Whitehaven

2025

Maules Creek Continuation Project

Environmental Impact Statement

Section 7
Evaluation and Conclusion

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7 Evaluation and Conclusion

This section provides a summary evaluation and conclusion for the Project EIS. Consistent with the requirements of the SEARs, this section provides strategic justification of the Project and reasons for why the Project should be approved.

As part of this justification, consideration has been given to:

- the suitability of the site (section 7.1);
- project design decision, including feasible alternatives (Section 7.2);
- relevant planning considerations and policy objectives, including the principles of ESD (Section 7.3);
- key potential biophysical, economic and social impacts and benefits (Section 7.4); and
- the consequences of not carrying out the Project (Section 7.4.4).

7.1 Suitability of the Site

The Project is a 'brownfield' project that builds on and optimises the existing MCCM, including the existing water management system. The Project also includes a Landscape Revegetation Program that aims to provide a net benefit in biodiversity value through establishing approximately 2,300 ha of native woodland in the vicinity of the MCCM (compared to a disturbance area of approximately 683 ha) in addition to rehabilitation and offset requirements.

In particular, the Project would:

- continue and extend open cut mining wholly within the existing MCCM MLs (or MLAs);
- increase the operational workforce to an average of 940 people;
- make use of the existing CHPP and train load-out and rail spur infrastructure, with minor upgrades as required;
- allow for the construction and operation of a water transfer pipeline between the MCCM water transfer pipeline network and the approved VCM to TCM pipeline; and
- allow for a revegetation program to establish approximately 2,300 ha of native woodland.

7.1.1 EXISTING MINING LEASES

The objects of the Mining Act are to encourage and facilitate the development of mineral resources in NSW (including coal), having regard to the need to encourage ESD.

The Project would involve the extraction of open cut coal resources primarily within CL375. CL375 was first granted to Aston Coal 2 Pty Ltd in 1991. Mining operations would occur within ML 1719 and AUTH 346 where these adjoin or overlie CL 375.

MCC is seeking a mining lease over a part of AUTH 346 for surface mining rights.

A Petroleum Exploration Licence (PEL1) held by Santos Qnt Pty Ltd and Australian Coalbed Methane Pty Limited is located across the Project Mining Area.

Exploration in the general area of the MCCM (including within the Project Mining Area) has been conducted since the 1970s and has informed detailed mine planning and the understanding of the coal quality and geological features within the MCCM and the Project Mining Area.

The existing infrastructure of the MCCM is largely located within existing CL 375 and ML 1719 and ML 1701, and would continue to be used and upgraded where required for the handling, processing and transportation of coal for the life of the Project.

7.1.2 EXISTING MINE INFRASTRUCTURE

Key existing infrastructure assets at the MCCM include:

- MCCM MIA including CHPP, train load-out and rail spur infrastructure, ROM product coal stockpiles, administration offices, workshops, fuel and lubrication storage facilities, stores, buildings, washdown facilities, laydown and hardstand areas and ablution facilities.
- Existing open cut operations and associated overburden emplacement within the out-of-pit Northern Emplacement and the Southern Emplacement.
- RWD2 and MWD2 (to be constructed prior to the Project commencing) and associated water supply systems.
- Sediment dam infrastructure and associated clean water diversion infrastructure.

- Main site access road and other site access roads and internal access and haul roads.
- Extensive electricity supply and distribution system.
- Existing explosives storage facility which includes the explosives magazine facility, explosives planning area and production hub.
- Lighting sources such as lighting plants, stationary work lights, fixed/permanent lights and vehicle mounted lights.
- Potable water supply infrastructure including a water supply truck.
- Extensive environmental monitoring network.

The use and upgrades of the existing operating MCCM infrastructure for the Project would result in significantly less land disturbance, and a lower initial capital cost, than would otherwise be required for a "greenfield" project.

7.1.3 EXISTING WORKFORCE

The existing MCCM has an estimated average workforce of approximately 865 people.

The operational workforce required for the Project would increase to an estimated average of approximately 940 people, with a peak of approximately 1,030 people (including MCCM staff and on-site contractor personnel) anticipated.

Construction activities for the Project including the construction of the water transfer pipeline, development of a go-line, access and infrastructure area and establishment of a revegetation program would require an additional 35 people at its peak.

Consultation with Civeo Corporation (accommodation provider) has confirmed that sufficient accommodation at the Boggabri and Narrabri accommodation camps would be available for the Project construction and non-local operational workforces for the Project.

7.1.4 PERMISSIBILITY

The consent authority can be satisfied that the relevant provisions of the EP&A Act, Resources and Energy SEPP and Narrabri LEP operate such that the Project (to be carried out within land zoned either as RU1 [Primary Production] or RU3 [Forestry]) is permissible with development consent (Section 4.2.2).

This EIS presents an assessment of the potential biophysical, economic and social impacts and benefits of the proposed continuation and extension of the existing MCCM.

7.1.5 CONSIDERATION OF THE COMPATIBILITY OF THE PROJECT WITH RELEVANT LAND USES

This sub-section provides consideration of the compatibility of the Project with existing and approved land uses in the vicinity of the Project, along with any likely preferred land uses. Further consideration of the public benefits of the proposed Project is provided in Section 7.4 and 7.5.

The Project involves the continuation of mining at the MCCM within existing mining and exploration tenements. Other existing and approved land uses in the vicinity of the Project include:

- BCM located to the south-east of the MCCM, with existing surface facilities and open cut mining operations. The BCM forms part of the BTM Complex.
- TCM located to the south-east of the MCCM, with existing surface facilities and open cut mining operations. The TCM forms part of the BTM Complex.
- Exploration, petroleum and mining tenements surrounding the MCCM which are subject to approved mineral exploration and mining activities by a number of parties.
- Leard State Forest surrounding the MCCM to the east and south, as well as the Leard SCA located to the west of the MCCM.
- Agricultural land managed by Whitehaven, which is subject to a number of uses including livestock grazing and cropping.
- Proximal private agricultural land that is largely subject to livestock grazing (sheep and cattle) and various cropping (primarily grains).

- The village of Maules Creek and locality of Harparary and associated residential, commercial and industrial areas (including extractive industries), and sparsely located rural residences located to the east, north and west of the MCCM.
- The town of Boggabri located to the south-west of the MCCM.

There is no mapped viticulture or equine critical industry clusters within or surrounding the MCCM.

As the Project would be a continuation of the MCCM, with the addition of the water transfer pipeline and the Landscape Revegetation Zones, it would be compatible with the surrounding land uses.

Compatibility with Nearby Mines

The MCCM forms part of an existing mining precinct referred to as the BTM Complex, which comprises the MCCM, BCM and TCM.

BCM is operated by BCOPL, a wholly owned subsidiary of Idemitsu. MCCM is operated by MCC a wholly owned subsidiary of Whitehaven. TCM is operated by Tarrawonga Coal Pty Ltd, a wholly owned subsidiary of Whitehaven.

The VCM is also an existing mining operation (not part of the BTM Complex) located approximately 25 km north of Gunnedah. The VCM is operated by Vickery Coal Pty Ltd, a wholly owned subsidiary of Whitehaven.

MCC would continue to consult and work closely with BCOPL and Tarrawonga Coal Pty Ltd regarding the interactions between these operations and the Project, to maximise cooperation and efficiencies.

Key interactions between these operations are anticipated to include:

- Potential amenity impacts on Idemitsu managed rural residences (noting that predicted noise and air quality levels would be broadly consistent with the approved MCCM, particularly for Idemitsu managed properties to the south) (Section 6 and Appendices H and I).
- Following closure of the TCM at the end of 2030, it is proposed that the TCM final void be utilised as a water storage to send water to MCCM (and VCM) in dry times to reduce reliance on the Namoi River and bore water. Similarly in wet times when there is excess water at MCCM (and VCM) it is proposed that water be pumped into the TCM final void to reduce the mine water inventory at MCCM (and VCM).
- Monitoring and collective management of cumulative environmental impacts from the operations.
- Continued review and revision of environmental strategies/management plans in accordance with project approval conditions for the three mines of the BTM Complex.
- Operation and maintenance of the water pipeline network between VCM and TCM.
- Agreements for use of the shared rail spur and access road.

Based on the above and the engagement outcomes to date (Section 5):

- There is not anticipated to be any material incompatibility between the Project and existing and approved mining land uses in the vicinity of the Project.
- There may be some potential benefits and efficiencies associated with the proposed water sharing and water storage arrangements between the VCM and TCM.
- MCC would continue to work closely with BCM and TCM regarding potential cumulative impacts from operations, and work in partnership with the development of the relevant environmental strategies as required under the relevant project approval conditions for the three mines.

Leard State Forest

Mining within the Leard State Forest was comprehensively assessed by representatives from all key Government agencies as part of the development of the BNCCA Act.

The BNCCA Act provides for the conservation of large areas of land while also recognising the socio-economic benefits of the resources sector. The BNCCA Act defines a zone (Zone 4) in areas of State Forests within which mineral extraction can occur.

The Leard State Forest was defined as being within Zone 4, acknowledging the existing mining interests and approvals over the land. Zoning the Leard State Forest in this way was an outcome of balancing conservation and economic development potential (subject to merit assessment). At the time this Zone 4 determination over the Leard State Forest was made, the primary mining tenement for the MCCM (CL 375) was in place.

Prior to mining operations, the Leard State Forest has historically been utilised for forestry and recreation. In parallel to mining operations occurring in the Gunnedah Basin, the forestry industry has declined as large tracts of previously forested land have been afforded environmental and heritage protection.

The Leard State Forest continues to be subject to forestry operations, however at a smaller scale due to the BTM Complex. Further, the Leard State Forest also provide areas for public use for recreation (outside of existing mining operations and exclusive use areas), which would continue for the Project.

The MCCM, BCM and TCM have approval to operate within, and adjoining to, the Leard State Forest. The Leard State Forest provides partial habitat corridors to the Leard SCA located to the west of the MCCM.

MCC has an existing agreement with the Forestry Corporation of NSW to compensate for mining operations within the Leard State Forest. MCC has several biodiversity offset areas secured under Conservation Agreements that provide habitat linkages to the Leard State Forest. MCC is currently implementing a program to restore woodland within the biodiversity offset areas. The BTM Complex has an existing Leard Forest Regional Biodiversity Strategy (Umwelt [Australia] Pty Ltd, 2017) in place to provide a framework for the development, implementation and management of biodiversity offset programs across the three mines.

As part of the Project, MCC is seeking to expand the revegetation program to include an additional 2,300 ha (approximately) of land to expand habitat adjacent to the Leard State Forest.

The Landscape Revegetation Zones would directly connect existing conserved areas including biodiversity offset areas established by Whitehaven and Idemitsu and the Leard State Forest, and form broader woodland connections between the Vickery State Forest and the Leard State Forest. Further, existing woodland areas such as that on Goonbri Mountain would also be connected to the Leard State Forest by the Landscape Revegetation Zones.

Whilst the Project would change the current land use of the Project Mining Area, there is not anticipated to be any material incompatibility between the Project and the Leard State Forest due to the continuation and expansion of existing open cut mining operations within the Leard State Forest, which would be subject to a revised agreement with Forestry Corporation of NSW.

Further, the Project would enable the establishment of approximately 2,300 ha of native woodland in the vicinity of the MCCM, which would provide improved biodiversity values in the region and increase the habitat connectivity with the Leard State Forest.

Proximal Agricultural Land

The Project Mining Area is located within land that has previously been subject to livestock grazing, however the current land use is open paddocks (not currently utilised for private agricultural production).

MCC has designed the Project (Project Mining Area, water transfer pipeline and Landscape Revegetation Zones) to avoid higher quality agricultural areas. Whilst the Project Mining Area would not significantly impact any current agricultural enterprises, it would slightly reduce the amount of area available for agricultural production in the future.

The water transfer pipeline would not be incompatible with existing agricultural production, which would continue to be undertaken throughout the life of the Project (following construction and installation of the pipeline).

Whilst the Landscape Revegetation Zones has targeted areas of lower agricultural productivity within Whitehaven-managed land, the establishment of the Landscape Revegetation Zones would temporarily reduce the availability of agricultural land. However, MCC would consider some limited grazing within the Landscape Revegetation Zones as a land management tool to be undertaken (once the woodland has reached maturity).

Despite the reduction in available land for future agricultural production, it was concluded that the Project would not result in significant impacts to regional agricultural resources and agricultural production (Appendix O). It was also concluded that the land is suitable for the proposed Project Mining Area, water transfer pipeline and Landscape Revegetation Zones (Appendix L).

MCC would continue to facilitate the productive use of Whitehaven-managed agricultural land outside of Project active mining areas and the Landscape Revegetation Zones through leasing arrangements (e.g. to local farmers) over the life of the Project.

Village of Maules Creek and Harparary

The village of Maules Creek is located directly north of the MCCM and comprises a collection of rural properties, a public school, community hall and a church. Maules Creek has an approximate population of 87 people.

Harparary is a locality to the west of the MCCM and is home to a number of residents on agricultural properties.

Of relevance to potential impacts to the residents in Maules Creek and Harparary (and residents of surrounding rural properties), the Project would involve:

- the continuation and staged expansion of existing mining activities, with continued amenity impacts (Project noise, air quality and lighting contributions broadly consistent with the currently approved MCCM);
- increase in the elevation and scale of out-of-pit emplacement areas affecting visual amenity; and
- delay in progressive rehabilitation and final landform establishment.

Any potential incompatibility that may arise as a result of the Project would largely be related to potential amenity impacts on these residences. Section 6 summarises the key assessment outcomes related to amenity impacts and provides an overview of proposed mitigation and management measures.

It is acknowledged that some residents experience amenity impacts from the MCCM, including noise, dust and light pollution, as well as feral animal incursions from Whitehaven-managed land (Appendix E). Measures to manage amenity impacts are discussed below.

Based on the assessment undertaken by RWDI (2025), the Project would comply with all recommended noise and blast assessment criteria (with the exception of one landholder who has existing voluntary acquisition rights), and is not anticipated to significantly increase existing amenity impacts experienced by the surrounding community with all proposed noise and blasting management and mitigation measures in place.

Based on the assessment undertaken by TAS (2025a), the Project would result in no exceedances of long-term air quality criteria at any privately-owned residences due to emissions from the Project in isolation, or from the Project with other mining operations. Short-term cumulative dust impacts may potentially arise at a small number of privately-owned residences, however, with the application of the existing MCCM proactive/reactive dust mitigation measures for the Project, it is predicted that short-term cumulative dust would be adequately managed to acceptable levels.

The LVIA concluded that the incremental visual impacts of the Project would have negligible changes to the approved and existing impacts experienced for the MCCM (Appendix M).

Therefore, it is considered that there would not be any material incompatibilities between the Project and existing residential land uses within Maules Creek and Harparary.

Town of Boggabri

Boggabri is the closest town to the Project located approximately 17 km south-west of the MCCM.

Due to its distance from the Project, Boggabri is not currently experiencing material direct amenity impacts, but rather indirect effects of the mining industry as a whole (both negative and positive).

An assessment of the potential social impacts of the Project on the residents of Boggabri concluded that as the Project represents a continuation of existing mining at the MCCM, most impacts are continuations of existing experiences, and mostly at similar levels. As such, beyond an extension in time, the Project is unlikely to lead to a significant change in impacts experienced within the primary locality, which includes Boggabri (and Maules Creek and Harparary).

Should the Project not be approved, socio-economic impacts to the Boggabri community would be more largely negative and more significant than the continuation of existing amenity impacts (Appendix E).

Compatibility with Likely Preferred Land Uses in the Vicinity of the Project

Attachment 5 provides a consideration of the compatibility of the Project with any likely preferred land uses (as described in relevant strategic planning statements and policies). It is considered that the Project would not be materially incompatible with existing, approved or likely preferred uses of the land in the vicinity of the Project.

7.2 Key Design Alternatives

A detailed consideration of key feasible alternatives to the Project design is provided in Section 2.

In summary, the location and extent of the Project Mining Area has been designed in consideration of key spatial constraints, including:

- the location of existing mining and exploration tenements (namely to the east);
- existing disturbance limits of emplacement areas and existing infrastructure areas;
- the standoff from Back Creek (to the north); and
- the existing vegetated corridor (to the south).

The Project considered the following alternatives (Section 2):

- **Alternative open cut mining locations** – not adopted due to the above spatial constraints, resulting in reduced recovery of coal resources.
- **Reduction in the open cut extension area** – further reduction of the open cut extension area beyond current setback from Back Creek was not adopted as this would reduce the amount of ROM coal recovered by the Project and result in sterilisation of residual coal resources, leading to negative economic impacts (including reduced royalties and tax payment to the State of NSW).

- **Alternative waste rock emplacement areas outside of existing rehabilitation areas** – not adopted as would result in increased environmental impacts from additional disturbance, and although placement of waste rock material on the existing emplacement area would increase elevation, it would not risk achievement of the desired post-mining land use.
- **No mine life extension** – not adopted as cessation of mining operations in 2034 would result in negative socio-economic impacts to MCCM stakeholders, employees and for local businesses receiving direct and indirect benefits from the MCCM, and would result in loss of royalties to the State of NSW.
- **Alternative mining method** – underground mining methods was not adopted for the Project as it would reduce the recovery of coal resources and would require substantial capital costs.
- **Alternative final landform** – proceeding with a final landform where the final void was backfilled was not adopted as it would result in worse environmental outcomes from a groundwater perspective (as it would likely not act as a groundwater sink), as well as prolonged amenity and environmental impacts (as backfilling operations would take several years).
- **Alternative size and locations for the Landscape Revegetation Zones** – the size and locations of the Landscape Revegetation Zones were constrained to lower agricultural quality land, Whitehaven-managed land, areas that would improve the habitat connectivity to the Leard State Forest and surrounding conserved areas. Areas that did not meet these requirements were not pursued.
- **Alternative water transfer pipeline alignments** – original pipeline alignment designs were reviewed and revised to avoid areas of native woodland.

Ultimately, the above-mentioned Project alternatives were not adopted as they were not considered economically or operationally feasible, would significantly reduce economic and social benefits, would significantly increase environmental impacts and/or the potential outcomes would not have aligned with stakeholder expectations and MCC's objectives for the Project (Section 1.2).

Additional detail of the key Project design alternatives is provided in Section 2.

7.3 Statutory Requirements and Planning/Policy Objectives

7.3.1 CONSIDERATION OF THE PROJECT AGAINST THE OBJECTS OF THE EP&A ACT

Section 1.3 of the EP&A Act describes the objects of the EP&A Act as follows:

(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,

(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,

(c) to promote the orderly and economic use and development of land,

(d) to promote the delivery and maintenance of affordable housing,

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),

(g) to promote good design and amenity of the built environment,

(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,

(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,

(j) to provide increased opportunity for community participation in environmental planning and assessment.

The Project is considered to be generally consistent with the objects of the EP&A Act, as:

- The Project would facilitate continued and expanded local and regional employment, economic development opportunities and community development (Section 6.17 and 6.18, Appendices E and K).

- The Project would develop the State's coal resources within MCCM tenements, with the value of coal production remaining steady in NSW due to the increased overseas coal demand, and as recognised in the NSW Government's Strategic Statement on Coal (2020).
- The Project would incorporate relevant ESD considerations (Section 7.3.5).
- The Project is compatible with its near neighbours (Section 6 and 7.1).
- The Project would incorporate a range of measures for the protection of the environment, including avoidance of native woodland within the water transfer pipeline alignment, and establishment of approximately 2,300 ha of native woodland to provide habitat linkages to the Leard State Forest (Section 6).
- Aboriginal and non-Aboriginal heritage assessment have been undertaken and the Project would avoid impacts to sites of moderate or high scientific (archaeological) significance, and places of local heritage significance (Sections 6.12 and 6.13, Appendices F and G).
- The Project would make use of the existing MCCM infrastructure, including the MIA. The Project incorporates leading mine landform design principals and progressive rehabilitation that would act to minimise the visual contrast of the integrated waste rock emplacement with the surrounding environment (Section 6.16 and Appendix M).
- A PHA (Whitehaven, 2025g) has been conducted to assess potential hazards associated with the Project (Section 6.19 and Appendix R). The Project would operate within MCC's safety management systems and NSW legislation to manage risks to workers and other persons.
- The Project would be determined by the NSW Minister for Planning and Public Spaces or the IPC; however, a wide range of stakeholders have been consulted throughout the assessment process.
- The Project would be developed in a manner that incorporates community engagement through the Project EIS consultation (Section 5) as well as public exhibition of the EIS document and the major project assessment process.

7.3.2 CONSIDERATION OF THE PROJECT AGAINST THE OBJECTS OF THE EPBC ACT

Section 3 of the EPBC Act describes the objects of the EPBC Act as follows:

> *(1) The objects of this Act are:*
>
> *(a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance; and*
>
> *(b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and*
>
> *(c) to promote the conservation of biodiversity; and*
>
> *(ca) to provide for the protection and conservation of heritage; and*
>
> *(d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples; and*
>
> *(e) to assist in the co-operative implementation of Australia's international environmental responsibilities; and*
>
> *(f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and*
>
> *(g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.*

The Project is considered to be generally consistent with the objects of the EPBC Act, as:

- The Project incorporates measures to protect the environment (including MNES), through the Project design including the avoidance of mature tree roots within the water transfer pipeline (Section 2), establishment of 2,300 ha of native woodland within the Landscape Revegetation Zones and the application of mitigation, offsets and other measures (Section 6).

- The Project would develop the State's mineral resources (i.e. coal resources) while incorporating relevant ESD considerations (Section 7.3.5).
- An assessment of potential biodiversity impacts has been undertaken, and the Project includes a proposal for offsetting unavoidable impacts on ecology (including threatened species and communities listed under the EPBC Act) associated with the Action and other compensatory measures (Section 6.3 and Appendix C).
- The Action under the EPBC Act would not have a significant impact on water resources in consideration of the guidance in the Significant Impact Guidelines for Water Resources (Cth DCCEEW, 2022) (Sections 6.4 and 6.5 and Appendices A and B).
- Aboriginal and non-Aboriginal heritage assessments have been undertaken, which identify relevant cultural values (including the significance of biodiversity in Aboriginal cultural values), and suitable mitigation measures for potential direct and indirect impacts which have been incorporated into the Project (Sections 6.12 and 6.13 and Appendices F and G).
- The Project would be developed in a manner that incorporates engagement from the community, landholders and Indigenous peoples through the Project EIS consultation program (Section 5 and Appendix E), the public exhibition of the EIS document and the NSW major project assessment process.
- This EIS includes consideration of the Project's contribution to maintaining Australia's international environmental responsibilities and the potential impacts on these (e.g. consideration of greenhouse gas emissions) (Section 6.11 and Appendix J).

7.3.3 EVALUATION UNDER SECTION 4.15(1) OF THE EP&A ACT

In evaluating the DA for the Project under section 4.15(1) of the EP&A Act, the consent authority is required to take into consideration a range of matters as are of relevance to the Project, including:

(a) the provisions of—

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Planning Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),

(v) (Repealed)

that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest.

This EIS has been prepared to address the requirements of section 4.15(1) to assist the NSW Minister for Planning and Public Spaces or the IPC in evaluating the Project, as follows:

- Consideration of the requirements of relevant environmental planning instruments, and the EP&A Regulation is provided in this EIS.
- The MCCM currently has a Planning Agreement with NSC. While no revised planning agreement or draft planning agreement has been agreed for the Project to date, Whitehaven has commenced consultation with NSC (Section 5) and intends to negotiate with NSC in good faith to reach agreement on the terms of a planning agreement for the Project.
- The predicted impacts of the Project, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality are provided in Section 6 and Appendices A to R.

- The suitability of the proposed site for the Project is considered in Sections 2, 3, 6 and 7.1.
- Consideration of whether, on evaluation, the Project is considered to be in the public interest is provided in Section 7.5.

7.3.4 POTENTIAL IMPLICATIONS OF CLIMATE CHANGE

If the Project is approved and proceeds, the Project's contribution to global climate change effects would be proportional to its contribution to global greenhouse gas emissions. The Project's contribution to Australian emissions would be relatively small, as estimated annual average Scope 1 and 2 emissions from the MCCM during the life of the Project represent approximately 0.3% of the estimated total greenhouse gas emissions in NSW from 2022 and approximately 0.08% of Australia's annual greenhouse gas emissions from 2023 (Appendix J).

It is anticipated that the majority of the Scope 3 emissions from the use of MCCM coal would occur overseas. The estimated Scope 3 emissions associated with the combustion of coal produced by the MCCM by customer entities would represent approximately 0.047% of the total anthropogenic greenhouse gas emissions globally (excluding land use change) in 2023 (Appendix J).

The potential contributions of Project greenhouse gas emissions to national and international emissions are further considered in Section 6.11 and Appendix J.

Whitehaven has considered the key potential climate change risks to the MCCM (namely increased frequency in bushfires, water reliability during dry periods and potential long-term rainfall increases) in the design of the Project. Whitehaven would continue to assess climate change risks and greenhouse gas emissions on an ongoing basis via implementation of an adaptive management approach implemented in accordance with a Climate Change Mitigation and Adaptation Plan in the context of Commonwealth and State emission reduction targets and Project compliance requirements (Appendix J).

7.3.5 ESD CONSIDERATIONS

Background

The concept of sustainable development came to prominence at the World Commission on Environment and Development (1987), in the report titled *Our Common Future*, which defined sustainable development as:

> *…development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*

In recognition of the importance of sustainable development, the Commonwealth Government developed a NSESD (Commonwealth of Australia, 1992) that defines ESD as:

> *…using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.*

The NSESD was developed with the following core objectives:

- to enhance individual and community wellbeing and welfare by following a path of economic development that safeguards the welfare of future generations;
- to provide for equity within and between generations; and
- to protect biological diversity and maintain essential processes and life support systems.

In addition, the NSESD contains the following goal:

> *Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.*

In accordance with the core objectives and a view to achieving this goal, the NSESD presents private enterprise in Australia with the following role:

> *Private enterprise in Australia has a critical role to play in supporting the concept of ESD while taking decisions and actions which are aimed at helping to achieve the goal of this Strategy.*

The Project will require approval under both the EP&A Act (Section 4.2.1) and EPBC Act (Section 4.2.9).

In deciding whether or not to approve the Project, the Commonwealth Minister must take into account the principles of ESD pursuant to section 136(2) of the EPBC Act. The relevant definition of the principles of ESD is provided in section 3A of the EPBC Act.

Section 193 of the EP&A Regulation sets out the principles of ESD. The term ESD is defined under the EP&A Act to have the same meaning as it has in section 6(2) of the NSW *Protection of the Environment Administration Act 1991* (PoEA Act). The principles of ESD as outlined in section 3A of the EPBC Act and section 6(2) of the PoEA Act are presented and compared in Table 7-1.

Consideration of ESD for the Project

The design, planning and assessment of the Project has been carried out applying the principles of ESD through:

- incorporation of risk assessment and analysis at various stages in the Project design, environmental assessment and decision-making;
- responsible development of resources, enhancing community welfare and economic development;
- safeguarding intergenerational equity during the transition to low carbon sources (e.g. if the Project were not to proceed, future generations would not receive the socio-economic benefits as a result of the Project);
- minimisation of impacts resulting from capital development through efficient use of existing infrastructure;
- conservation of biological diversity and ecological integrity through the establishment of the Landscape Revegetation Program;
- adoption of high standards for environmental and occupational health and safety performance;
- consultation with regulatory and community stakeholders;
- optimisation of the economic benefits to the community arising from the development of the Project; and
- taking into account biophysical considerations in the Project design.

Assessment of potential medium and long-term impacts of the Project was carried out during the preparation of this EIS on aspects of surface water and groundwater, visual character, agriculture, transport movements, air quality emissions, greenhouse gas emissions, noise emissions, aquatic and terrestrial ecology, heritage and socio-economics.

In addition, it can be demonstrated that the Project can be operated in accordance with ESD principles through the application of management measures, compensatory measures and offset measures that have been developed based on conservative impact assumptions for the Project.

The following sub-sections describe the consideration and application of the principles of ESD to the Project.

Precautionary Principle

Environmental assessment involves predicting the likely environmental outcomes of a development. The precautionary principle reinforces the need to take risk and uncertainty into account, especially in relation to threats of irreversible environmental damage.

An ERA (Appendix Q) and PHA (Appendix R) were conducted to identify Project-related risks and develop appropriate mitigation measures and strategies.

The PHA considers off-site risks to people, property and the environment (in the presence of controls) arising from atypical and abnormal hazardous events and conditions (i.e. equipment failure, operator error and external events).

The ERA addressed potential environmental impacts associated with the Project, including long-term effects. In addition, potential long-term risks are considered by the specialist studies conducted in support of this EIS (Section 1.6).

In the Groundwater, Surface Water and Economic Assessment (Appendices A, B and K undertaken for the Project), risk and uncertainty have also been taken into account through sensitivity and/or uncertainty analysis.

Table 7-1
Principles of ESD – EPBC Act and PoEA Act

Section 3A of the EPBC Act	Section 6(2) of the PoEA Act
(a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;	*(2) …ecologically sustainable development requires the effective integration of social, economic and environmental considerations in decision-making processes. Ecologically sustainable development can be achieved through the implementation of the following principles and programs–*
(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;	*(a) the **precautionary principle**–namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.* *In the application of the precautionary principle, public and private decisions should be guided by–* *(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and* *(ii) an assessment of the risk-weighted consequences of various options,*
(b) the principle of inter-generational equity–that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;	*(b) **inter-generational equity**–namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,*
(c) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making;	*(c) **conservation of biological diversity and ecological integrity**–namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,*
(d) improved valuation, pricing and incentive mechanisms should be promoted.	*(d) **improved valuation, pricing and incentive mechanisms**–namely, that environmental factors should be included in the valuation of assets and services, such as–* *(i) polluter pays–that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,* *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,* *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*

Findings of these specialist assessment are presented in Section 6 and relevant appendices. Measures designed to mitigate potential environmental impacts arising from the Project are also described in Section 6, and summarised in Attachment 8.

The specialist assessments have evaluated the potential for harm to the environment associated with the development of the Project.

A range of mitigation measures have been adopted as components of the Project design to minimise the potential for serious and/or irreversible damage to the environment, including the development of environmental management and monitoring programs, compensatory measures and ecological offsets based on conservative assumptions. Where residual risks are identified, contingency controls have been considered (Attachment 8).

In addition, for key Project environmental assessment studies and aspects (i.e. Groundwater Assessment [Appendix A], BDAR [Appendix C], Noise and Blasting Assessment [Appendix H], Air Quality Impact Assessment [Appendix I] and Greenhouse Gas Assessment [Appendix J]), peer review by recognised experts was undertaken (Attachment 4).

Social Equity

Social equity is defined by inter-generational and intra-generational equity. Inter-generational equity is the concept that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations, while intra-generational equity is applied within the same generation.

The principles of social equity are addressed through:

- assessment, and where relevant mitigation, of the social and economic impacts of the Project (Sections 6.17 and Section 6.18 and Appendices E and K), including the distribution of impacts between stakeholders and consideration of the potential social and economic costs of climate change;
- management measures to be implemented in relation to the potential impacts of the Project on noise, blasting, air quality, water resources, ecology, Aboriginal cultural heritage, agriculture and land resources, visual and landscape character, socio-economics, hazards and risks, and greenhouse gas emissions (Section 6);
- increase in biodiversity values and habitat function through establishment of approximately 2,300 ha of native woodland within the vicinity of the MCCM within the Landscape Revegetation Zones; and
- implementation of targeted environmental monitoring programs (Section 6) to minimise potential environmental impacts by ensuring the efficacy of implemented management measures; and implementation of measures during the life of the Project to offset potential biodiversity impacts that have been identified for the Project (Section 6).

The Project would benefit current and future generations through the continuation of existing and creation of significant additional, employment opportunities that would continue to 2044. Flow-on employment effects in the region would also be significant (Appendix K).

Economic benefits potentially foregone if the Project does not proceed amount to a net benefit of almost $1.1 billion in NPV terms to the State of NSW (Appendix K).

The Project incorporates a range of mitigation measures to minimise potential impacts on the environment (Attachment 8). The potential benefits to current and future generations have, therefore, been calculated in the context of the mitigated Project.

Conservation of Biological Diversity and Ecological Integrity

Biological diversity or “biodiversity”, is considered to be the number, relative abundance, and genetic diversity of organisms from all habitats (including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are a part) and includes diversity within species and between species as well as diversity of ecosystems (Lindenmayer and Burgman, 2005).

For the purposes of this EIS, ecological integrity has been considered in terms of ecological health and ecological values.

While the Project Mining Area and water transfer pipeline extent avoids key environmental features and targets areas of lower ecological integrity (i.e. previously cleared grazing areas), it includes areas with recognised ecological values, which include the presence of threatened fauna species as well as TECs.

The environmental assessments in Section 6.3, 6.6 and 6.7 (and Appendices C and D) describe the potential impacts of the Project on the biological and ecological environment, associated Project mitigation and the indicative offset strategy and proposed Landscape Revegetation Zones.

Greenhouse Gas Emissions, Biological Diversity and Ecological Integrity

Many natural ecosystems are considered to be vulnerable to climate change. Patterns of temperature and precipitation are key factors affecting the distribution and abundance of species (Preston and Jones, 2006). Projected changes in climate would have diverse ecological implications. Habitat for some species would expand, contract and/or shift with the changing climate, resulting in habitat losses or gains, which could prove challenging, particularly for species that are threatened.

Anthropogenic Climate Change is listed as a key threatening process under the BC Act, and loss of climatic habitat caused by anthropogenic emissions of greenhouse gases is listed as a key threatening process under the EPBC Act.

It is acknowledged that (subject to the efficacy of national and international greenhouse gas abatement measures) all sources of greenhouse gas emissions in NSW, irrespective of their scale, will contribute in some way towards the potential global, national, state and regional effects of climate change.

The Project's potential contribution to global climate change would be proportional to its contribution to global greenhouse gas emissions (Sections 6.11 and 7.3.4, and Appendix J).

Measures to reduce the Project's direct (Scope 1) greenhouse gas emissions are described in Section 6.11, Appendix J and Attachment 8. Whitehaven has conducted an initial Project evaluation of potential emission abatement opportunities and identified five MCCM prospective abatement opportunities that it will trial prior to the commencement of the Project. Whitehaven will consider and address its Safeguard opportunities and liabilities wholistically across its Australian assets in a manner that is fiscally responsible, based on detailed technical data available at the relevant time.

Valuation of potential impacts of Project Scope 1 and Scope 2 greenhouse gas emissions has been incorporated into the Economic Assessment (Appendix K) for the Project. Further consideration of the Scope 3 emissions associated with the use of Project product coal is provided in Section 7.4.2.

The potential implications of climate change on local groundwater and surface water resources are addressed in Appendices A and B, respectively.

Measures to Maintain or Improve the Biodiversity Values of the Surrounding Region

A key component of the Project is the Landscape Revegetation Program, which aims to enhance and improve biodiversity values and habitat function within the vicinity of the MCCM. The Landscape Revegetation Program includes the establishment of approximately 2,300 ha of native woodland within three to five years following approval of the Project.

The Landscape Revegetation Zones would eventually contribute to a net gain compared to offsetting alone, improving the overall forest and woodland coverage and connectivity across the landscape. Ultimately, the Landscape Revegetation Zones proposed as part of the Project would, in the long-term, increase the area of forest and woodland coverage, enhancing key habitat across the region by increasing connectivity.

In addition, a range of measures would be implemented for the Project to maintain or improve biodiversity values in the surrounding region in the medium to long-term. As summarised below and detailed in Section 6, these measures include impact avoidance, minimisation and offsets (for residual impacts).

The Project Mining Area has been designed to avoid and minimise potential environmental and amenity impacts by:

- utilising existing infrastructure which services the existing MCCM, including the MIA, CHPP, rail loop, water infrastructure, regional accommodation villages and ancillary infrastructure;
- maximising emplacement of waste rock in-pit and on top of the approved out-of-pit emplacement rather than constructing new out-of-pit emplacements in previously undisturbed areas;
- implementing a setback at least 200 m from open cut extension and overburden emplacement areas from the mapped top-of-bank of Back Creek;
- minimising the size of the infrastructure to reduce impacts on mapped TECs;
- maximising the use of existing easements and cleared areas for the proposed water transfer pipeline;
- implementing a water management system to manage clean water, sediment laden water and mine water;
- the conceptual final landform has been developed using geomorphic design principles (such as GeoFluv™) to create a natural landform design aimed at achieving long-term erosional stability, reduce maintenance and increase biodiversity in, and the aesthetic value of, rehabilitated landforms; and
- progressive rehabilitation of the MCCM (including the Project Mining Area) would result in the establishment of approximately 2,164 ha of woodland across the MCCM, further contributing to the long-term net gain in biodiversity values.

Sections 6 and 7, and Attachment 8 summarise a number of Project measures that would assist in maintaining the biodiversity of the region, including measures such as clearance protocols, weed management and rehabilitation of disturbed areas.

Valuation

One of the common broad underlying goals or concepts of sustainability is economic efficiency, including improved valuation of the environment. Resources should be carefully managed to maximise the welfare of society, both now and for future generations.

In the past, some natural resources have been misconstrued as being free or under-priced, leading to their wasteful use and consequent degradation. Consideration of economic efficiency, with improved valuation of the environment, aims to overcome the under-pricing of natural resources and has the effect of integrating economic and environmental considerations in decision-making, as required by ESD.

While environmental costs have been considered to be external to Project development costs historically, improved valuation and pricing methods attempt to internalise environmental costs and include them within Project costing.

The Economic Assessment (Appendix K) has incorporated environmental values via direct valuation where practicable (e.g. greenhouse gas emissions for the Project). Furthermore, wherever possible, direct environmental effects of the Project would be internalised through the adoption and funding of mitigation measures by MCC to mitigate potential environmental impacts (e.g. biodiversity offset costs, water access licence costs).

The Economic Assessment in Appendix K indicates a net benefit (i.e. net of the value of externalities including Scope 1 and 2 greenhouse gas emissions) of $1.1 billion in NPV terms to the State of NSW would be foregone if the Project is not implemented.

While the value of externalities from indirect (Scope 3) greenhouse gas emissions are not considered in the net benefit to NSW, neither are the economic benefits associated with the ongoing use of the product coal for electricity and other uses, which have been recognised as significant to the State and Australia (NSW Government, 2020).

Scope 3 greenhouse gas emissions that may be emitted by other parties, name from the use of the product coal produced by the Project, are considered in the EIS. On average, over the life of the Project, the indirect (Scope 3) emissions from these activities are estimated to be approximately 24.8 Mt CO_2-e per year (Appendix J), with the majority of the Scope 3 emissions from the use of MCCM coal would occur overseas.

Greenhouse gas emissions from the MCCM are currently measured and reported annually in accordance with the NGER Act, which would continue for the Project.

7.3.6 OTHER POLICIES AND STRATEGIC OBJECTIVES

Other policies and strategic objectives are described in Section 2 and Attachment 5. The Project is generally consistent with the applicable relevant policies and strategic objectives.

7.4 Evaluation of Key Benefits and Impacts

7.4.1 KEY POTENTIAL BENEFITS

The MCCM creates direct and indirect jobs and helps to diversify the regional economy, sustain local communities, provide skilled jobs and support global energy security, steelmaking processes and economic development.

The Project would allow for the continuation of the MCCM and its associated benefits for an additional 10 years beyond the currently approved limit on mining operations (end of December 2034).

The key benefits of each component of the Project are explained below.

Project Mining Area

The Project would enable extraction of thermal and metallurgical coals until 2044.

Specifically, the proposed continuation of mining operations would:

- Provide a source of high-CV, low emissions coal to satisfy the forecast thermal coal market demand.
- Continue international export of thermal and coking coals which assists Whitehaven's customer countries to achieve their decarbonisation goals while meeting energy demand and steel production requirements.
- Generate a total net benefit to the NSW economy of $1.1 billion in NPV terms.
- Promote the conservation of biodiversity, including threatened species and communities, through the establishment of Landscape Revegetation Zones, suitable biodiversity offsets, and rehabilitation of the mine site.
- Improve the mining efficiency compared to the approved MCCM, extracting the maximum proposed ROM coal whilst minimising the area of land impacted.
- Provide substantial capital savings associated with the use of existing infrastructure and mobile equipment at MCCM and operational cost efficiencies associated with the use of existing MCCM systems and workforce.
- Continue the employment of the existing MCCM workforce and provide employment opportunities for an additional 75 people (on average).
- Allow for the continuation of annual payments to local businesses in North West NSW.
- Provide ongoing and incremental economic benefits to NSW, such as continued royalties and economic flow-on effects.
- Facilitate the establishment of a final landform and post-mining land uses that create environmental values consistent with those of the areas surrounding MCCM.

Landscape Revegetation Zones

Key benefits of the Landscape Revegetation Zones include the following:

- Establish approximately 2,300 ha of native woodland within three to five years following approval of the Project in the vicinity of the MCCM.
- Provide a larger area of native vegetation cover than currently exists in the local region of Leard State Forest.

- Complement the existing Leard Forest Regional Biodiversity Strategy, by expanding habitat adjacent to Leard State Forest and restoring linkages between woodland patches/existing conserved areas.
- Provide a larger biodiversity benefit (net gain) compared to offsetting alone (i.e. it would be additional/in excess to prescribed biodiversity offset/credit requirements).
- Target establishment of self-sustaining woodland vegetation communities that are likely to have once occurred prior to clearance, considering soil, landscape position, topography and surrounding native vegetation.
- Protect the integrity of the existing vegetated corridor between MCCM and BCM.

Water Transfer Pipeline

The water transfer pipeline would allow water sharing between Whitehaven's MCCM, TCM and VCM to provide the following benefits:

- Facilitate opportunities to reduce external water use from the Namoi River and groundwater bores.
- Improve utilisation of water storages between operations, allowing excess water from one operation to be transferred to another operation with spare capacity.
- Allow for the utilisation of the TCM final void (post-closure) as a water storage.

7.4.2 KEY POTENTIAL IMPACTS

Regulatory and community engagement informed the design and assessment of key issues for the Project (Section 5). Key potential Project direct adverse impacts and indirect adverse impacts are described below.

Potential Direct Adverse Impacts

Key potential direct adverse impacts associated with the Project include:

- Continuation of existing noise and air quality impacts at the most proximal rural residences that would be managed in accordance with NSW Government policies.
- Continuation of external surface water and groundwater extraction in accordance with applicable WALs, surface water catchment excisions, controlled releases, groundwater depressurisation effects, which would not materially affect water availability or downstream water quality.
- Continuation and extension of existing impacts on low scientific significant Aboriginal heritage sites, which would be managed in consultation with the Aboriginal community through salvage and other management measures.
- Continuation and extension of existing visual effects associated with the MCCM, including development of the open cut extension area and overburden emplacement area.
- Potential for negative perceptions or reservations for agricultural enterprises located proximal to the Project.
- Potential for social impacts (such as concerns for feral animals, community conflict or housing affordability stressors) due to uncertainties or concerns about the environmental or social impacts associated with the Project, which would be managed through ongoing community engagement during the life of the Project.
- Distributional impacts associated with the amenity impacts of the MCCM and the Project being primarily experienced by the nearest neighbours, while positive impacts are more widely felt across the regional community (Appendix E).
- Continuation and contribution to cumulative amenity impacts for surrounding neighbours, with the BCM and TCM.
- The potential for increased demand or competition for rental housing and skilled labour where the Project overlaps with other local and regional developments.
- Loss of biodiversity habitat within the Project Mining Area.

Other potential direct adverse impacts would be mitigated or offset, such that potential impacts would be low, very low, negligible or nil. For example, biodiversity impacts have been assessed in accordance with the BAM (DPIE, 2020a), which sets a standard that would result in no net loss of biodiversity values in NSW.

A consolidated summary of proposed mitigation measures for the Project is provided in Attachment 8.

Potential Indirect Adverse Impacts

Most potential indirect impacts of the Project identified in Project engagement have been positive in nature (i.e. indirect employment effects, expenditure in the region and local business benefits).

However, Scope 1 and Scope 2 greenhouse gas emissions from NSW coal mining developments, and Scope 3 greenhouse gas emissions (e.g. overseas greenhouse gas emissions from the use of the Project product coal) is a growing concern in contributing to global climate change (Appendix J).

It is acknowledged that (subject to the efficacy of national and international greenhouse gas abatement measures) all sources of greenhouse gas emissions will contribute in some way towards the potential global, national, state and regional effects of climate change (Section 7.3.4).

The Project's relative contribution to global climate change effects would be proportional to its contribution to global greenhouse gas emissions. Appendix J describes the predicted relative contribution of the Project to global emissions and the role of individual customer countries in setting the methods and targets for greenhouse gas reductions under their NDCs.

It is recognised that international measures to "decarbonise" global economies may alter the future demand for and/or supply of coal. Expected global trends are factored into coal price forecasts considered in the Economic Assessment (Appendix K). The Economic Assessment also includes sensitivity analysis for variations in export coal prices and the social cost per t CO_2-e emissions. The sensitivity analysis shows that the Project would still generate a substantial net benefit to NSW under the scenarios considered (Appendix K).

Whitehaven would manage its contribution to Australian greenhouse gas emissions inventories through reporting under the NGER Act, as well as other applicable government initiatives and policies implemented to manage emissions at the national level under Australia's progressive NDCs.

As a low emissions-intensity mine that produces thermal and coking coals, the MCCM including the Project, has the ability to remain competitive in the global coal market and is well placed to continue supplying high-quality coals to the international market during the transition to a lower carbon economy.

Whitehaven has also conducted an initial Project evaluation of potential emission abatement opportunities and identified five MCCM prospective abatement opportunities that continue to be evaluated. Whitehaven will consider and address its Safeguard opportunities and liabilities wholistically across its Australian assets in a manner that is fiscally responsible, based on detailed technical data available at the relevant time.

7.4.3 STRATEGIC CONTEXT

A summary of the why the Project is required is summarised below.

Further detail of the strategic need for the Project is provided in Section 2.

Project Mining Area

The proposed open cut pit extension is located within existing mining tenements and immediately adjacent to the approved MCCM mining area, which is forecast to become operationally constrained around 2028. The Project proposes the re-orientation of the mining direction from the current north-west to south-east direction to a west to east direction. This would improve mining efficiency compared to the approved MCCM as it provides a larger length of available open cut face (i.e. strike length) and increases the operating areas for the mobile fleet. This improvement in mining efficiency would facilitate the proposed 1 Mtpa increase in the maximum ROM coal mining rate.

Due to both the current and anticipated future demand for high-CV thermal coal and metallurgical coal, the Project would provide the opportunity to maintain continuity of open cut mining and increase ROM coal production at the MCCM. This would facilitate the continuation of the existing workforce as well as an increase in the workforce to an average of approximately 940 people.

The Project would ultimately assist Whitehaven's customer countries in achieving their decarbonisation goals as they continue to preferentially use lower emissions thermal coal as an energy source and/or continue to use metallurgical coal for steelmaking over the life of the Project.

High-CV coal has the benefit of requiring less coal to generate the equivalent amount of electricity, when compared to the lower-CV coal produced by many overseas thermal coal mines. The low ash content of the MCCM high-CV coal increases a power station's combustion efficiency, with higher heat output and lower particulate emissions.

Landscape Revegetation Zones

A key aspect to the initiative is anticipated to be that MCC would plant approximately 500 to 800 ha of trees in the planting season per year for the first three to five years of the Project, upon its approval and commencement. This initiative would establish approximately 2,300 ha of native woodland in the vicinity of the MCCM to improve biodiversity values in the region. Key benefits of the Landscape Revegetation Zones are described in Section 7.4.1.

Water Transfer Pipeline

The bi-directional transfer of water between MCCM and TCM and/or VCM via the proposed water transfer pipeline would assist MCC in meeting its water supply and storage requirements for the MCCM including the Project Mining Area. This would provide opportunities for MCC to reduce its reliance on external water supplies (i.e. Namoi River and groundwater bores).

7.4.4 CONSIDERATION OF THE CONSEQUENCES OF NOT CARRYING OUT THE PROJECT

In the absence of the Project:

- The efficiency of mining operations at the MCCM would begin to reduce in 2028.
- Mining operations at the MCCM would cease in 2034, at the latest.
- There would be sterilisation of approximately 117 Mt of ROM coal targeted by the Project, currently in high demand internationally for electricity generation and for use in the steelmaking process.
- It is anticipated that international demand for thermal coal would be met by the lower quality thermal coal produced by many overseas thermal coal mines, effectively leading to higher overall global greenhouse gas emissions from the burning of lower-CV coal.
- Improved habitat linkages to the Leard State Forest and overall enhancement of biodiversity values would not be realised.
- Economic benefits potentially foregone if the Project does not proceed amount to a net benefit of $1.1 billion in NPV terms to the State of NSW (Appendix K).
- Substantial royalty payments and taxes associated with the Project would not be generated.
- Social benefits and expenditure at businesses within the Narrabri LGA and Gunnedah LGA (and surrounds) related directly to the Project would not be realised.
- Operational employment and direct flow-on economic effects would cease in 2034.

7.5 Conclusion

The Project is a continuation of the existing approved MCCM that would comply with applicable statutory requirements and relevant strategic planning policy objectives (Sections 2 and 4, Attachments 5 and 6).

The Project would facilitate the continuation of the existing workforce as well as an increase in the workforce to an average of approximately 940 people. If the share of operating expenditures that MCC directs at NSW suppliers remains the same going forward, additional purchases of almost $2.2 billion in NPV terms would be made from NSW suppliers (Appendix K).

Engagement has informed MCC's design of the Project, including adoption of a range of extensive control measures to minimise potential impacts.

The Landscape Revegetation Program proposed as part of the Project is one of the largest revegetation projects in NSW, and would result in long-term benefits across the region to improve regional ecological function through an increase in vegetation cover and improving landscape connectivity.

The MCCM site, and the proposed locations for the water transfer pipeline and Landscape Revegetation Zones is suitable for the proposed Project use, and the Project continuation and extension of MCC mining activities in the existing mining tenements would generate a significant net benefit to the State of NSW (Section 6.17 and Appendix K).

Economic benefits potentially foregone if the Project does not proceed amount to a net benefit of $1.1 billion in NPV terms to the State of NSW. This includes estimated total incremental Project coal royalties of approximately $818 million in NPV terms (Appendix K).

In weighing up the main environmental impacts (costs and benefits) associated with the proposal as assessed and described in this EIS, the Project is, on balance, considered to be in the public interest of the State of NSW.