

2 Project Justification and Sustainability

2.1 Project Justification

2.1.1 Project Need

Australia is the world's largest exporter of coal and Queensland is responsible for about two thirds of exports (DME, 2007). Coal is the state's most important export commodity, with a total export value of \$16.3 billion in 2006-07. In the financial year ending 30 June 2008, coal contributed \$1.04 billion in royalties to the State Government. Based on changes to royalties announced in the Queensland State Budget 2008-09, royalties from coal are projected to rise to over \$3.21 billion in 2008-09. The industry is also a mainstay of rail and port services in Central Queensland.

The Project's high quality, low sulphur, semi hard coking coal and PCI coals are attractive to overseas buyers. The Project forms part of a growth strategy designed to strategically service the expanding demands of India, China and other international metallurgical coal markets.

The coal industry in Queensland employs about 20,000 people directly. A further 70,000 indirect jobs are created through the industry's activities. At full production, the Project will directly employ approximately 300 people, with many more employed indirectly as a result of flow-on effects.

An initial capital investment of approximately USD \$500 million will be required to bring the Project to full production. Operational expenditure will be about AUD \$200 to \$250 million per annum for the 21 year mine life. The operation will contribute significantly to the State in rail freight and royalties. This contribution coupled with the direct and indirect employment opportunities and associated spending, highlights the value of the Project to Queensland.

In the event that the Project was not to proceed:

- a total of 450 construction and 300 operational job opportunities (including contractors), along with the flow-on (indirect) employment opportunities, would not be created;
- significant export income would not be realised;
- injection of revenue into the regional economy would not occur;
- significant State and Commonwealth Government taxes and royalties would not be generated; and
- the economic opportunity of developing a coal resource that is viable and in demand, would not be realised.

2.1.2 Technical Feasibility and Commercial Viability

The Project is very similar in nature to the nearby BMA operated Poitrel Mine. The key technology associated with the Project is proven and does not represent a significant risk. BMA, as part of BHP Billiton, operates within a strict risk management and Project decision framework. The Project has been assessed as commercially viable and attractive through these processes, and has been identified as a priority project amongst BMA's growth project pipeline.

2.1.3 Compatibility with Policy and Regulatory Frameworks

Section 1.6 summarises the key policy and regulatory documentation that applies to the Project and outlines the response taken by BMA to address the requirements. The Project is compatible and compliant with all relevant legislation and is consistent with the planning framework in place for the region.

2.1.4 Economic, Social and Environmental Costs and Benefits

The EIS presents the impacts that potentially arise from the Project. The EIS also presents mitigation measures to minimise these impacts. In some cases the mitigation measures are able to reduce the potential for impact to insignificant levels. For example, numerical modelling of dust and noise impacts up to year 15 of the Project's operations indicates that there will be no detrimental impacts off site with the mitigation measures proposed. In other cases the mitigation measures are not sufficient to eliminate the impact, but rather reduce the impact. For example a number of measures are proposed to reduce the quantity of greenhouse gas emissions, however there will still be emissions from the Project.

The residual positive and negative impacts associated with the Project, which remain after mitigation measures are in place, represent the Project's costs and benefits. These costs and benefits range across the economic, social and environmental aspects of the Project. The costs and benefits also range in their significance. There is no simple basis on which differing economic, social and environmental costs and benefits can be compared. A subjective assessment is possible on the level of significance that the different impacts pose. Based on the information presented in the EIS, a high level summary of the costs and benefits is presented in **Figure 2-1**.

2.1.5 Regional Socio-economic Issues

Social and economic impacts are detailed in **Sections 17** and **18**, respectively.

With respect to social impacts, overall the Project in isolation is unlikely to have a significant impact on local or regional communities. It is not envisaged that the Project will create new issues within the local or regional communities but instead will add to the issues already faced by these communities.

The concern for community members is the changes that could occur to the local area as a result of continued mining development and expansion in the region. The existing housing crisis in the area is acting as a catalyst for other issues such as the movement of new families into the area, and is putting financial pressure on lower and middle income earners, which in turn reduces the pool of available labour for non-mining positions such as cleaners, retail assistance and Council services.

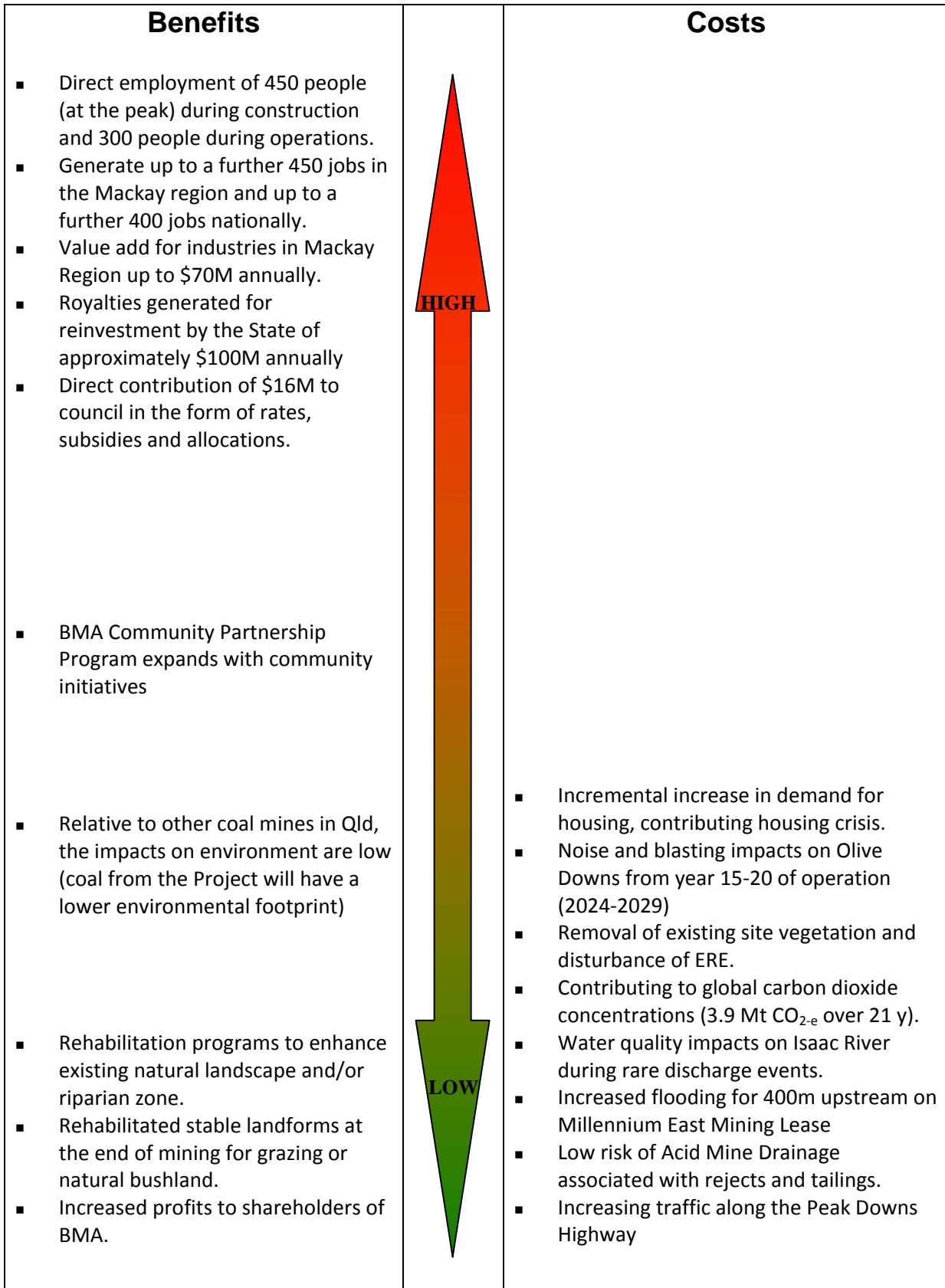


Figure 2-1 Project Costs and Benefits



With respect to economic impacts, the Project is estimated to have significant benefits including:

- Construction is expected to increase value added of all other industries in the Mackay Region by \$117 to \$146 million and raise output by \$195 to \$244 million in Australia on an annual basis.
- Expenditure during construction is expected to support the equivalent of approximately 1,711 to 2,267 full-time jobs in the Mackay Region and an additional 897 to 1,196 full-time equivalent jobs in Australia on an annual basis.
- Operation is expected to increase value added of all other industries in the Mackay Region by \$56 to \$70 million and raise output by \$64 to \$80 million in Australia on an annual basis.
- Operation will generate an additional 339 to 456 jobs in the Mackay Region and an additional 313 to 418 jobs in Australia annually.
- Annual expenditure by employees in the local region is estimated at \$580,000.

2.2 Ecologically Sustainable Development

2.2.1 Definition of Sustainability

The Proponent understands the need to ensure that the Project develops in a sustainable manner. There is no universally accepted definition of “sustainability”. In 1987, the World Commission on Environment and Development (also known as the “Brundtland Commission”) defined sustainable development as (Brundtland, 1987):

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

In 1990, the Commonwealth Government suggested the following definition of Ecologically Sustainable Development (ESD):

'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'.

Both of these definitions of sustainability address “total quality of life” and thus encompass the environmental, social and economic dimensions of development.

This Section describes the process undertaken by BMA to embed sustainability thinking and opportunities in the Project’s planning and design, and outlines the Project’s compatibility with the objectives and principles defined in Australia’s *National Strategy for Ecologically Sustainable Development*.

2.2.2 Project Sustainability Principles

As part of the Project, BMA undertook an exercise to define sustainability for the Project and embed sustainability thinking and opportunities at an early stage in the Project planning and design, with input across the Project team. Project team members involved in the exercise included BMA employees (engineering, environment and community relations), mine planning engineering consultants, infrastructure and Coal Handling and Processing Plant (CHPP) design engineers, environmental consultants, and community and social consultants.

The outcomes of this process were the identification of thirteen design challenges and opportunities. These design challenges are outlined below and fall into three broad categories:

■ **Environment**

- 1) Establishing a Greenhouse Gas (GHG) reduction and mitigation plan;
- 2) Managing water to minimise releases and maximise reuse;
- 3) Planning for closure and considering final landforms and sustainable end land uses at the outset; and
- 4) Identifying opportunities to enhance endangered regional ecosystems;

■ **Social and Community**

- 1) Fully engaging the community;
- 2) Investing in the community to build business capacity;
- 3) Engaging the indigenous community through procurement, training and employment;
- 4) Attracting and retaining workforce for construction and operation; and
- 5) Integrating Project planning at regional and local levels;

■ **Resource use efficiency**

- 1) Maximising synergies between Poitrel, Daunia and Millennium through mine planning, design and shared resources;
- 2) Influencing the supply chain towards sustainability;
- 3) Reducing impacts on the road transport corridors (rail and road); and
- 4) Understanding the sustainable use of the coal resource (all seams).

It is important to note that these design challenges and opportunities do not represent commitments for the purpose of the EIS. They represent the outcomes of a process designed to identify guiding principles for design and management of the Project. These principles are reflected in the Project design and mitigation measures nominated in the EIS.

2.2.3 Ecologically Sustainable Development Principles

This section reviews the Project's compatibility against the objectives and principles defined in the *National Strategy for Ecologically Sustainable Development* (1992) ('the National ESD Strategy') and demonstrates that the Project's planning has been undertaken with consideration to these objectives and principles.

The key ESD objectives defined in the National ESD Strategy are:

- To enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations.
- To provide for equity within and between generations (the Intergenerational Equity Principle).
- To protect biological diversity and maintain essential ecological processes and life-support systems.

The guiding ESD principles defined in the National ESD Strategy are:



- Decision-making processes should effectively integrate both long and short term economic, environmental, social and equity considerations.
- 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 (the Precautionary Principle).
- The global dimension of environmental impacts of actions and policies should be recognised and considered.
- The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognised.
- The need to maintain and enhance international competitiveness in an environmentally sound manner should be recognised.
- Cost-effective and flexible policy instruments should be adopted, such as improved valuation, pricing and incentives mechanisms.
- Decisions and actions should provide for broad community involvement on issues which affect them.

The National ESD Strategy also identifies three specific objectives for the mining sector:

- To ensure minesites are rehabilitated to sound environmental and safety standards, and to a level at least consistent with the condition of surrounding land.
- To provide appropriate community returns for using mineral resources and achieve better environmental protection and management in the mining sector.
- To improve community consultation and information, improve performance in occupational health and safety and achieve social equity objectives.

Each of these ESD objectives and principles are addressed in turn below.

2.2.3.1 ESD Key Objectives

Individual and Community Well-being and Welfare

The Project will provide significant benefits to the wider community in terms of income generation, employment and increased Government revenues and reinvestment, as detailed in **Section 18** of the EIS. The Proponent's measures to improve social well-being and welfare are outlined in **Section 17.2** of the EIS. The Proponent has an ongoing Community Partnerships Program, which is a regional program that supports initiatives and activities that promote involvement with government, training and welfare organisations and the communities. The program is divided into six key areas:

- youth development (Smith Family Learning for Life; Central Queensland Education Mobile Van);
- BMA's economic development/business and skills training;
- community development and welfare;
- community safety, sport, well-being and recreation;
- arts, entertainment and cultural development; and
- environment and sustainable development.

The Intergenerational Equity Principle

Through appropriate management strategies and monitoring of the impacts of the Project on the local environment, the Project will not significantly reduce, or fail to maintain, the health, diversity and productivity of the Queensland environment or affect future generations.

Disturbed land will be rehabilitated and left in a stable, non-polluting condition, as detailed in **Section 4.5** of the EIS. The proposed post-mine land use for disturbed areas within the Project Site is a mosaic of self-sustaining vegetation communities and grazing land, using appropriate native tree, shrub and grass species, and improved pasture species as appropriate.

The Project will require clearing of vegetation, however this will mostly comprise grassland dominated by introduced Buffel Grass, with the clearing of remnant vegetation minimised through restrictions on the mine footprint. The clearing of vegetation will not threaten individual flora or fauna species or ecosystems, as detailed in **Section 8.6**. Groundwater drawdown from the mine pit excavation is not expected to impact on remnant vegetation in the vicinity of the Project Site, as discussed in **Section 7.2**.

Water management practices on site will ensure that water quality in the Isaac River downstream of the Project Site is not adversely affected by the construction or operational phases of the Project. Measures to protect water quality are detailed in **Section 6.2**. A monitoring program will be established to show that the discharges meet all relevant guidelines and standards.

Protection of Biological Diversity and Essential Ecological Processes

The terrestrial and aquatic ecology values in the vicinity of the Project Site are described in **Section 8** and **Section 9**, respectively. A key measure for the protection of terrestrial and aquatic ecology values is the selection of the mine footprint, which has minimised clearing of Brigalow woodland and disturbance to New Chum Creek (see **Section 3**). Threatened species and ecosystems, and downstream water quality, will be protected as outlined above.

2.2.3.2 ESD Guiding Principles

Decision-Making Based on Long and Short Term Considerations

The Project forms part of a growth strategy designed to strategically service the expanding demands of India, China and other international metallurgical coal markets, which will promote economic development in those countries. The Project will provide immediate and long-term benefits to the economic and social fabric of Queensland, contributing to Commonwealth, State and Local Government revenues and the national, state and local economies.

The Precautionary Principle

The Proponent has undertaken an assessment of the risk of unacceptable environmental harm consistent with the Precautionary Principle, and used the findings to determine appropriate environmental control strategies, which have been detailed in the EIS and Environmental Management (EM) Plan. The Project has the technical and financial support and resources to establish and maintain these environmental protection controls.

Global Environmental Impact

The Project will generate greenhouse gas emissions from site operations, product transport and product use. The Project's site operations represent a 0.03% of Australia's 2005 greenhouse gas emissions and 0.0004%



of global emissions in 2004. The transport and use of the coal represent 1.7% of Australia's 2006 greenhouse gas emissions and 0.020% of global greenhouse gas emissions in 2004. As outlined in **Section 11.5**, the Proponent proposes a range of mitigation measures for site level emissions and is taking action at a corporate level to address the wider implications of greenhouse gas emissions and climate change.

As detailed in **Section 8** and **Section 9**, the Project will not result in significant impacts to threatened species, migratory species, RAMSAR wetlands and threatened ecological communities.

Development of a Strong, Growing and Diversified Economy which can enhance the Capacity for Environmental Protection

The Project will add value to the International, Australian and Queensland economies. There will be some flow-on effects to other areas of the Queensland economy as a result of the Project. The Minerals Council of Australia estimates that for every job created in the mining industry, at least three additional jobs are created elsewhere in Australia. The Proponent will encourage the use of local suppliers and contractors during construction and operations.

Enhancing International Competitiveness in an Environmentally Sound Manner

The Project will enhance Australia's international competitiveness by adopting latest technology and mining methods, while not causing significant environmental impacts.

Cost-Effective and Flexible Policy Instruments

The Project is consistent with Queensland and Commonwealth Government policy.

Community Involvement in Decisions and Actions

The Proponent has undertaken community consultation prior to preparing the EIS, which is detailed in **Section 16**, and will continue the process through the Project's life. The Proponent will develop a formal complaint procedure, continue to have meetings with local councils, and continue briefings by Project representatives to community groups.

2.2.3.3 Mining Sector Specific ESD Objectives

Minesite Rehabilitation

Disturbed land will be rehabilitated and left in a stable, non-polluting condition, as detailed in **Section 4.5** of the EIS. The proposed post-mine land use for disturbed areas within the Project Site is a mosaic of self sustaining vegetation communities and grazing land, using appropriate native tree, shrub and grass species, and improved pasture species as appropriate. This post-mine land use will be consistent with the land use of surrounding land.

Provide Appropriate Returns for Mineral Resources and Achieve Better Environmental Protection and Management in the Mining Sector

The Project will produce a product that is subject to a high international demand for the foreseeable future and will provide significant revenues to Commonwealth, State and Local Government. The coal resource has been subject to detailed investigations to define the extent of the resource and the feasibility of its extraction and processing.

The Project will not impact on other coal, gas and mineral resources in the region. There are no significant resources of coal seam methane that will be lost by the development of the Project.



The Proponent has undertaken a comprehensive environmental impact assessment process to identify the opportunities to improve environmental protection and management for the Project. This EIS documents the detailed assessments that have been undertaken and the EM Plan outlines the proposed environmental management strategies to be employed. The Project has the technical and financial support to establish and maintain these environmental management controls.

Improve Community Consultation, Improve Occupational Health and Safety, and achieve Social Equity Objectives

The Proponent has undertaken extensive community consultation prior to preparing the EIS, which is detailed in **Section 16** and has been incorporated into the assessment of social impacts as detailed in **Section 17**. The Proponent has undertaken a review of the risks to occupational health and safety posed by the Project and proposed appropriate management measures as detailed in **Section 19**. The assessment of social impacts and the proposed management measures to address these are detailed in **Section 17.2**.