely effectiveness of these measures, including risk mitigation and performance measures to be implemented c. a comparison of the project's emissions and emissions intensity per unit production benchmarked against other comparable projects, best practice, and industry sector standards/milestones where they exist 	Section 3.4 Section 3.7	

Section	Subsection	Requirements	Section of report
		d. where best practice is not proposed to be adopted, provide a robust, verifiable justification	
		Include reference to the mitigation hierarchy	Section 3.4 (Figure 3)
		Include a reference to considering the cost of abatement	Section 3.7.3
		Provide the uncertainties in the effectiveness of GHG mitigation measures and contingency actions to ensure level of performance.	Section 3.4
		When quantifying emission reductions for the project: <ul style="list-style-type: none"> - describe how you will record and store data for evaluating performance - include the criteria you will use to determine whether additional measures need to be implemented, such as the contingency measures identified above, should the mitigation measures not achieve the desired level of performance. 	Section 3.5, 3.7.4
		For projects with scope 1 and 2 emissions exceeding 100,000 tonnes of CO ₂ -e per year at any time over the operational life of the project, mitigation assessments must be verified by an independent expert review. You must provide evidence that the review has been conducted by an independent and suitably credentialed reviewer.	Not applicable
	3.5 Assessment methodology	Document emission estimation methods applied.	Table 4
		Describe the underlying assumptions and data used to develop the emissions estimates.	Table 4, Appendix C
	3.6 Emissions estimate	Provide the underlying activity data, emissions factors and emissions intensities (all data that will allow the emissions estimates to be replicated). (See Appendix D.)	Appendix B Appendix C
	3.6.1 Scope 1 and 2 emissions estimate	Describe, in tabulated form, scope 1 and 2 emissions for each financial year over the project life, based on maximum capacity and planned operational throughput for each stage of the project and each scenario (as designed). (See Appendix D.)	Table 5
		Describe the scope 1 and 2 emissions intensity per unit of production or activity.	Figure 4
	3.6.2 Scope 3 emissions estimate	Describe the underlying assumptions used to develop the emissions estimates.	Table 4 Appendix B Appendix C
		Provide the underlying activity data, emissions factors and emissions intensities (all data that will allow the emissions estimates to be replicated).	Appendix B Appendix C
		Describe in tabulated form, scope 3 emissions for each financial year over the project life (see Appendix D).	Table 4, Appendix C
4. Emission benchmarking and goal setting	4.1 Reporting obligations 4.1.1 Safeguard	If applicable, provide information relevant to Safeguard Mechanism reporting. Do this for the life of the project. You should include: <ul style="list-style-type: none"> - any expected individual facility baseline determinations - how the project's proposed emission goals align with any expected decline rate for the individual facility baseline - any sectoral baseline - how the project's proposed emissions will impact on the sectoral baseline - how the project's estimated scope 1 emissions intensity per unit production compares to any relevant emissions intensity specified in the National Greenhouse and Energy Reporting (Safeguard Mechanism) rules. 	Not applicable
		If projected emissions exceed Safeguard Mechanism obligations, state how the project's emissions compare with NSW legislated emission reduction goals.	Not applicable
	4.1.2 Electricity firming infrastructure	If applicable, for the life of the project, describe the obligations for electricity firming infrastructure, including how the project's proposed emission goals align with obligations under the <i>Electricity Infrastructure Investment Regulation 2021</i> , including the requirement for net zero emissions from 2036.	Not applicable
	4.2 Goals	Describe scope 1 emissions goals (long-term and interim), scope 2 emission goals, and consider scope 3 goals.	Section 3.7.3, 3.7.4
	4.3 Emissions trajectory	Consider developing a graphical figure which shows the project's estimated emissions trajectory taking into account emission goals.	Table 8, Table 9
5. Offset strategy	-	Provide an estimate of the number of offsets planned to be used for the project (see Appendix D).	Section 3.8
		Describe the domestic offsets considered for the project in order to meet the project's emission goals.	Section 3.8

Section	Subsection	Requirements	Section of report
		Describe how the offsets meet the offset integrity principles in the Commonwealth Carbon Credits (Carbon Farming Initiative) Act 2011.	Section 3.8
6. Conclusion	-	Describe the results from the GHG emissions assessment including: <ul style="list-style-type: none"> - scope 1, 2 and 3 emissions estimates - emissions goals 	Section 4
References	-	Include references to all sources described and used in the assessment.	Section 5
Appendices	-	Activity and emissions data to be attached as an appendix. Emissions are to be provided for all scenarios (see Appendix D).	Appendix C
	-	For projects exceeding 100,000 tonnes CO ₂ -e per year, attach documentation and findings from the independent expert review, including evidence that the review was undertaken by a suitably qualified reviewer.	Not applicable

Table A2 EPA Advice checklist

Item	Response(s)
<p>1. The extraction and product export rates used to estimate emissions are to be reconciled against rates the Applicant seeks for the modification</p> <p>The estimated emissions for the 'Modified Business' scenario are based on ROM extraction rates ranging between 2.2 and 13.5 million tonnes per annum (Mtpa). The product export rates for the same scenario range between 2.2 and 12 Mtpa.</p> <p>To be consistent with requirements in the NSW Guide for Large Emitters (the guide), the assumed quantities are to be reconciled with the current and proposed changes to conditions of consent. This is needed to demonstrate that the estimates are representative of the maximum ROM extraction and export product rates sought by the Applicant.</p> <p>This information is required to verify conclusions regarding the GHG estimates, the mitigation assessment and emissions reduction commitments.</p> <p>Recommendation:</p> <p>It is recommended a revised GHG assessment is provided that:</p> <ul style="list-style-type: none"> - reconciles the activity data (e.g., ROM extraction rate, product rate, diesel combustion, etc) used to estimate emissions with the proposed changes to conditions of consent. - includes GHG estimates reflective of the maximum proposed ROM extraction and product export rates. 	<p>The approved UCC operations are approved for the export of up to 20 Mtpa from the site, with no more than 4.1 Mtpa of ROM coal from the open cut mining operations on site.</p> <p>As identified, the MOD 6 Amendment estimated emissions for the 'Modified Business' scenario are based on ROM extraction rates ranging between 2.2 and 13.5 Mtpa. The product export rates for the same scenario range between 2.2 and 12 Mtpa.</p> <p>The open cut operations are currently in care and maintenance and not included in the 'Modified Business' scenario.</p> <p>The NSW Guide for Large Emitters requires that scope 1 and scope 2 emissions are estimated based on maximum capacity and planned operational throughput. However, for the Mod 6 Amendment the assessment is based on planned operational throughput, which fluctuates over time due to various factors, including coal resource characteristics, mining methods and equipment specifications. Because of the complex and inter-dependent nature of resource extraction, it is not practical to develop a separate scenario based solely on hypothetical maximum extraction rates. A hypothetical maximum extraction scenario would be highly artificial and would not be deliverable given the mining deposit parameters and equipment constraints. The results provided in this assessment therefore reflect a single (planned) operational condition. This aligns with the conceptual mine plan which formed the basis of the assessments undertaken for the Amended Modification 6, which was noted as being subject to change due to operational needs, geological conditions, technological advances and economic conditions.</p>
<p>2. The methodology to estimate fugitive emissions is to be justified</p> <p>The GHG assessment indicates that fugitive emissions were estimated using the average of the last 3 reported financial years and adjusted to ROM on a pro-rata basis. However, this approach has not been justified, and no supporting evidence is provided to show that previous monitoring and sampling data can be considered representative of proposed areas to be mined.</p> <p>Recommendation:</p> <p>Since historical reporting is the basis of the fugitive emissions provided in the GHG assessment, the EPA recommends supporting evidence is provided to justify the adopted methodology.</p> <p>Considerations should be given to:</p> <ul style="list-style-type: none"> - a. Provide a summary of historical reporting data and an analysis of trends to justify the use of the average of the 3 last reported years. - b. Discuss why previous monitoring data can be considered representative of emissions from the proposed areas to be mined. Justification may include (but not limited to) a summary of 	<p>Section 3.5 now presents the historical NGERs data that were used to calculate usage and emission intensities for the MOD 6 Amendment.</p> <p>Gas content data are also discussed to confirm that the historical data are suitable for quantifying emissions from areas proposed to be mined.</p>

Item	Response(s)
<p>findings of gas sampling event/s, monitoring data and analysis of gas content and ratios for the target seams.</p> <p>3. Input data, assumptions and estimates for the 'Business-as-Usual' scenario are to be included to verify results and conclusions in the GHG assessment.</p> <p>The GHG assessment does not include the emissions estimates for the 'Business as usual' scenario. To be consistent with assessment requirements in the guide, input data, assumptions and estimates are to be provided. This information is required to verify conclusions regarding the GHG estimates for the modification.</p> <p>This information is also needed to better understand the anticipated reduction and subsequent spike in extraction rates and activity intensity for 'Project Only' scenario between 2030-2032. These fluctuations are not consistent with the rates in other years.</p> <p>Further, it can be used to understand why the activity rates between 'Modified Business' and 'Project Only' scenario differ for the proposed two-year extension. If no operations under the current consent are to be undertaken beyond August 2033, activity rates for these scenarios, for these years, should be the same.</p> <p>Recommendation:</p> <p>The EPA recommends that prior to determination, the GHG assessment is revised to:</p> <ul style="list-style-type: none"> - a. Include input data, assumptions and annual estimates for the 'Business as usual' scenario. - b. Discuss the fluctuations in extraction and product rates as well as activity intensity for the other activities for years 2030-31 and 2031-32. - c. Discuss discrepancies, if any, between activity rates for years 2033-34 and 2034-2035. 	<p>Appendix C now includes copies of the input data and emission estimates for the 'Business as usual' scenario. Fluctuations are discussed in response to Item 1 above.</p> <p>Fluctuations in production rates and associated activity intensity associated with the 'Project Only' scenario (as shown in Figure 3 of the Revised GHG Assessment) are the result of:</p> <ul style="list-style-type: none"> - production tonnages and associated emissions during FY27 to FY29 are being driven primarily by development related activities within the Amended Modification 6 areas (rather than longwall extraction) - production tonnages and associated emissions are increasing during FY30 due to increased longwall extraction within the Amended Modification 6 areas - production tonnages and associated emissions are reducing during FY31 primarily due to development related activities (rather than extraction) - production tonnages and associated emissions are increasing in FY32 to FY34 due to increased longwall extraction within the Amended Modification 6 area. <p>Emissions are directly proportional to production output. As detailed above, the periods where production output is higher align with longwall extraction rather than development activities only. This change in production profile varies due to the location of mining activities within that FY period. There are periods where no longwall extraction is carried out within the Amended Modification 6 area as the longwall is extracting in another area of the approved Ulan West mining lease.</p>
<p>4. The GHG assessment does not include a detailed discussion or supporting evidence to demonstrate that mitigation measures have been adequately evaluated.</p> <p>The estimated emissions show that fugitive emissions are the main source of Scope 1 emissions, followed by diesel combustion from stationary equipment.</p> <p>The GHG assessment reasoned that the mine has negligible methane content hence the mitigation assessment has focused on diesel usage and electricity. However, there is insufficient evidence to demonstrate that mitigation measures have been adequately evaluated. For example, the GHG assessment does not include supporting analysis to show that the gas characteristics are not suitable for implementing GHG mitigation measures.</p> <p>It is also noted that the mitigation assessment does not discuss site-specific considerations such as the fleet readiness to adopt low carbon alternatives to fossil diesel.</p> <p>Recommendation:</p> <p>Additional information is provided to show that the mitigation assessment has considered gas characteristics and suitability for implementing mitigation measures to reduce fugitive emissions.</p>	<p>Further detail on gas content and composition characteristics, as well as mitigation measures and how they compare to best practice measures is now included in Section 3.4 and Table 3.</p> <p>Whilst not required by the Large Emitters Guide, an expert review of the mitigation measures has now also been voluntarily completed to support this assessment (see Umwelt, 2026).</p>
<p>5. The GHG assessment does not specify site-specific emissions reduction goals.</p> <p>The analysis of the emission trajectory for the project in Table 7 of the GHG assessment shows that future operations will result in higher emissions than the 2025-26 period and a reduction in emissions is anticipated for the 2033-34 and 2034-35 periods. However, these reductions are due to decrease in activity intensity towards the end of the proposed project life, rather than due to implementation of mitigation measures.</p> <p>Consistent with the guide, Applicants are expected to nominate emissions reduction goals for the proposal in the greenhouse gas assessment. Setting reductions goals upfront demonstrates the Applicant's efforts to reduce emissions for the proposal and to be consistent with the NSW or industry specific emissions reduction trajectory.</p> <p>If the project emissions trajectory does not align with the overall NSW net zero emissions trajectory, the Applicant must explain why the emission reduction trajectory still represents a meaningful contribution to NSW's emission reduction targets or supports NSW to decarbonise.</p> <p>The EPA recognises that emission reduction trajectories may be 'lumpy' and may depend on the implementation of different technologies or processes at different stages of a project. Therefore, when setting up reduction goals, a description of uncertainties in the timing and feasibility of emerging</p>	<p>This assessment has now been updated to include emission reduction goals. See Section 3.7.4.</p>

Item	Response(s)
<p>technologies being relied upon to support progress towards emissions reduction goals should be discussed.</p> <p>Recommendation:</p> <ul style="list-style-type: none"> - a. The greenhouse gas assessment be revised to nominate clear and site-specific emission reduction goals. Scope 1 goals are to be specified in absolute terms (i.e., tonnes CO₂-e for a given year), with emission intensity goals specified where appropriate. - b. If reduction goals rely on the timing and feasibility of emerging technologies, any uncertainties are to be discussed. Contingencies should be described in case technologies are not feasible for implementation. 	

Appendix B. NGRS Activity and Emissions Data for FY21/22 to FY23/24

Table B1 shows activity data and emissions reported under NGRS for FY21/22, FY22/23 and FY23/24.

Table B1 Recent data reported under NGRS

Parameter	Reported value(s)		
	FY21/22	FY22/23	FY23/24
ROM coal (t)	12,993,841	12,128,733	9,651,054
Fuel – Diesel (kL)	5,530	5,834	5,660
Emissions from Diesel Stationary (t CO ₂ -e)	14,594	15,426	14,920
Emissions from Diesel Transport (t CO ₂ -e)	393	383	418
Fugitive emissions (t CO ₂ -e)	35,837	28,766	37,814
Electricity usage (kWh)	197,393,935	194,660,846	170,700,130

Appendix C. Greenhouse gas emissions

**UCC without MOD 6 Amendment ("Business As Usual")
Diesel (stationary)**

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	2,637	2709.72	0	667.78	7,145	-	1,761	8,905
2026-27	5,209	2709.72	0	667.78	14,114	-	3,478	17,592
2027-28	6,002	2709.72	0	667.78	16,264	-	4,008	20,272
2028-29	5,737	2709.72	0	667.78	15,545	-	3,831	19,376
2029-30	3,621	2709.72	0	667.78	9,812	-	2,418	12,230
2030-31	5,347	2709.72	0	667.78	14,488	-	3,570	18,058
2031-32	4,161	2709.72	0	667.78	11,276	-	2,779	14,055
2032-33	4,116	2709.72	0	667.78	11,153	-	2,749	13,902
2033-34	3,016	2709.72	0	667.78	8,172	-	2,014	10,185
2034-35	1,050	2709.72	0	667.78	2,846	-	701	3,547
2035-36	-	2709.72	0	667.78	-	-	-	-
2036-37	-	2709.72	0	667.78	-	-	-	-
Total	40,895				110,814	-	27,309	138,123

**UCC without MOD 6 Amendment ("Business As Usual")
Diesel (transport)**

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	70	2717.44	0	667.78	191	-	47	237
2026-27	139	2717.44	0	667.78	377	-	93	469
2027-28	160	2717.44	0	667.78	434	-	107	541
2028-29	153	2717.44	0	667.78	415	-	102	517
2029-30	96	2717.44	0	667.78	262	-	64	326
2030-31	142	2717.44	0	667.78	387	-	95	482
2031-32	111	2717.44	0	667.78	301	-	74	375
2032-33	110	2717.44	0	667.78	298	-	73	371
2033-34	80	2717.44	0	667.78	218	-	54	272
2034-35	28	2717.44	0	667.78	76	-	19	95
2035-36	-	2717.44	0	667.78	-	-	-	-
2036-37	-	2717.44	0	667.78	-	-	-	-
Total	1,088				2,957	-	727	3,683

**UCC without MOD 6 Amendment ("Business As Usual")
Fugitive (Ulan Underground)**

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	1,851,899	2.945	0	0	5,454	-	-	5,454
2026-27	3,110,963	2.945	0	0	9,163	-	-	9,163
2027-28	4,336,806	2.945	0	0	12,773	-	-	12,773
2028-29	4,380,212	2.945	0	0	12,901	-	-	12,901
2029-30	2,269,812	2.945	0	0	6,685	-	-	6,685
2030-31	3,990,461	2.945	0	0	11,753	-	-	11,753
2031-32	4,090,118	2.945	0	0	12,046	-	-	12,046
2032-33	1,849,803	2.945	0	0	5,448	-	-	5,448
2033-34	1,560,800	2.945	0	0	4,597	-	-	4,597
2034-35	1,386,404	2.945	0	0	4,083	-	-	4,083
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	28,827,279				84,904	-	-	84,904

**UCC without MOD 6 Amendment ("Business As Usual")
Fugitive (Ulan West)**

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	3,676,973	2.945	0	0	10,830	-	-	10,830
2026-27	7,811,365	2.945	0	0	23,006	-	-	23,006
2027-28	8,249,372	2.945	0	0	24,297	-	-	24,297
2028-29	7,649,602	2.945	0	0	22,530	-	-	22,530
2029-30	5,323,220	2.945	0	0	15,678	-	-	15,678
2030-31	7,220,878	2.945	0	0	21,267	-	-	21,267
2031-32	4,635,746	2.945	0	0	13,653	-	-	13,653
2032-33	6,781,139	2.945	0	0	19,972	-	-	19,972
2033-34	4,762,842	2.945	0	0	14,028	-	-	14,028
2034-35	815,722	2.945	0	0	2,403	-	-	2,403
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	56,926,859				167,664	-	-	167,664

UCC without MOD 6 Amendment ("Business As Usual")
Electricity usage

Year	Usage (kWh)	Emission factor (kg CO2-e/kWh)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	89,475,839	0	0.47	0.03	-	42,054	2,684	44,738
2026-27	176,760,208	0	0.4	0.03	-	70,704	5,303	76,007
2027-28	203,686,931	0	0.34	0.02	-	69,254	4,074	73,327
2028-29	194,683,066	0	0.21	0.02	-	40,883	3,894	44,777
2029-30	122,880,944	0	0.15	0.01	-	18,432	1,229	19,661
2030-31	181,437,395	0	0.15	0.01	-	27,216	1,814	29,030
2031-32	141,213,993	0	0.13	0.01	-	18,358	1,412	19,770
2032-33	139,677,825	0	0.09	0.00	-	12,571	-	12,571
2033-34	102,337,921	0	0.09	0.00	-	9,210	-	9,210
2034-35	35,637,841	0	0.07	0.02	-	2,495	713	3,207
2035-36	-	0	0.06	0.01	-	-	-	-
2036-37	-	0	0.06	0.00	-	-	-	-
Total	1,387,791,963				-	311,176	21,123	332,299

UCC without MOD 6 Amendment ("Business As Usual")

Transport (Rail)

Factor kg CO2-e/t.km 0.02779 DEFRA 2024 - Freightng goods - Freight train
 Distance km 275 Assumed distance to port

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	7.64	-	-	39,161	39,161
2026-27	10,448,364	0	0	7.64	-	-	79,849	79,849
2027-28	11,756,681	0	0	7.64	-	-	89,847	89,847
2028-29	11,134,927	0	0	7.64	-	-	85,096	85,096
2029-30	7,223,813	0	0	7.64	-	-	55,206	55,206
2030-31	10,350,732	0	0	7.64	-	-	79,103	79,103
2031-32	6,953,566	0	0	7.64	-	-	53,141	53,141
2032-33	8,041,463	0	0	7.64	-	-	61,455	61,455
2033-34	6,145,047	0	0	7.64	-	-	46,962	46,962
2034-35	2,276,811	0	0	7.64	-	-	17,400	17,400
2035-36	-	0	0	7.64	-	-	-	-
2036-37	-	0	0	7.64	-	-	-	-
Total	79,455,650				-	-	607,220	607,220

UCC without MOD 6 Amendment ("Business As Usual")

Transport (Shipping)

Factor kg CO2-e/t.km 0.00353 DEFRA 2024 - Freighting goods - Cargo ship, bulk carrier, average
 Distance km 9507 Assumed distance to market

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	33.56	-	-	171,968	171,968
2026-27	10,448,364	0	0	33.56	-	-	350,644	350,644
2027-28	11,756,681	0	0	33.56	-	-	394,551	394,551
2028-29	11,134,927	0	0	33.56	-	-	373,685	373,685
2029-30	7,223,813	0	0	33.56	-	-	242,429	242,429
2030-31	10,350,732	0	0	33.56	-	-	347,368	347,368
2031-32	6,953,566	0	0	33.56	-	-	233,360	233,360
2032-33	8,041,463	0	0	33.56	-	-	269,869	269,869
2033-34	6,145,047	0	0	33.56	-	-	206,226	206,226
2034-35	2,276,811	0	0	33.56	-	-	76,409	76,409
2035-36	-	0	0	33.56	-	-	-	-
2036-37	-	0	0	33.56	-	-	-	-
Total	79,455,650				-	-	2,666,509	2,666,509

UCC without MOD 6 Amendment ("Business As Usual")
Energy Production

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	2436.48	-	-	12,485,120	12,485,120
2026-27	10,448,364	0	0	2436.48	-	-	25,457,230	25,457,230
2027-28	11,756,681	0	0	2436.48	-	-	28,644,918	28,644,918
2028-29	11,134,927	0	0	2436.48	-	-	27,130,028	27,130,028
2029-30	7,223,813	0	0	2436.48	-	-	17,600,677	17,600,677
2030-31	10,350,732	0	0	2436.48	-	-	25,219,351	25,219,351
2031-32	6,953,566	0	0	2436.48	-	-	16,942,226	16,942,226
2032-33	8,041,463	0	0	2436.48	-	-	19,592,863	19,592,863
2033-34	6,145,047	0	0	2436.48	-	-	14,972,285	14,972,285
2034-35	2,276,811	0	0	2436.48	-	-	5,547,405	5,547,405
2035-36	-	0	0	2436.48	-	-	-	-
2036-37	-	0	0	2436.48	-	-	-	-
Total	79,455,650				-	-	193,592,102	193,592,102

UCC with Modification 6 ("Modified Business")
Diesel (stationary)

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	2,637	2709.72	0	667.78	7,145	-	1,761	8,905
2026-27	5,240	2709.72	0	667.78	14,200	-	3,499	17,700
2027-28	6,021	2709.72	0	667.78	16,315	-	4,021	20,336
2028-29	5,866	2709.72	0	667.78	15,894	-	3,917	19,811
2029-30	5,971	2709.72	0	667.78	16,179	-	3,987	20,166
2030-31	5,773	2709.72	0	667.78	15,645	-	3,855	19,500
2031-32	5,749	2709.72	0	667.78	15,579	-	3,839	19,418
2032-33	6,370	2709.72	0	667.78	17,261	-	4,254	21,514
2033-34	5,196	2709.72	0	667.78	14,079	-	3,469	17,548
2034-35	1,050	2709.72	0	667.78	2,846	-	701	3,547
2035-36	-	2709.72	0	667.78	-	-	-	-
2036-37	-	2709.72	0	667.78	-	-	-	-
Total	49,873				135,141	-	33,304	168,445

UCC with Modification 6 ("Modified Business")
Diesel (transport)

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	70	2717.44	0	667.78	191	-	47	237
2026-27	139	2717.44	0	667.78	379	-	93	472
2027-28	160	2717.44	0	667.78	435	-	107	542
2028-29	156	2717.44	0	667.78	424	-	104	528
2029-30	159	2717.44	0	667.78	432	-	106	538
2030-31	154	2717.44	0	667.78	417	-	103	520
2031-32	153	2717.44	0	667.78	416	-	102	518
2032-33	169	2717.44	0	667.78	461	-	113	574
2033-34	138	2717.44	0	667.78	376	-	92	468
2034-35	28	2717.44	0	667.78	76	-	19	95
2035-36	-	2717.44	0	667.78	-	-	-	-
2036-37	-	2717.44	0	667.78	-	-	-	-
Total	1,327				3,606	-	886	4,492

UCC with Modification 6 ("Modified Business")
Fugitive (Ulan Underground)

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	1,851,899	2.945	0	0	5,454	-	-	5,454
2026-27	3,110,963	2.945	0	0	9,163	-	-	9,163
2027-28	4,349,983	2.945	0	0	12,812	-	-	12,812
2028-29	4,515,712	2.945	0	0	13,300	-	-	13,300
2029-30	4,323,148	2.945	0	0	12,733	-	-	12,733
2030-31	4,766,285	2.945	0	0	14,038	-	-	14,038
2031-32	4,449,765	2.945	0	0	13,106	-	-	13,106
2032-33	5,899,520	2.945	0	0	17,376	-	-	17,376
2033-34	4,903,853	2.945	0	0	14,443	-	-	14,443
2034-35	1,386,404	2.945	0	0	4,083	-	-	4,083
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	39,557,532				116,507	-	-	116,507

**UCC with Modification 6 ("Modified Business")
Fugitive (Ulan West)**

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	3,676,973	2.945	0	0	10,830	-	-	10,830
2026-27	7,877,999	2.945	0	0	23,203	-	-	23,203
2027-28	8,275,525	2.945	0	0	24,374	-	-	24,374
2028-29	7,783,912	2.945	0	0	22,926	-	-	22,926
2029-30	8,197,316	2.945	0	0	24,143	-	-	24,143
2030-31	7,340,380	2.945	0	0	21,619	-	-	21,619
2031-32	7,606,077	2.945	0	0	22,402	-	-	22,402
2032-33	7,457,816	2.945	0	0	21,965	-	-	21,965
2033-34	5,990,934	2.945	0	0	17,645	-	-	17,645
2034-35	815,722	2.945	0	0	2,403	-	-	2,403
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	65,022,654				191,508	-	-	191,508

UCC with Modification 6 ("Modified Business")
Electricity usage

Year	Usage (kWh)	Emission factor (kg CO2-e/kWh)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	89,475,839	0	0.47	0.03	-	42,054	2,684	44,738
2026-27	177,838,572	0	0.4	0.03	-	71,135	5,335	76,471
2027-28	204,323,415	0	0.34	0.02	-	69,470	4,086	73,556
2028-29	199,049,512	0	0.21	0.02	-	41,800	3,981	45,781
2029-30	202,623,451	0	0.15	0.01	-	30,394	2,026	32,420
2030-31	195,926,790	0	0.15	0.01	-	29,389	1,959	31,348
2031-32	195,104,293	0	0.13	0.01	-	25,364	1,951	27,315
2032-33	216,166,869	0	0.09	0.00	-	19,455	-	19,455
2033-34	176,314,503	0	0.09	0.00	-	15,868	-	15,868
2034-35	35,637,841	0	0.07	0.02	-	2,495	713	3,207
2035-36	-	0	0.06	0.01	-	-	-	-
2036-37	-	0	0.06	0.00	-	-	-	-
Total	1,692,461,083				-	347,423	22,736	370,160

UCC with Modification 6 ("Modified Business")

Transport (Rail)

Factor kg CO2-e/t.km 0.02779 DEFRA 2024 - Freighting goods - Freight train
 Distance km 275 Assumed distance to port

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	7.64	-	-	39,161	39,161
2026-27	10,502,275	0	0	7.64	-	-	80,261	80,261
2027-28	11,788,593	0	0	7.64	-	-	90,091	90,091
2028-29	11,344,012	0	0	7.64	-	-	86,694	86,694
2029-30	11,050,773	0	0	7.64	-	-	84,453	84,453
2030-31	11,099,601	0	0	7.64	-	-	84,826	84,826
2031-32	10,565,521	0	0	7.64	-	-	80,744	80,744
2032-33	12,020,316	0	0	7.64	-	-	91,862	91,862
2033-34	9,974,948	0	0	7.64	-	-	76,231	76,231
2034-35	2,276,811	0	0	7.64	-	-	17,400	17,400
2035-36	-	0	0	7.64	-	-	-	-
2036-37	-	0	0	7.64	-	-	-	-
Total	95,747,094				-	-	731,723	731,723

UCC with Modification 6 ("Modified Business")

Transport (Shipping)

Factor kg CO2-e/t.km 0.00353 DEFRA 2024 - Freighting goods - Cargo ship, bulk carrier, average
 Distance km 9507 Assumed distance to market

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	33.56	-	-	171,968	171,968
2026-27	10,502,275	0	0	33.56	-	-	352,453	352,453
2027-28	11,788,593	0	0	33.56	-	-	395,622	395,622
2028-29	11,344,012	0	0	33.56	-	-	380,702	380,702
2029-30	11,050,773	0	0	33.56	-	-	370,861	370,861
2030-31	11,099,601	0	0	33.56	-	-	372,499	372,499
2031-32	10,565,521	0	0	33.56	-	-	354,576	354,576
2032-33	12,020,316	0	0	33.56	-	-	403,398	403,398
2033-34	9,974,948	0	0	33.56	-	-	334,756	334,756
2034-35	2,276,811	0	0	33.56	-	-	76,409	76,409
2035-36	-	0	0	33.56	-	-	-	-
2036-37	-	0	0	33.56	-	-	-	-
Total	95,747,094				-	-	3,213,245	3,213,245

UCC with Modification 6 ("Modified Business")
Energy Production

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	5,124,245	0	0	2436.48	-	-	12,485,120	12,485,120
2026-27	10,502,275	0	0	2436.48	-	-	25,588,583	25,588,583
2027-28	11,788,593	0	0	2436.48	-	-	28,722,670	28,722,670
2028-29	11,344,012	0	0	2436.48	-	-	27,639,458	27,639,458
2029-30	11,050,773	0	0	2436.48	-	-	26,924,988	26,924,988
2030-31	11,099,601	0	0	2436.48	-	-	27,043,955	27,043,955
2031-32	10,565,521	0	0	2436.48	-	-	25,742,680	25,742,680
2032-33	12,020,316	0	0	2436.48	-	-	29,287,258	29,287,258
2033-34	9,974,948	0	0	2436.48	-	-	24,303,761	24,303,761
2034-35	2,276,811	0	0	2436.48	-	-	5,547,405	5,547,405
2035-36	-	0	0	2436.48	-	-	-	-
2036-37	-	0	0	2436.48	-	-	-	-
Total	95,747,094				-	-	233,285,879	233,285,879

Modification 6 ("Project only")
Diesel (stationary)

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	2709.72	0	667.78	-	-	-	-
2026-27	32	2709.72	0	667.78	86	-	21	107
2027-28	19	2709.72	0	667.78	51	-	13	63
2028-29	129	2709.72	0	667.78	349	-	86	435
2029-30	2,350	2709.72	0	667.78	6,367	-	1,569	7,937
2030-31	427	2709.72	0	667.78	1,157	-	285	1,442
2031-32	1,588	2709.72	0	667.78	4,303	-	1,060	5,364
2032-33	2,254	2709.72	0	667.78	6,108	-	1,505	7,613
2033-34	2,180	2709.72	0	667.78	5,907	-	1,456	7,363
2034-35	-	2709.72	0	667.78	-	-	-	-
2035-36	-	2709.72	0	667.78	-	-	-	-
2036-37	-	2709.72	0	667.78	-	-	-	-
Total	8,978				24,328	-	5,995	30,323

Modification 6 ("Project only")
Diesel (transport)

Year	Usage (kL)	Emission factor (kg CO2-e/kL)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	2717.44	0	667.78	-	-	-	-
2026-27	1	2717.44	0	667.78	2	-	1	3
2027-28	0	2717.44	0	667.78	1	-	0	2
2028-29	3	2717.44	0	667.78	9	-	2	12
2029-30	63	2717.44	0	667.78	170	-	42	212
2030-31	11	2717.44	0	667.78	31	-	8	38
2031-32	42	2717.44	0	667.78	115	-	28	143
2032-33	60	2717.44	0	667.78	163	-	40	203
2033-34	58	2717.44	0	667.78	158	-	39	196
2034-35	-	2717.44	0	667.78	-	-	-	-
2035-36	-	2717.44	0	667.78	-	-	-	-
2036-37	-	2717.44	0	667.78	-	-	-	-
Total	239				649	-	160	809

Modification 6 ("Project only")
Fugitive (Ulan Underground)

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	2.945	0	0	-	-	-	-
2026-27	-	2.945	0	0	-	-	-	-
2027-28	13,177	2.945	0	0	39	-	-	39
2028-29	135,500	2.945	0	0	399	-	-	399
2029-30	2,053,336	2.945	0	0	6,048	-	-	6,048
2030-31	775,824	2.945	0	0	2,285	-	-	2,285
2031-32	359,647	2.945	0	0	1,059	-	-	1,059
2032-33	4,049,717	2.945	0	0	11,927	-	-	11,927
2033-34	3,343,053	2.945	0	0	9,846	-	-	9,846
2034-35	-	2.945	0	0	-	-	-	-
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	10,730,253				31,603	-	-	31,603

**Modification 6 ("Project only")
Fugitive (Ulan West)**

Year	ROM coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	2.945	0	0	-	-	-	-
2026-27	66,634	2.945	0	0	196	-	-	196
2027-28	26,153	2.945	0	0	77	-	-	77
2028-29	134,310	2.945	0	0	396	-	-	396
2029-30	2,874,096	2.945	0	0	8,465	-	-	8,465
2030-31	119,502	2.945	0	0	352	-	-	352
2031-32	2,970,331	2.945	0	0	8,748	-	-	8,748
2032-33	676,677	2.945	0	0	1,993	-	-	1,993
2033-34	1,228,092	2.945	0	0	3,617	-	-	3,617
2034-35	-	2.945	0	0	-	-	-	-
2035-36	-	2.945	0	0	-	-	-	-
2036-37	-	2.945	0	0	-	-	-	-
Total	8,095,795				23,844	-	-	23,844

Modification 6 ("Project only")
Electricity usage

Year	Usage (kWh)	Emission factor (kg CO2-e/kWh)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	0	0.47	0.03	-	-	-	-
2026-27	1,078,363	0	0.4	0.03	-	431	32	464
2027-28	636,485	0	0.34	0.02	-	216	13	229
2028-29	4,366,446	0	0.21	0.02	-	917	87	1,004
2029-30	79,742,507	0	0.15	0.01	-	11,961	797	12,759
2030-31	14,489,394	0	0.15	0.01	-	2,173	145	2,318
2031-32	53,890,299	0	0.13	0.01	-	7,006	539	7,545
2032-33	76,489,044	0	0.09	0.00	-	6,884	-	6,884
2033-34	73,976,581	0	0.09	0.00	-	6,658	-	6,658
2034-35	-	0	0.07	0.02	-	-	-	-
2035-36	-	0	0.06	0.01	-	-	-	-
2036-37	-	0	0.06	0.00	-	-	-	-
Total	304,669,120				-	36,247	1,614	37,861

Modification 6 ("Project only")

Transport (Rail)

Factor kg CO2-e/t.km 0.02779 DEFRA 2024 - Freighting goods - Freight train
 Distance km 275 Assumed distance to port

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	0	0	7.64	-	-	-	-
2026-27	53,911	0	0	7.64	-	-	412	412
2027-28	31,912	0	0	7.64	-	-	244	244
2028-29	209,084	0	0	7.64	-	-	1,598	1,598
2029-30	3,826,960	0	0	7.64	-	-	29,247	29,247
2030-31	748,869	0	0	7.64	-	-	5,723	5,723
2031-32	3,611,954	0	0	7.64	-	-	27,603	27,603
2032-33	3,978,853	0	0	7.64	-	-	30,407	30,407
2033-34	3,829,901	0	0	7.64	-	-	29,269	29,269
2034-35	-	0	0	7.64	-	-	-	-
2035-36	-	0	0	7.64	-	-	-	-
2036-37	-	0	0	7.64	-	-	-	-
Total	16,291,444				-	-	124,503	124,503

Modification 6 ("Project only")

Transport (Shipping)

Factor kg CO2-e/t.km 0.00353 DEFRA 2024 - Freighting goods - Cargo ship, bulk carrier, average
 Distance km 9507 Assumed distance to market

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	0	0	33.56	-	-	-	-
2026-27	53,911	0	0	33.56	-	-	1,809	1,809
2027-28	31,912	0	0	33.56	-	-	1,071	1,071
2028-29	209,084	0	0	33.56	-	-	7,017	7,017
2029-30	3,826,960	0	0	33.56	-	-	128,432	128,432
2030-31	748,869	0	0	33.56	-	-	25,132	25,132
2031-32	3,611,954	0	0	33.56	-	-	121,216	121,216
2032-33	3,978,853	0	0	33.56	-	-	133,529	133,529
2033-34	3,829,901	0	0	33.56	-	-	128,530	128,530
2034-35	-	0	0	33.56	-	-	-	-
2035-36	-	0	0	33.56	-	-	-	-
2036-37	-	0	0	33.56	-	-	-	-
Total	16,291,444				-	-	546,736	546,736

Modification 6 ("Project only")
Energy Production

Year	Product coal (t)	Emission factor (kg CO2-e/t)			Emissions (t CO2-e/year)			
		Scope 1	Scope 2	Scope 3	Scope 1	Scope 2	Scope 3	Total
2025-26	-	0	0	2436.48	-	-	-	-
2026-27	53,911	0	0	2436.48	-	-	131,353	131,353
2027-28	31,912	0	0	2436.48	-	-	77,752	77,752
2028-29	209,084	0	0	2436.48	-	-	509,430	509,430
2029-30	3,826,960	0	0	2436.48	-	-	9,324,311	9,324,311
2030-31	748,869	0	0	2436.48	-	-	1,824,604	1,824,604
2031-32	3,611,954	0	0	2436.48	-	-	8,800,455	8,800,455
2032-33	3,978,853	0	0	2436.48	-	-	9,694,395	9,694,395
2033-34	3,829,901	0	0	2436.48	-	-	9,331,477	9,331,477
2034-35	-	0	0	2436.48	-	-	-	-
2035-36	-	0	0	2436.48	-	-	-	-
2036-37	-	0	0	2436.48	-	-	-	-
Total	16,291,444				-	-	39,693,777	39,693,777

Appendix 4

Greenhouse Gas Assessment Mitigation Measures Expert Review

1 April 2026

Brad Tanswell
Environment and Community Coordinator
Ulan Coal Mines Pty Limited

E bradley.tanswell@glencore.com.au

Dear Brad

RE: Ulan Coal Modification 6 Amendment– Greenhouse Gas Assessment Mitigation Measures Expert Review

Introduction

Ulan Coal Mines Pty Limited (UCMPL) has engaged Umwelt to conduct a voluntary expert review of the mitigation measures included in the Revised Greenhouse Gas (GHG) Assessment for the Modification 6 Underground Mining Extension (Amended Modification 6) to reflect the mitigation aspects of section 4.7 of the *NSW Guide for Large Emitters* (the Large Emitters Guide), released by the NSW Environment Protection Authority (EPA) in January 2025.

This report summarises the outcomes of the expert review.

Objectives

Section 4.7 of the Large Emitters Guide (EPA, 2025) requires that projects with Scope 1 and 2 emissions exceeding 100,000 tonnes of CO₂-e per year at any time over the operational life of the project must have their GHG mitigation assessment verified by an independent expert. The Amended Modification 6 is not anticipated to exceed Scope 1 and 2 emissions of 100,000 tonnes of CO₂-e per year, therefore an independent expert review has not been triggered. The NSW EPA provided advice (dated 27 January 2026) that recommended that UCMPL expands upon, and provides detailed information on the proposed GHG mitigation strategy, in accordance with Sections 3.3.3 to 3.3.4 of the Large Emitters Guide. Accordingly, UCMPL has voluntarily engaged Umwelt to conduct an expert review of the mitigation measures included in the Revised GHG Assessment.

This expert review assesses whether the Scope 1 and 2 mitigation measures proposed by UCMPL follow the mitigation hierarchy and are considered industry best practice, (or provide evidence-based justification for why best practice measures are not feasible and why other measures are proposed). Scope 3 mitigation measures are considered outside the scope of this review.

Review Findings

Table 1 below outlines the guidance in the Large Emitters Guide with respect to mitigation measures contained in the Revised GHG Assessment with added commentary regarding how the Revised GHG Assessment has responded to each item.

Table 1 NSW Guide for Large Emitters Checklist (partial)

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
Section 3.3 Emissions sources Address the scope 1, 2 and 3 emissions sources (consider using a figure to illustrate the emissions sources within the boundary).	Yes	Section 3.2 Table 2 of the Revised GHG Assessment addresses the Scope 1, 2 and 3 emissions sources in a tabular format to illustrate the emissions sources within the boundary.
Prioritise sources for mitigation and, if required, referencing initial emission estimates excluding mitigations to inform prioritisation.	Yes	Section 3.3 of the Revised GHG Assessment provides a breakdown of the contribution of Scope 1, 2 and 3 emission sources for the total life of mine to inform prioritisation of mitigation options. Scope 1 and 2 Sources: <ul style="list-style-type: none"> • Scope 1 Fugitive 0.055 Mt CO₂-e (47%) • Scope 1 Diesel (Stationary) 0.024 Mt CO₂-e (21%) • Scope 1 Diesel (Transport) 0.001 Mt CO₂-e (0.9%) • Scope 2 Electricity 0.036 Mt CO₂-e (31%).
For projects involving a modification, provide information on Scope 1 and 2 emissions from existing operations, including: <ul style="list-style-type: none"> • inventoried emissions by source 	Yes	Table 5 in Section 3.5 of the Revised GHG Assessment provides a breakdown of the GHG Emissions for ‘Business as Usual’ (existing operations), ‘Modified Business’ and ‘Project Only’ for the period 2025-26 to 2034-35 Appendix C of the Revised GHG Assessment provides a detailed breakdown of the GHG emissions for the period 2025-26 to 2036-37 for the ‘Project Only’ and ‘Modified Business’ scenarios.

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
<ul style="list-style-type: none"> mitigation measures and offset strategies being implemented any obligations under the Safeguard Mechanism current and planned emission goals. 		<p>Section 3.4 of the Revised GHG Assessment outlines the current and planned GHG mitigation measures for the existing operations, which are proposed to be maintained during the life of the Amended Modification 6.</p> <p>Section 3.8 of the Revised GHG Assessment confirms that there is currently no projected requirement for UCC to implement an offset strategy, however in the event that offsets are required in the future, an offset strategy is described.</p> <p>Section 2.2.3 of the Revised GHG Assessment discusses the Scope 1 emissions threshold of the Safeguard Mechanism. The 'Modified Business' emissions do not meet the Safeguard Mechanism Scope 1 emissions threshold of 100,000 t CO₂-e in any one year. The maximum Scope 1 emissions forecast for the 'Modified Business' is 57,062 t CO₂-e in 2032-33.</p> <p>Section 3.7.4 of the Revised GHG Assessment includes the net emissions reduction goals for UCC, stated in terms of the 'Modified Business' absolute Scope 1 and 2 emission projections for FY30 and FY35.</p> <p>In comparison to a FY27 baseline of 0.118 Mt CO₂-e of Scope 1 and 2 emissions the FY30 goal is 0.084 Mt CO₂-e or 71% of FY27 emissions. The FY35 goal is 0.012 Mt CO₂-e or 10% of FY27 emissions.</p>
<p>Section 3.4 Mitigation measures Provide a description of measures to be implemented to avoid and reduce the project's Scope 1, Scope 2 and Scope 3 emissions. For Scope 1 and 2 mitigation measures, include the following details from the assessment of mitigation measures:</p> <p>a) whether the planned measures represent the full range of best-practice design, technology and</p>	Yes	<p>Scope 1: The 'Modified Business' is forecast to have a Scope 1 emissions intensity that is already 28% lower than the industry best practice benchmark. As such the proposed mitigation measures are assessed to represent the full range of best practice design, technology and management measures relevant to the operation's specific Scope 1 emissions profile and operational circumstances.</p> <p>Scope 2: The GHG emissions estimates have included the forecast reductions in the emissions intensity of the NSW Electricity Grid (refer to Appendix C of Revised GHG Assessment).</p> <p>Whilst Scope 3 emissions are outside the scope of this review, it is noted that emissions from the UCC are considered in Glencore's emissions reduction targets, which cover Scope 1, 2 and 3 emissions.</p>

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
management measures that could be implemented.		
b) the feasibility and likely effectiveness of these measures, including risk mitigation and performance measures to be implemented.	Yes	<p>The UCC has a comprehensive planning and assessment process that includes GHG mitigation as described in Section 3.4 of the Revised GHG Assessment.</p> <p>UCMPL considers a range of initiatives for emissions reduction including low carbon fuels, onsite renewable energy, and purchase of offsite renewable energy. Whilst the costs and emissions reduction potential for these initiatives vary, presently they are not feasible from an economic and/or technical perspective.</p> <p>UCMPL's existing business planning processes are well placed to review this on an ongoing basis to identify when further initiatives to reduce emissions become feasible.</p> <p>Glencore regularly reviews emerging GHG mitigation technologies and their Technical Readiness Level (TRL), in support of sites such as UCC.</p>
c) a comparison of the project's emissions and emissions intensity per unit production benchmarked against other comparable projects, best practice, and industry sector standards/milestones where they exist.	Yes	<p>Section 3.7 of the Revised GHG Assessment discusses the 'Project Only' and 'Modified Business' operations emissions intensity. The 'Project Only' and 'Modified Business' have a Scope 1 emissions intensity 0.004 t CO₂-e/t ROM compared to the Australian industry average of 0.0653 t CO₂-e/t ROM. The 'Project Only' and 'Modified Business' emissions intensity is 93% lower than the Australian industry average and is 28% lower than the best practice benchmark of 0.00592 t CO₂-e/t ROM (DCCEEW, Safeguard Mechanism: Prescribed Production Variables and Default Emissions Intensities, Sch. 1, 2024).</p>
d) where best practice is not proposed to be adopted, provide a robust, verifiable justification.	Yes	<p>UCMPL's historical NGER reporting supports the facility's status as a non-gassy mine. Additionally, a range of gas characteristics data and ventilation reports have been sighted to confirm comparability of future mining areas to historical mining areas:</p> <ul style="list-style-type: none"> Gas content testing undertaken by CoalBed Laboratories in 2020 at Ulan 3 Underground reported 0% methane in the borehole samples DDH607 and DDH613 (CoalBed, 2020a, 2020b).

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
		<ul style="list-style-type: none"> Gas content testing undertaken by GeoGas in 2025 at Ulan West reported 0% methane in the borehole samples DDH680 and DDH684 (GeoGas, 2025). The Ulan West Underground Monthly Ventilation Report for December 2025 and accompanying data show methane levels in the mine return air is less than 0.01%, significantly less than the non-gassy mine threshold of 0.1%. Ulan West also conducts six-monthly grab samples of coal seams to verify gas content. Gas testing is undertaken by GeoGas. Results of 6 February 2026 from MG 10 Panel showed 0% methane in the sample (GeoGas, 2026). <p>The <i>Greenhouse Gas Mitigation Guide for NSW Coal Mines</i> (EPA, 2026) identifies expected mitigation measures for fugitive methane from both drainage gas and ventilation air methane (VAM). None of the requirements for fugitive emissions reductions apply to mines in the Western Coalfields, due to the known, regional low methane characteristics of the Western Coalfields. Assessments of the ‘Modified Business’ against the proposed measures are provided below.</p> <p>Drainage Gas (Table 1 EPA 2026) The ‘Modified Business’ will emit more than 25 kt CO₂-e per year (Scope 1), however its location in the Western coal fields, its very low gas content and dominant CO₂ composition, and its classification as a non-gassy mine i.e., an underground mine that has less than 0.1% methane in the mine’s return ventilation (<i>National Greenhouse and Energy Reporting (Measurement) Determination 2008</i>), makes pre or post gas drainage unfeasible.</p> <p>Ventilation Air Methane (VAM) and Leaks from Old Mine Workings (Table 1 EPA 2026) While the mine will be operational beyond July 2032 the ‘Modified Business’ Scope 1 emissions will be less than 100 kt CO₂-e per year and the mine is non-gassy, therefore the proposed mitigation measures for VAM (methane leak reduction and VAM destruction) are not feasible.</p> <p>Diesel Emissions (s3.3 EPA 2026) The ‘Modified Business’ will emit more than 25 kt CO₂-e (Scope 1) and plans to cease operation by July 2035.</p> <p>The EPA has not mandated electrification of coal mining vehicles nor the adoption of low carbon liquid fuels, stating barriers such as availability and cost. The EPA expects coal mines to continue</p>

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
		<p>to implement standard industry measures. The EPA strongly encourages mines to transition their vehicles to low emissions alternatives as soon as possible and use low carbon fuels as an interim step, depending on feasibility considerations.</p> <p>UCC mining is conducted mainly by electrified equipment and coal haulage is via conveyors. Minor ancillary equipment is diesel powered and UCMPL has considered alternatives to fossil fuel consumption, such as alternative drive trains and low carbon fuels. Currently, alternative drive trains for minor ancillary equipment are not feasible due to either low technical/commercial readiness level, or due to technical limitations (such as ramp and range limitations).</p> <p>The UCMPL has identified non-fossil diesel as a high cost emissions reduction measure, which is therefore currently infeasible. Such fuels currently face barriers such as high cost and limited availability. Such fuels may also face issues of ethical provenance as their feedstocks may have the potential to displace food-growing activities and have land use impacts e.g., deforestation. However, UCMPL's existing business and procurement processes should allow them to continue to review the options for a replacement for fossil diesel and emerging technologies for fleet replacement.</p>
Include reference to the mitigation hierarchy.	Yes	Figure 2 in Section 3.4 of the Revised GHG Assessment references the mitigation hierarchy of Avoid, Reduce, Substitute, Offset.
Include a reference to considering the cost of abatement.	Yes	As described in Section 3.4 of the Revised GHG Assessment, an assessment and ranking of the cost effectiveness and scale of relevant GHG mitigation options is undertaken.
Provide the uncertainties in the effectiveness of GHG mitigation measures and contingency actions to ensure level of performance.	Yes	The management practices described in Section 3.4 of the Revised GHG Assessment, as well as the GHG monitoring and reporting processes described below, provide adequate contingency for tracking emissions reduction performance.
When quantifying emission reductions for the project: <ul style="list-style-type: none"> • describe how you will record and store data for evaluating performance 	Yes	Section 3.5 and 3.7 of the Revised GHG Assessment discuss the 'Project Only' and 'Modified Business' operations emissions intensity. The 'Project Only' and 'Modified Business' have a Scope 1 emissions intensity 0.004 t CO ₂ -e/t ROM compared to the Australian industry average of 0.0653 t CO ₂ -e/t ROM. The 'Project Only' and 'Modified Business' emissions intensity is 93% lower than the Australian industry average and is 28% lower than the best practice benchmark of

Section and Requirement of NSW Guide for Large Emitters Checklist	Addressed? Yes/No	Comment and Revised GHG Assessment Reference (where applicable)
<ul style="list-style-type: none"> include the criteria you will use to determine whether additional measures need to be implemented, such as the contingency measures identified above, should the mitigation measures not achieve the desired level of performance. 		<p>0.00592 t CO₂-e/t ROM (Department of Climate Change, Energy, the Environment and Water (DCCEEW) Safeguard Mechanism: Prescribed Production Variables and Default Emissions Intensities, Sch. 1, 2024).</p> <p>UCC is responsible for following the Glencore National Greenhouse and Energy Reporting (NGER) Protocol. The protocol outlines the NGER Measurement Determination methodology for reporting emissions, including fugitive emissions. UCC is required to undertake monitoring in accordance with the Glencore Integrated Emissions Monitoring System. This includes conducting monthly reviews of the key input data in Pi Historian (Glencore data portal). UCC must review input data and calculated values using the Glencore NGER Underground Emissions Pi Data Validation procedure. This includes the tracking of methane percentage in mine return air against the non-gassy mine threshold of 0.1%</p> <p>The Ulan West Underground Monitoring Arrangements Plan outlines the Underground Mine Atmospheric Monitoring System implemented to meet OH&S Regulations and operational requirements.</p> <p>Section 3.7.4 of the Revised GHG Assessment identifies the quantitative and qualitative emissions goals for the 'Modified Business', and these will support monitoring performance against the proposed goals, as well as identifying if/what contingency measures may be required.</p>
<p>For projects with Scope 1 and 2 emissions exceeding 100,000 tonnes of CO₂-e per year at any time over the operational life of the project, mitigation assessments must be verified by an independent expert review. You must provide evidence that the review has been conducted by an independent and suitably credentialled reviewer.</p>	Yes	<p>UCMPL has voluntarily engaged Umwelt to conduct an expert review of the mitigation measures included in the Revised GHG Assessment.</p>

Conclusion

The emissions profiles of the 'Modified Business' and 'Project Only' scenarios consist of very low fugitive emissions, high levels of fleet electrification and subsequently low diesel consumption which result in a Scope 1 emissions intensity that is 93% lower than the industry average and already 28% lower than the industry best practice benchmark. The existing management practices and evaluation of mitigation measures at the UCC are embedded in the business processes of the mine where the feasibility of the Scope 1 and 2 mitigation measures proposed have been assessed to represent the full range of best practice design, technology and management measures relevant to the operation's specific circumstances. UCMPL considers a range of initiatives for emissions reduction including low carbon fuels, onsite renewable energy, and purchase of offsite renewable energy. Whilst the costs and emissions reduction potential for these initiatives vary, presently they are not feasible from an economic and/or technical perspective. UCMPL's existing business planning processes are well placed to review this on an ongoing basis to identify if/when further initiatives to reduce emissions become feasible

The Revised GHG Assessment has been prepared in accordance with the mitigation aspects of the Large Emitters Guide and all applicable Scope 1 mitigation objectives outlined in the *Greenhouse Gas Mitigation Guide for NSW Coal Mines* (EPA, 2026).

Fugitive methane levels at the UCC meet the definition of a non-gassy mine, limiting the feasibility of fugitive methane mitigation options.

The mining fleet has a high level of electrification and non-fossil diesel options for the remaining ancillary fleet are being assessed.

Qualifications

David Blyth, Umwelt Sustainability and Energy Lead, has been an energy and GHG consultant for over 25 years. David has conducted numerous GHG assessments for open cut and underground coal mines in NSW and has acted as a GHG expert in the NSW Land and Environment Court. David has also conducted energy and carbon audits for coal mines in NSW and undertook a literature review of best practice GHG abatement options for coal mining.

References

Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2024. *Safeguard Mechanism: Prescribed production variables and default emissions intensities*.

Environment Protection Authority (EPA), 2025. *NSW Guide for Large Emitters. Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes*.

Environment Protection Authority (EPA), 2026 *Greenhouse Gas Mitigation Guide for NSW Coal Mines*.

UCC and GCAA documents sighted for review:

- CoalBed Laboratories, GU20002_S045_DD607_213.31m, 2020a.
- CoalBed Laboratories, GU20010_S045_DD613_DWS7_145.57m, 2020b.
- GCAA, GHG Mitigation & Evaluation Process – Glencore, UWCO & Mod 6, 02/03/2026 (Commercial in Confidence).
- GCAA, NGER Reporting Protocol, 2024.
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- GeoGas, Gas Content Testing, Ulan West Optimisation Project, Boreholes DDH680 & DDH 684, 2025.
- GeoGas, Memorandum, Inseam Gas Content Result - Grab Sample, 13/2/2026.
- Ulan Coal Company, FY2020_21 – FY2025_26 Percentage CH4 of Mine Air.xlsx.
- Ulan West Underground, Monitoring Arrangements Plan, 2025.
- Ulan West Underground, Monthly Ventilation Survey, December 2025, 2026.

Yours sincerely



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