

GLENCORE

ANNEXURE E: RCEP EIS Chapter 2 – Project Need and Alternatives



Chapter 2

Project Need and Alternatives

EIS

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2 Project need and alternatives

2.1 Project justification

2.1.1 Project overview

The Rolleston Coal Mine is an open cut mine that has been in operation since 2005. The mine extracts thermal coal and is approved to produce 14 million tonnes (Mt) run-of-mine (ROM) per annum. The Rolleston Coal Expansion Project (the Project) will expand the area of the existing mine by adding a western and southern mining lease (mining lease applications MLA70415 and MLA70416 respectively). MLA70458 would also form part of the Project for the primary purpose of holding a water storage dam and a creek diversion between Meteor Creek and Sandy Creek. The increase in mining area would see the Project increase Rolleston Coal Mine's production by 5 Mt ROM per annum to 19 Mt ROM per annum.

Exploration within the additional MLAs has indicated that the expansion will increase the existing mine's production to approximately 280 Mt ROM. The coal is high moisture, low ash, low rank and high volatile bituminous C (A.S.T.M classification). Due to this quality, no washing is required to meet market specifications. Coal production is 100% thermal coal which can be sold into both the export and domestic markets.

Since construction in 2003, following the granting of the initial ML70307 and the subsequent opening of operations in 2005, the existing mine has contributed to employment opportunities within the Central Highlands, and more broadly within the State of Queensland and Australia. The Rolleston Coal Mine has also provided benefits with contributions such as local community grants and the payment of coal royalties to the State of Queensland.

As an expansion of an existing coal mine, the Project has a number of advantages in comparison to a greenfield development. This includes the use of existing infrastructure (e.g. access roads, handling and load out facilities) that reduces the extent of capital outlays and the actual area of physical disturbance.

The Project's location, as an expansion of the Rolleston Coal Mine, also allows the continued use of existing ancillary infrastructure in the wider region. The current mine is connected to an existing coal rail network, Aurizon's Blackwater System, which leads from site to coal export terminals in Gladstone. Other established infrastructure that is well placed to continue to support the mine and the expansion includes: the existing Rolleston substation and connecting power distribution infrastructure, the Dawson Highway and connecting State-controlled and local roads, the airport and regional centre of Emerald, and the townships of Rolleston and Springsure.

2.1.2 Project benefits

The Project will benefit the Central Highlands region, and the State of Queensland. Key benefits of the Project include:

- ▶ Retention of existing employment through an extended mine life, with operations and rehabilitation to occur over a 30 year period (potentially 2045 dependant on production rates).
- ▶ Creation of additional jobs during Project construction and operation, amounting to an increase in the workforce from 140 full-time positions in Year 1 (to 1,005 in total) to 170 full-time positions in Years 9 and 10 (to 1,030 in total).
- ▶ Direct economic benefits, including employment, payment of taxes and royalties (refer Chapter 19 Economic Values).
- ▶ Indirect employment effects, in Project-related services industries both locally in the Central Highlands region and state-wide.
- ▶ Support for appropriate skills and training programs to further develop industry skills.

At current estimates, the Project's initial construction phase is expected to have a capital expenditure of \$300 million through to the end of Year 2.

2.2 Alternatives to the Project

Xstrata Coal Queensland has considered alternatives to the Project in the planning and pre-feasibility stages of the Project's development. The feasible alternatives are described in this section, with particular focus upon:

- ▶ Conceptual alternatives.
- ▶ Technological alternatives.
- ▶ Locality alternatives.
- ▶ Not proceeding with the Project.

These alternatives are described in adequate detail to ascertain their comparative environmental, social and economic impacts, with particular focus upon ecologically sustainable development (ESD). The Project's overall focus upon ESD in the planning and pre-feasibility stages of development is described in both Table 2-1 and Table 2-2 in Section 2.2.1.

2.2.1 Ecologically sustainable development

In developing the Project, Xstrata Coal Queensland has given consideration to the objectives and principles of ESD as defined under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and the *Environmental Protection Act 1994* (EP Act) and also to the 'standard criteria' under Schedule 4 of the EP Act.

The definition of 'ecologically sustainable development' in both the EPBC Act and EP Act is derived from the contents of the *National Strategy for Ecologically Sustainable Development* (1992). The core objectives of ESD, as defined by the strategy, are to:

- ▶ Enhance individual and community wellbeing and welfare by following a path of economic development that safeguards the welfare of future generations.
- ▶ Provide for equity within and between generations (intergenerational equity).
- ▶ Protect biological diversity and maintain essential ecological processes and life support systems.

Satisfying the core objectives, the strategy also sets more specific guiding principles for ESD in Australia. These principles have been integrated into the Project's development and assessment under the EP Act and EPBC Act, as illustrated in Table 2-1, in preparing this Environmental Impact Statement (EIS).

Table 2-1 Integration of ESD principles into the Project development

Guiding principles of ESD	Short Title	Integration into project development
Decision making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations.	<i>Intergenerational equity principle</i>	<p>The environmental impact assessment process, in accordance with the Terms of Reference (ToR), involves carrying out environmental, social and economic studies to determine the overall impact of the Project's development.</p> <p>The studies of the EIS propose mitigation measures to minimise the potential adverse impacts, and to enhance potential benefits.</p> <p>These mitigation measures are implemented into management and monitoring strategies, documented in the draft Environmental Management Plan (EMP), draft Social Impact Management Plan (SIMP) and Offset Strategy for the Project and are provided in Volume 3 of this EIS.</p> <p>These strategies are designed to integrate and manage both the short and long term economic, environmental and social equity considerations.</p>

Guiding principles of ESD	Short Title	Integration into project development
Where 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.	<i>Precautionary principle</i>	<p>The Project's environmental impact assessment has assessed the risk of unacceptable environmental harm throughout the chapters of the EIS and the corresponding technical reports, consistent with the precautionary principle.</p> <p>The findings of these assessments have been used to determine appropriate management strategies, minimising the risk of environmental damage, as contained in the draft EMP included in Volume 3 of this EIS.</p>
The global dimension of environmental impacts of actions and policies.	<i>Global environmental impacts</i>	<p>The following assessments made in the EIS address the global environmental impact considerations:</p> <ul style="list-style-type: none"> ▶ Matters of national environmental significance have been deemed controlling provisions for the Project. See Chapter 21 Matters of National Environmental Significance. ▶ Projected potential greenhouse gas emissions are discussed in Chapter 11 Air Quality. <p>These assessments have been carried out in accordance with the Project's ToR.</p>
The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection.	<i>Economic development</i>	<p>An economic impact assessment was carried out to determine the impact of the Project upon the regional, state and national economy.</p> <p>The assessment is summarised in Chapter 19 Economic Values, with benefits ranging from direct effects such as employment and taxes payable to the Queensland and Australian governments, and indirect effects such as flow-on employment effects to the Central Highlands region and State of Queensland.</p> <p>The Queensland government is responsible for enforcing environmental protection across the state, in all industries, according to the principles of ESD.</p>
The need to maintain and enhance international competitiveness in an environmentally sound manner.	<i>International competitiveness</i>	<p>The Project seeks to utilise both existing and proposed rail transport and export infrastructure, developed and operated according to standards of approval required by Queensland and Australian environmental regulations.</p> <p>This Project's compliance with regulations, along with the compliance of related or inter-connected infrastructure and industry, provides for a high standard of environmental management that is incorporated into the aspects of the Project's coal production and supply arrangements.</p>

Guiding principles of ESD	Short Title	Integration into project development
Cost effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentive mechanisms.	<i>Cost-effective and flexible policy instruments</i>	<p>The Project's EIS has considered the integration of relevant policy instruments, as required by the Queensland and Australian governments, as part of the Project's ToR.</p> <p>Xstrata Coal Queensland will endeavour to continue assisting with the development and implementation of policies by both Queensland and Australian governments.</p>
Decisions and actions should provide for broad community involvement on issues which affect them.	<i>Broad community involvement</i>	<p>Stakeholder consultation was carried out as part of the EIS, as recorded in Chapter 1 Introduction (Appendix A-2) and Chapter 17 Social Values. The potential impacts and benefits derived from the social impact assessment were considered, and targeted control and management actions developed in the draft SIMP.</p>

Schedule 4 of the EP Act defines the standard criteria, setting out the principles of ESD and other policy instruments, considered when deciding whether to grant or refuse an environmental authority (EA). Table 2-2 shows how the Project's assessment and ToR meet the EP Act's standard criteria, and hence the EP Act's object of ESD (section 3 of the EP Act).

Table 2-2 Incorporation of standard criteria into Project development

Standard criteria (Schedule 4 EP Act)	Project cross-reference
(a) the principles of ecologically sustainable development as set out in the <i>National Strategy for Ecologically Sustainable Development</i> ;	See Table 2-1.
(b) any applicable environmental protection policy;	<p>Current Environment Protection Policies considered in the environment impact assessment process, as referred to in the ToR, include:</p> <ul style="list-style-type: none"> ▶ <i>Environmental Protection (Air) Policy 2008</i> ▶ <i>Environmental Protection (Noise) Policy 2008</i> ▶ <i>Environmental Protection (Water) Policy 2009.</i>
(c) any applicable Commonwealth, State or local government plans, standards, agreements or requirements;	<p>Applicable legislation is discussed in Chapter 1 Introduction, covering requirements including the referral of a controlled action to the Department of the Environment.</p> <p>Other agreements, standards and requirements are also discussed in each chapter of the EIS, where relevant to the study area or required by the ToR.</p>
(d) any applicable environmental impact study, assessment or report;	Volume 1 and Volume 2 contain the chapters, technical studies and reports carried out to meet the ToR in conducting the environmental impact assessment.
(e) the character, resilience and values of the receiving environment;	The character, resilience and values of the receiving environment are described in each chapter of the EIS, for the particular environmental values which the chapter considers.

Standard criteria (Schedule 4 EP Act)	Project cross-reference
(f) all submissions made by the applicant and submitters;	The public submissions process has been described in Chapter 1 Introduction. In addition to being able to submit on the draft ToR for the Project, interested parties will have the opportunity to make submissions and comments on the draft EIS, in accordance with the statutory timeframes and requirements of the EP Act.
(g) the best practice environmental management for activities under any relevant instrument, or proposed instrument, as follows:	The preparation of the EIS according to the Project's ToR, requires the inclusion of a draft EMP. An approved EMP is required for the issuing of the Project's EA. The draft EMP can be found in Volume 3 of this EIS.
(i) an environmental authority;	
(ii) a transitional environmental program;	
(iii) an environmental protection order;	
(iv) a disposal permit;	
(v) a development approval;	The Project's financial cost of complying with the EA has been incorporated into the feasibility assessment for the whole of the Project. The cost of environmental compliance is well understood, with the existing Rolleston Coal Mine operating in compliance with an existing EA and EMP.
(h) the financial implications of the requirements under an instrument, or proposed instrument, mentioned in paragraph (g) as they would relate to the type of activity or industry carried out, or proposed to be carried out, under the instrument;	The consideration of public interest is incorporated into the EP Act's EIS process, with the requirement to consider public submissions on the ToR and the draft EIS, and also with the assessment of social and economic impacts due to the Project's development. For more detail on the EIS process and submissions, see Chapter 1 Introduction.
(i) the public interest;	The draft EMP is incorporated in Volume 3 of the EIS.
(k) any relevant integrated environmental management system or proposed integrated environmental management system;	The Project would operate in accordance with the issued EA and EMP, amending the current Rolleston Coal Environmental Management System to incorporate the requirements of the EA and EMP.
(l) any other matter prescribed under a regulation.	Other prescribed matters, as contained in the ToR, have been addressed in this EIS.

2.2.2 Conceptual and technological alternatives

The Project is proposed as an extension to the existing Rolleston Coal Mine, which operates on ML70307. A large amount of Rolleston Coal Mine's existing infrastructure would be utilised in processing and loading out the Project's coal, with preliminary design completed for additional infrastructure.

This additional infrastructure includes:

- ▶ Mine pit and spoil areas.
- ▶ Haul roads and pit ramps.
- ▶ Power lines.
- ▶ Water infrastructure (levees, diversions and dams).
- ▶ Mine services area in MLA70415 (vehicle maintenance, crib and office area).
- ▶ Local road realignment.
- ▶ Additional accommodation (an extension of the current mine village).

The design and layout of these infrastructure elements are described in Chapter 3 Description of the Project. The basis for selecting layouts includes:

- ▶ Landform and layout of the Project Site, including drainage lines.
- ▶ Impact on environmental values (see Table 2-1 and Table 2-2).
- ▶ Overburden depth.
- ▶ Pit and coal resources.
- ▶ Cost effectiveness.
- ▶ Utilisation of existing infrastructure on ML70307.

The consideration of the Project's infrastructure elements against these broad criteria ensure that a cost-effective and ESD is able to be progressed.

2.2.2.1 Water management and supply

Three watercourses flow through the Project Site – Meteor Creek, Sandy Creek and Bootes Creek. Other drainage channels in the area include Gibb's Gully, Spring Creek and Paton's Spring. These channels are ephemeral with little or no flow between April and November and high volume, short duration flows in the summer months.

To manage the potential impacts on hydrology, flooding and water quality associated with the Project, a water management strategy has been developed for the site. The strategy is based on water management infrastructure that is used at the existing Rolleston Coal Mine and which successfully protected the operation during recent, large wet seasons. Development of the strategy has also considered and subsequently integrated the existing mines water management system so that a holistic approach to management is applied. This approach has reduced the scale or requirement for new infrastructure, with supplementary measures adequate in a number of cases.

The water management strategy for the Project has been designed to separate clean stormwater from pit water and/or runoff from the overall mine affected catchment. This involves two separate systems:

- ▶ Clean Water System – Diverts clean water around the pits and operational areas of the mine with levees and drains and protects the pits from flooding, maintains water quality and a minimises the impact on natural flow regimes.
- ▶ Pit Water System – Isolates mine affected catchments from clean water or rehabilitation areas and preferentially reuses mine affected water to minimise the volume that needs to be discharged and reduces the volume of pit water stored on site. Mine affected water runoff is captured and passes through sedimentation dams prior to discharge to the environment in accordance with EA conditions.

Prior to construction, licensed creek diversions proposed in the strategy will be further designed and in accordance with the relevant guidelines, primarily Department of Environment and Heritage Protection's *"Watercourse Diversions – Central Queensland Mining Industry V5.0" (2011)*. These structures may also require approval under the *Water Act 2000* or EP Act. This will ensure that functional designs developed during impact assessment are refined and meet strict environment and safety standards. Further description on the approach to water management within MLA70458, MLA70416 and MLA70415 is provided below.

MLA70416 and MLA70458

Sandy and Meteor creeks flow through MLA70458 and MLA70416, to the south of ML70307. The expansion of the Meteor South Pit into MLA70416 requires the diversion of Sandy Creek into Meteor Creek upstream of the future mine pit. A levee will also be constructed between the mine pit and Meteor Creek to protect mining operations from floodwaters.

Early, concept designs for the Project's water management infrastructure included a second diversion of Sandy Creek into Meteor Creek, further upstream of the current Sandy Creek Diversion on MLA70458. With the progression of the water management studies as part of the Project's feasibility assessment, this second upstream diversion was removed, reducing the impact upon Meteor Creek in modelled flood events. MLA70458 is therefore required for a single diversion of Sandy Creek, temporary flood storage and a water storage dam.

The rationale for levees and diversion channels in MLA70416 and MLA70458 is described below.

- ▶ Meteor Creek Levee – Required for flood protection of the Meteor South Pits A and B. At the upstream extent, the new levee ties into the existing levee that protects Meteor West Pit with an overall alignment that maintains the hydraulic efficiency of Meteor and Sandy creeks. The levee is required in Year 1 of the Project due to early, programmed mining in Meteor South Pits A and B.
- ▶ Sandy Creek Diversion - The alignment of the diversion is parallel to the adjacent Meteor Creek levee. The diversion consists of a corridor that is designed for low and high flows. The diversion is designed to replicate the hydraulic function of Sandy Creek and to avoid erosion and scouring. The high flow corridor has been designed to redirect higher flows toward Meteor Creek and reduce hydraulic loading on the levee. The diversion of Sandy Creek is approximately 1.6 km long, with the downstream invert proposed to match the natural invert of Meteor Creek at the confluence. This means that the possibilities of head cut over time will not affect creek stability and connectivity with the existing creek system. The diversion is also required in Year 1 due to early mining in Meteor South pits A and B.

MLA70415

Bootes Creek flows through MLA70415 to the west of ML70307. The expansion of pits into MLA70415 requires a partial diversion of Bootes Creek, as well as some smaller drainage channels referred to as Gibb's Gully and Paton's Spring. Both Gibb's Gully and Paton's Spring are not defined as watercourses under the *Water Act 2000*.

The rationale for levees and diversion channels in MLA 70415 are described below.

- ▶ Bootes Creek Diversion – The first section of the Bootes Creek diversion is required due to advancing mine activities in Gibb's Gully pit and W1 pit in Year 5, which removes a downstream portion of Bootes Creek. The second section of the Bootes Creek diversion is also required by Year 5 due to advancing mine activities in the W2 pit. The diversion consists of a corridor that is designed for low and high flows. The diversion was designed to replicate the shape and form of the existing Bootes Creek whilst ensuring hydraulic functionality. The diversion is approximately 9 km in length, with the downstream invert matching the current diversion of Bootes Creek within ML70307. Bootes Creek is considered a watercourse pursuant to the *Water Act 2000*.
- ▶ Gibb's Gully Clean Water Diversions – Gibb's Gully clean water diversion is required due to advancing mine activities in the Gibb's Gully pit and W1 pit by Year 2. Stage two is required due to commencement of mining activities in pit W3 by Year 9. The diversions are designed as clean water channels, as Gibb's Gully is not defined as a watercourse.
- ▶ Paton's Spring Clean Water Diversions – The Paton's Spring clean water diversion is required prior to commencement of mining activities in the W4 pit in Year 6. The diversions are designed as clean water channels, as Gibb's Gully is not defined as a watercourse.

2.2.2.2 Power

Power supply lines are to be constructed to service proposed mining operations in MLA70415 and MLA70416, as indicated in Chapter 3 Description of the Project, Figure 3.11. The existing Rolleston Coal Mine operation is supplied with power from the Ergon Energy substation located near the northern boundary of ML70307. The substation has a design capacity of 2 x 50 megavolt ampere (MVA) transformers that are configured for an N-1 arrangement.

Power system modelling has been undertaken to assess the impact on the site and the Ergon Energy supply system for the additional load and load profiles, being an 8750 sized third dragline, a P&H 4100 XPC AC size shovel and increased Coal Handling Facility (CHF) load. The study, based on near real-time simulations, indicates that the proposed load of three draglines, two shovels and a CHF load of 4,000 kW @ 0.9 lagging power factor can be supplied on a long-term basis on a single transformer.

Based on the high level assessment, the proposed increase in fleet and CHF load would not exceed the three dragline power study. However, a connection enquiry would need to be lodged with Ergon Energy along with a new power study prior to commencement of mining activities. Subject to Ergon Energy accepting the modelling outcomes, there are no required infrastructure upgrades external to site for the operation of these additional loads.

2.2.2.3 Transport

The operations proposed as part of the Project require the transport of mined coal from the pits to the mine infrastructure area, for coal handling and load-out. Several options were investigated for transporting the coal from the mining operations in MLA70415, including:

- ▶ Haul roads for large capacity mine trucks.
- ▶ Conveyor options to transport the coal back to the CHF.

A trade-off study was conducted for the two options with large capacity mine trucks identified as the preferred option to transport coal from MLA70415 due to:

- ▶ Large capacity mine trucks already onsite hauling coal from other pits.
- ▶ Large capacity mine trucks the most economical option.
- ▶ MLA70415 tonnage profile only providing a short operational life for a conveyor system which cannot pay back the capital invested.

The alignment of haul roads was determined primarily by landform and layout of the Project Site, cost-effective haulage routes, and the mapped locations of environmental values such as vegetation and water bodies. The proposed alignment of the haul roads is provided in Figure 3.11.

Coal from the Project would be transported to port by rail through the Central Queensland Coal Network (CQCN). This includes the Bauhinia Branch Line that connects the existing Rolleston Coal Mine to the Blackwater System (and wider CQCN). Upgrades to the network (such as the Memooloo Passing Loop and Rolleston Balloon Loop), if required would be managed and operated by the relevant Rail Infrastructure Manager and Rolling Stock Operator. Approvals for planned upgrades, if required, would be sought by these entities as part of a separate approval process.

Construction and operation of the Project would require the realignment of two public roads – Springwood Road and Mount Kelman Access Road. Springwood Road is currently formed (gravel) whilst Mount Kelman Access Road is currently not constructed. The reserves of both roads are dedicated 'land in road' and administered as local roads by the Central Highlands Regional Council.

Springwood Road currently crosses through ML70307 and MLA70458 of the Project Site. Realignment of the road is required to maintain public access whilst facilitating the additional area of mining associated with the Project. Two options for the re-alignment have been developed. Option 1 is located within an area of MLA70416 and ML70458 not required for mining and Option 2 is situated further to the south and connects with the Bottle Tree Downs Road to the east. Preliminary discussions with Council have been undertaken on both options, with a preferred option to be developed post approval. This would be undertaken in consultation with Council and other affected stakeholders.

Mount Kelman Access Road (currently unconstructed) is defined by a reserve that crosses through the western portion of MLA70415. Realignment of the reserve is required to maintain future options for public access whilst facilitating the additional area of mining associated with the Project. Preliminary discussions with Council have been undertaken to confirm a suitable location for the reserve. This location would be the subject of further consultation (upon approval of the Project) with Council and other affected stakeholders.

Preliminary alignments for both roads (and their respective reserves) are shown in Figure 3.12. The proposed relocation of these roads and reserves is not considered to significantly impact natural values, with the alignments being selected to minimise environmental impacts where possible. Materials used to construct Springwood Road would be sourced from borrow pits within the Project Footprint, thus reducing the potential for environmental and traffic related impacts. Final alignments will be developed in consultation with the Central Highlands Regional Council and affected landholders, and other relevant stakeholders such as the Department of Transport and Main Roads, Department of Natural Resource and Mines and the Queensland Police Service.

2.2.3 Alternative mining methods

The depth and development of the target coal seams were key determining factors in selecting the preferred method of mining for the Project. Approximately 90% of the coal resources within the Project Footprint occur above a depth of 100 m, meaning open-cut mining is the most economical and viable option.

Underground mining is not considered as viable as an open cut method due to the relatively shallow nature of the resource. Insufficient ceiling height and the requirement to leave pillars could result in subsidence or losses in resource recovery. The thin nature of the seam and geological constraints/uncertainty associated with the basalt filled paleochannels also present challenges for underground methods and resource recovery as the variable geology is more difficult and costly to track. Greater capital would also be required to operate the expansion as machinery currently used at the existing mine and which is suited to open cut mining methods could not be used. These constraints and traditional inefficiencies mean that underground mining is not a feasible option, both operationally and financially.

2.2.4 Locality alternatives

Alternative locations for the expansion of Rolleston Coal Mine have been investigated extensively with mining feasibility studies first occurring for the Rolleston deposit as far back as the early 1980s by Brigalow Mines. Since this initial phase of feasibility and exploration, continual exploration across the exploration permits held over the Project area have been carried out, for the existing Rolleston Coal Mine and also for the expansion areas prior to the issuing of the mining lease applications. The mining method, pit layout and associated infrastructure have been designed to minimise the impact upon environmental values within the locality, where possible. This includes consideration of impacts on agricultural values such as Good Quality Agricultural Land (GQAL) and strategic cropping land as discussed in Chapter 6 Land. The location of the coal resource is however the limiting factor in determining the position of the Project and in particular, the associated pits.

2.2.5 'Do Nothing' alternative

The 'Do Nothing' alternative, whereby the Project is not progressed, would avoid impacts on the natural environment and grazing would continue to be the predominant land use. It would also have a significant economic and social impact on the towns of Rolleston and Springsure, the Central Highlands region, as well as the individual mine employees and contractors. This alternative would not realise available resources in the area or the life of machinery currently established at the existing mine. Commercial losses would be realised earlier and would result in the exposure of nearby townships, the region, and individuals to a level of economic and social uncertainty. This would primarily relate to the loss of employee opportunities, apprenticeship programs, support of local businesses and financial donations to community groups and local projects. In addition, the loss of royalty payments to government would also result. Based on current production rates this overall scenario would be realised by 2024 if the expansion was not to be approved or progressed. Conversely, the expansion of the Rolleston Coal Mine would extend its life (up to 2045) and the resulting economic benefit for the townships and the broader Central Highlands region through continued employment and investment in local and regional economies.

2.2.6 Project interdependencies

The Project's location, as an expansion of the Rolleston Coal Mine, enables the continued use of existing ancillary infrastructure in the wider regional area. The existing interdependent infrastructure and industries include:

- ▶ Aurizon's Blackwater System.
- ▶ Coal export terminals at the Port of Gladstone (existing).
- ▶ Ergon Energy's existing Rolleston substation, and connecting power distribution infrastructure.

- ▶ Dawson Highway and connecting State-controlled and local roads.
- ▶ Emerald airport and regional centre.
- ▶ Rolleston and Springsure townships.

In addition, the Wiggins Island Coal Export Terminal, still under development, is to export coal from the continued operation of the Rolleston Coal Mine, and future expansion pending approval.

2.3 References

National Strategy for Ecologically Sustainable Development. (1992, December). *National Strategy for Ecologically Sustainable Development; Prepared by the Ecologically Sustainable Development Steering Committee and Endorsed by the Council of Australian Governments*. Retrieved from <http://www.environment.gov.au/about/esd/publications/strategy/index.html>