



Jellinbah Group



LAKE VERMONT RESOURCES
ENVIRONMENTAL IMPACT STATEMENT
CHAPTER 19 ECONOMICS



ENVIRONMENTAL SOLUTIONS



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19 Economics

19.1 Environmental objectives and outcomes

This chapter has been prepared to assist the DES in carrying out the environmental objective assessment in respect of the following environmental objectives stated in the Project ToR:

The construction and operation of the Project will aim to:

- *avoid or mitigate adverse social and economic impacts arising from the Project;*
- *capitalise on opportunities potentially available for local industries and communities; and*
- *create a net economic benefit to the region and the State.*

An Economic Impact Assessment (EIA) has been undertaken for the Project by AEC and is provided in Appendix Q, Economic Impact Assessment. The EIA has been prepared in accordance with the 'Economic Impact Assessment Guideline' (DSDMIP 2017).

The Project is within the IRC LGA. However, given that the Project is proximal to the Mackay, Livingstone and Rockhampton LGAs, these LGAs have been included as part of the study area for the EIA. This study area is referred to as the 'Catchment' for the purpose of the EIA and is shown in Figure 19.1 (Appendix Q, Economic Impact Assessment, section 2.4).

The study area for examining the economic impacts of the Project is based on the Project location and consideration of the likely sources of labour, goods and services that will be utilised by the Project. This represents the regional economy most likely to be directly and/or indirectly affected by the Project (Appendix Q, Economic Impact Assessment, section 2.4).

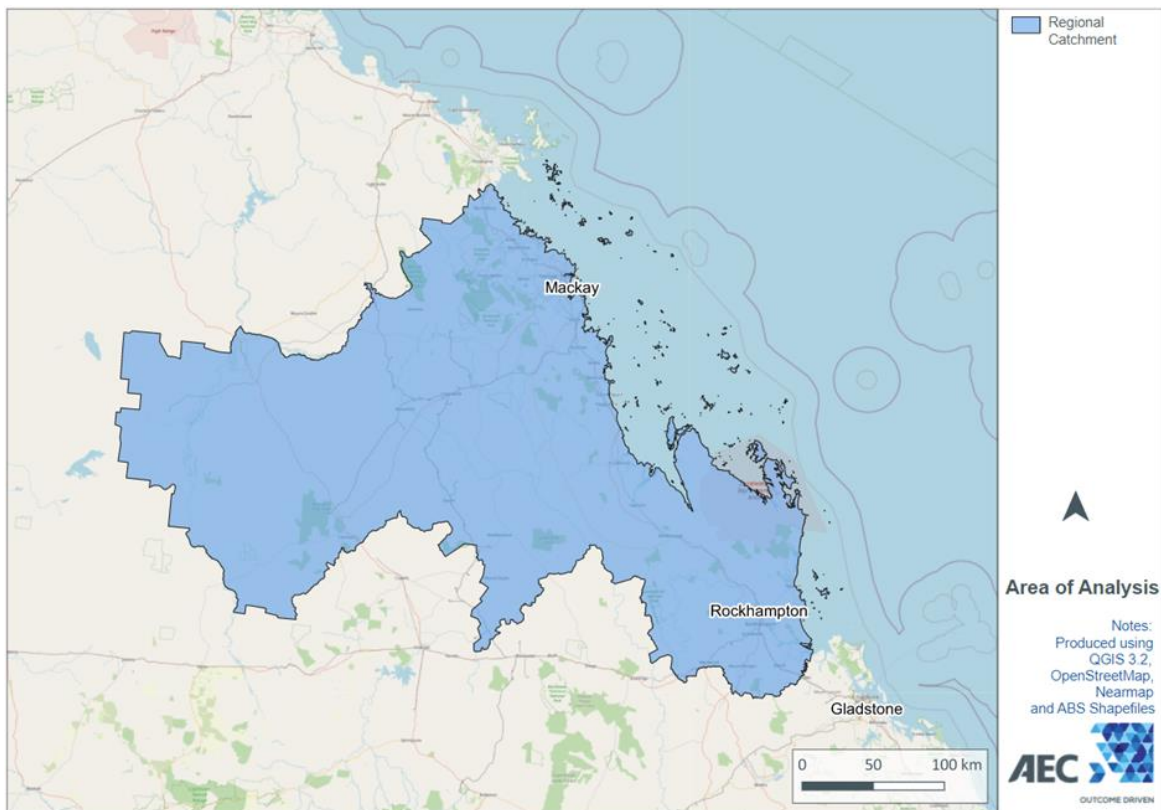


Figure 19.1: Map of the Project's EIA Catchment



19.2 Description of existing values

Mining, particularly coal mining, is the key driver of the Catchment's economy and has seen considerable growth in the last decade, despite some fluctuations year to year. The Catchment produced around 122.6 Mtpa of coal (on average) between 2012-13 and 2019-20, representing 52.2% of Queensland's (the State's) total coal production. In 2020-21, mining accounted for 15.9% of total jobs to be the largest employment sector in the Catchment. Mining activity in the Catchment has seen significant growth in the 10 years to 2020-21 (Appendix Q, Economic Impact Assessment, section 4).

Population in the Catchment has grown at a lower rate than the State over the last decade and is projected to continue to do so for the next 20 years to 2041. Catchment population growth averaged 0.5% per annum over the last decade, compared to 1.6% average annual growth for the State. The low growth rate in the Catchment included a period of annual population declines from 2015 to 2018, with a low of -0.8% annual growth in 2016. Between 2021 and 2041, the Catchment is anticipated to record an average annual growth rate of 1.3% to reach a population of around 335,000 (Appendix Q, Economic Impact Assessment, section 4).

In economics, gross value added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy. The Catchment is heavily reliant on the mining industry, with mining contributing 44.2% to the Catchment's total industry GVA. Mining activity in the Catchment has seen significant growth in the 10 years to 2020/2021, recording an average annual increase in GVA of 6.9% (Appendix Q, Economic Impact Assessment, section 4).

GRP is a measure of the market value of all final goods and services produced in an area. Over the 10-year period to 2020/2021, mining has seen a 14.6% increase in its proportion of the Catchment's GRP. This is in line with the increases seen in mining's share of employment in the Catchment that has been on an upward trend over the past 10 years, increasing by 3.1% from 2010/2011 to 2020/2021 (Appendix Q, Economic Impact Assessment, section 4).

The Catchment has generally recorded lower unemployment rates than the State, with a 5-year average of 5.8% and a 10-year average of 5.6% compared to 6.3% and 6.1% for the State, respectively. Unemployment in the Catchment peaked at 8.0% in the September and December quarters of 2015 and, with the exception of a spike in 2019 to 6.4%, has been on a downward trend since. The peak in unemployment in 2015 coincided with a downturn in the coal industry which saw mining employment decrease between 2013/2014 and 2016/2017, while the peak in unemployment in 2019 coincided with the initial impacts from COVID-19 and the closing of Australia's borders on the national economy (Appendix Q, Economic Impact Assessment, section 4).

Further details on the Catchment's existing economic environment are provided in the Project EIA (Appendix Q, Economic Impact Assessment, section 4).

19.3 Potential impacts

Potential economic impacts associated with the development of the Project may be both positive and negative in nature. Economic impacts may also be cumulative, such as if the Project is to be developed in conjunction with projects within a similar area, at a similar time. Potential impacts of the Project are considered in section 19.3.1 and section 19.3.2.

19.3.1 Potential beneficial economic impacts of the Project

The Project will have beneficial impacts on the Catchment and State economies, as it will:

- contribute to economic growth;
- maintain employment and household incomes;
- provide support for local and regional businesses; and



- contribute to government taxation revenues through a variety of taxes and duties, which can be used by government to provide additional infrastructure and services to support businesses and households throughout Australia.

The key beneficial impacts arising from the Project are summarised in Table 19.1 (Appendix Q, Economic Impact Assessment, section 5.9.1):

Table 19.1: Summary of beneficial economic impacts of the Project

Impact	Description
Economic growth	<p>The Project will contribute to economic growth directly and indirectly through increased industrial output and GRP during construction and operation compared to what would occur without the Project. Including both direct and flow-on impacts, the Project is estimated to support an additional:</p> <ul style="list-style-type: none"> • \$146.3 million in GRP in the Catchment during construction; • \$33.6 million in GRP in the Catchment during capital replacement activities; and • \$315.7 million in GRP per annum through mining activities in the Catchment during peak operations compared to what would otherwise occur if the Project does not proceed.
Employment and incomes	<p>The Project will support additional employment and household incomes flow from direct and indirect impacts during construction and operation compared to what would occur without the Project. Including direct and flow-on (supply chain) impacts, the Project is estimated to support an additional:</p> <ul style="list-style-type: none"> • 1,044 FTE job years (in total) for residents in the Catchment during construction over the six-year initial capital expenditure phase (noting the majority of construction activity will occur across a two-year construction period); • 289 FTE job years (in total) that will be maintained for residents in the Catchment through capital replacement activities between 2031/2032 to 2044/2045. • 414 FTE jobs per annum for residents in the Catchment on average during peak mining activity between 2027/2028 and 2047/2048 (above what would otherwise occur without the project).
Support for local businesses	<p>The Project will support the demand for goods and services for a number of businesses within the Catchment, including local worker accommodation villages, businesses within the construction and mining supply chains, local and regional indigenous businesses, as well as providers of export infrastructure.</p> <p>In total, Catchment construction businesses and supply chains are estimated to receive revenue of approximately \$361.9 million through construction phase activity, capital replacement activity estimated to generate business revenues of \$83.4 million.</p> <p>Mining supply chain businesses in the Catchment are estimated to receive an additional \$8.4 million in business revenue per annum during peak operations that would not occur without the Project, providing additional security and longevity of business incomes.</p> <p>Lake Vermont is an important coal supplier, primarily to international markets (i.e. exports). However, while the majority of benefits of this are received by international consumers and businesses, domestic transport and logistics businesses will also benefit from the transport of coal to ports.</p>
Government revenue	<p>The Project will provide a lift in local, State and Australian Government taxation revenues through a variety of taxes and duties. Overall, the Project is estimated to deliver an annual average of:</p> <ul style="list-style-type: none"> • \$1,919.4 million in additional revenue to the Australian Government, through personal income tax, fringe benefits tax, company tax and Goods and Services Tax (GST), compared to what would occur without the Project; and • \$1,334.5 million in additional revenue to the Queensland Government, primarily through royalty payments, compared to what would occur without the Project. <p>These revenues can be used by government to provide additional infrastructure and services to support businesses and households throughout Australia.</p>



19.3.2 Potential adverse economic impacts of the Project

Potential adverse impacts on the economy include impacts on agricultural production, impacts on local businesses through competition for resources, impacts on local property values and impacts on industry from the Australian dollar and exchange rates. It is recognised that impacts on local property values and the Australian dollar/exchange rates can benefit some stakeholders and adversely impact others. It is not anticipated that the Project will have any tangible impact on the normal supply/demand of extractive resource availability in the region or Queensland. Potential adverse impacts of the Project are summarised in Table 19.2 (Appendix Q, Economic Impact Assessment, section 5.9.2).

Table 19.2: Summary of potential adverse economic impacts of the Project

Impact	Description
Impacts on agricultural production	<p>The Project area is currently used for cattle grazing. As the Project is primarily an underground operation, with only one small-scale open-cut satellite pit, only a small proportion of the Project site is anticipated to be temporarily removed from grazing purposes.</p> <p>The Proponent intends to allow grazing to continue within the Project site in areas not impacted by surface infrastructure (and allowing for buffer areas).</p> <p>Given that carrying capacities can be increased on grazing land where needed, the small reduction in grazing land available as a result of the Project is not anticipated to have any tangible impacts on grazing production in the region.</p> <p>Rehabilitation of the open-cut satellite pit area and the MLA will ultimately return this area to a grazing use.</p>
Impacts on local businesses from competition for resources	<p>The Project may (moderate likelihood) increase competition for labour and resources, leading to inflationary pressure and increased costs to businesses, as well as potential difficulties for local businesses attracting and retaining staff. However, in the longer term, as the Project is an extension of existing mining and supply chain activity, the contribution of the Project to competition for resources is estimated to be relatively minor and unlikely to be noticeable against baseline/existing levels (very low consequence), providing a low overall impact rating.</p>
Impacts on local property values	<p>It is anticipated that there will be a short-term increase in demand for accommodation during construction, whereby the majority of workers are anticipated to permanently reside outside a one-hour drive of the Project site. The construction workforce is, therefore, proposed to be accommodated at existing accommodation villages within Dysart (at the Civeo and Stayover by Ausco villages).</p> <p>During operations, the Project will sustain existing FTEs, with an extension and upgrade to the Lake Vermont Accommodation Village proposed (to provide ongoing accommodation to Lake Vermont Mine employees). The construction phase may increase demand for rentals in the Catchment; however, this workforce would be temporary and anticipated to be accommodated in existing accommodation villages within Dysart.</p> <p>The Social Impact Assessment (Appendix P, section 5.3.1) suggests there is ample capacity for Dysart to provide housing for families moving to town (with approximately 42.5% of total dwellings unoccupied). However, the low quality of housing may present a barrier to permanent relocations. Given existing vacancy rates, the Project is not considered likely to have a substantial effect on housing demand. Any impact from the Project is likely to be small (low consequence), with an overall impact rating of low.</p>



Impact	Description
Impacts on industry from exchange rates	<p>The Project will result in the export of an additional 104.2 Mt of coal that would not otherwise occur. This export activity could potentially result in an increase in exchange rates due to the Project's impacts on balance of payments (which would make Australian exports less competitive, while imported goods and services would cost comparatively less).</p> <p>This would primarily impact industries that operate in global markets competing with international producers, such as agriculture and manufacturing. Industries such as agriculture, manufacturing and tourism are strong contributors to the Queensland and national economies. However, the contribution of these industries can fluctuate due to a number of macro-economic factors (including exchange rates).</p> <p>Considering the total export value of the Project relative to total national exports, the Project is anticipated to result in an immaterial impact on State and domestic trade balances, thereby having a negligible impact on factors such as exchange rates and the value of the Australian dollar. As such, an overall impact rating of very low has been allocated (in consideration of the low likelihood and very low consequence).</p>
Impact on economic resources	<p>The Bowen Basin contains the largest coal reserve in Australia, extending over approximately 60,000 km² (BBGG 2022). This Catchment represents a significant contribution to the State of Queensland's coal production, its most significant export commodity. Queensland produced approximately 218,500,500 tonnes of saleable coal in 2020/2021 (Department of Resources 2021). The Project will provide an extended supply source to the export market, which will improve security of supply.</p> <p>The Project is anticipated to provide up to 6.2 Mtpa of product coal for the export market, which will further benefit the overall supply in Queensland and support future demand.</p> <p>Queensland's untapped coal resources have been estimated at 63 billion tonnes of raw coal as of 2019, and the Project will extract only 0.1% of these identified reserves. This indicates there will still be large remaining resources following extraction associated with the Project (QRC 2019). As such, an overall impact rating of very low has been allocated (in consideration of the low likelihood and very low consequence).</p>

19.3.3 Potential cumulative impacts

The EIA considers cumulative impacts should other projects be undertaken concurrently. It considers how the potential impacts identified in Table 19.1 and Table 19.2 could be exacerbated by the conduct of other projects in the region.

For the purposes of the cumulative economic impact assessment, existing operational projects are not included, as impacts from these are already included within the baseline economic conditions (as part of the existing economic environment). As such, projects considered for cumulative impact assessment include:

- Saraji East Project—adjoining the western boundary of the Project;
- Olive Downs and Olive Downs North—approximately 2 km to the north and approximately 40 km to the north, respectively;
- Bowen Gas Project—approximately 30 km north of Glenden, covering an area of approximately 8,000 km² to approximately 10 km south of Blackwater;
- Winchester South Project—approximately 8 km to the north-northwest;
- Eagle Downs—approximately 13 km to the north-west;
- Vulcan Project— approximately 20 km to the north-west; and
- Isaac Plains East and Isaac Plains East expansion—approximately 50 km to the north-west.

Potential cumulative impacts associated with the development of these projects, in conjunction with the Lake Vermont Meadowbrook Project, may be both positive and negative in nature. These impacts are discussed in section 19.3.3.1 and section 19.3.3.2.



19.3.3.1 Potential beneficial cumulative impacts

The development of the Project, in combination with multiple other major projects, will result in higher overall output, higher GRP, higher employment and higher household income estimates within the Catchment and within Queensland. Other potential beneficial impacts of concurrent development may include the following (Appendix Q, Economic Impact Assessment, Section 6.2.1):

- Stabilisation and growth in the Catchment population, which has seen declining and slowing growth in previous years.
- Additional business activity and population would increase demand for a range of business and household support services. It is expected that the delivery of a suite of projects would provide an important contribution to stabilising and supporting growth in the Catchment in the medium term.
- Increased labour compensation and real wage effects would occur to attract constrained labour resources, thereby enhancing some household incomes.
- Development of a “critical mass” of projects to support existing, and potentially expand, local supply chain networks.
- Increased government revenues through taxation and royalties.
- Coordinated and potentially enhanced use of infrastructure would be developed to support major projects.
- Enhanced business, consumer and investor confidence would increase due to greater certainty in demand for goods, services and local infrastructure and assets.

While real and tangible cumulative benefits are likely to arise from the concurrent development of a number of projects, with respect to government as well as local community and business investment in the local and Catchment economy, it is more important to understand the stresses that will be collectively created by multiple projects. As such, the focus of the cumulative impact assessment is on understanding these stresses.

19.3.3.2 Potential adverse cumulative impacts

Key resources (factors of production) likely to be affected by development of multiple projects in terms of increased demand and competition include:

- labour;
- capital;
- accommodation and land; and
- infrastructure services.

Adverse impacts potentially resulting from increased stresses on the above factors of production have been identified as:

- impacts on local/Queensland businesses through competition for labour and labour draw;
- impacts on agricultural production;
- impacts on residential property values through increased demand and amenity effects;
- impacts on trade-exposed industries through changes to Australia’s balance of payments, and the Australian dollar and exchange rates affects; and
- impacts on economic resources through increased extraction.

A summary of these potentially adverse cumulative economic impacts is provided in Table 19.3 (Appendix Q, Economic Impact Assessment, section 6).



Table 19.3: Summary of potential adverse cumulative impacts

Impact	Description
Impacts on agricultural production	<p>Some of the other developments considered in the cumulative impact assessment are likely to impact agricultural production through disruption or take-up of land.</p> <p>These mining-related projects may be developed on land that is primarily used for agricultural activities, some of which will have a larger footprint than the Project.</p> <p>The cumulative impacts on land availability for agricultural production by all proposed projects proceeding is considered possible to exacerbate the adverse impacts on agricultural production that may be delivered by the Project alone, through a combination of reduced capacity to replace this activity elsewhere in the Catchment and overall contraction of land available for agricultural purposes.</p> <p>However, the likelihood of the Project tangibly contributing to a reduction in grazing activity is considered low in consideration of the cumulative consequence of these projects, in consideration of the very low disturbance to agricultural land afforded by the Project.</p> <p>Where this does occur, the impact is assessed as being very low, providing an overall impact rating of very low.</p>
Impacts on local businesses from competition for resources	<p>The development of the Project, as well as other proposed projects in the Catchment, will result in additional demand and competition for labour and other inputs to supply these projects.</p> <p>This may erode the viability of some businesses, in particular smaller businesses operating near the margin or lower-income paying industries that may struggle to attract and retain labour.</p> <p>As the Project will maintain production at the Lake Vermont Mine at existing levels, the contribution of the Project would be smaller relative to the adverse impacts generated by other proposed projects.</p> <p>The Project, in consideration of other major projects, is assessed as having a moderate likelihood of impacting local businesses through competition for resources, but with a low consequence, providing an overall impact rating of low.</p>
Impacts on local property values	<p>The development of the Project, as well as the other projects, will increase overall labour requirements in the Catchment. This will potentially increase demand for local residential property in Dysart and surrounding areas, and in nearby major centres, such as Mackay.</p> <p>While most workers will operate on a DIDO basis, in consideration of the large workforces for projects, the additional demand for residential property that may be generated by the Project has a moderate likelihood of placing upward pressure on property prices in these centres. Demand for housing from the Project is therefore expected to be low.</p> <p>However, demand may increase if competition for local labour from other projects results in the Project sourcing more labour from outside the local area than anticipated. Nevertheless, the impact of the Project is still expected to be relatively small (low consequence), providing an overall impact rating of low even when other projects result in the local property market tightening.</p>
Impacts on industry from exchange rates	<p>Some projects considered in the cumulative impact assessment will directly result in increased exports over and above what would be achieved by the Project alone.</p> <p>The combination of these projects is likely to place upward pressure on exchange rates in consideration of national trade balances, thereby adversely affecting trade-exposed industries. It is possible the contribution of the Project's exports to exchange rate impacts may be exacerbated (moderate likelihood). The impact on exchange rates (and thereby trade-exposed industries) is assessed to be higher than the impact of the Project in isolation, though the marginal impact of the Project on exchange rates will still be small (low consequence), providing an overall impact rating of low.</p>



Impact	Description
Impact on economic resources	<p>Multiple projects will increase the Catchment's supply of coal products for Queensland's export market.</p> <p>The Project, in consideration of the other projects proposed, will provide an extended supply source to the export market, thereby increasing overall depletion of Queensland's remaining coal supply. However, Queensland's untapped coal resources have been estimated at 63 billion tonnes of raw coal as of 2019, and coal production from identified major projects will extract a very small proportion of these reserves. This indicates that even in consideration of the other projects identified, the Project's impacts on the availability of coal resources will be negligible (QRC 2019). An overall impact of very low is assessed (based on a low likelihood and very low consequence).</p>

In consideration of the above, the proposed Project is anticipated to be a minor contributor to adverse cumulative economic impacts. In respect of the risks identified and considered, the Project is assessed to have a 'very low' to 'low' risk of generating adverse cumulative economic impacts.

Further, it is acknowledged that there are real and tangible benefits likely to arise from the concurrent development of a number of projects, with respect to government as well as local community and business investment in the local and Catchment economy (Appendix Q, Economic Impact Assessment, Section 6.2.1).

19.4 Cost-benefit analysis

The cost-benefit analysis has been performed to calculate the estimated net benefits to the economy as a result of the Project over and above the 'Base Case' scenario where the Project does not proceed. The cost-benefit analysis indicates that, assuming a discount rate of 7%, the net present value of the Project to the Queensland economy is estimated to be \$968.2 million, including significant estimated labour benefits of \$140 million, over the life of the project.

19.5 Mitigation and management measures

The Project will provide an important retention of economic activity within the Catchment and Queensland economy that would otherwise be lost. Economic impacts of the Project are anticipated to be overwhelmingly positive, with minimal adverse economic impacts.

While the residual adverse economic risks associated with the Project are low, some potential areas should be monitored, with strategies employed to ensure benefits of the Project to the Catchment and Queensland are maximised and any potential adverse impacts minimised:

- To minimise adverse impacts on agricultural production in the Catchment, the Proponent will avoid or minimise disturbance of productive land in areas not directly impacted by mining activities. The Proponent will also ensure land above the underground operation is of adequate safety standards for continuing grazing activities as far as practicable.
- To maximise local benefits derived from the Project, consistent with existing policies implemented at Lake Vermont Mine, the Proponent (and contractors engaged by the Proponent) will be encouraged to source labour locally (when possible and practicable) and provide training opportunities when practicable. The Proponent will also implement training programs to assist existing open-cut mine workers transition to underground mining roles, should they wish to do so, to maintain continuity of the workforce.
- The Proponent has longstanding relationships with local businesses and an established supply chain for its existing activities in the Catchment. To maximise local benefits derived from the Project, the Proponent (and contractors engaged by the Proponent) will continue to support local businesses by utilising these established supply networks and providing sufficient opportunities and information for local businesses to secure new supply contracts.



- While the Project is anticipated to have minimal impacts in terms of additional demand for accommodation/housing in the local area, the Proponent will monitor the local accommodation/housing market and demands placed on it by its workforce. The Proponent has also committed to provide financial support to the Isaac Affordable Housing Trust to support low-cost housing developments within Dysart.

It should be recognised that these strategies form part of the Proponent's Project planning, and modelling of impacts in this report has been based on these strategies being implemented.