

# Central Queensland Coal Project

## Chapter 19A - Economics

### *Supplementary Environmental Impact Statement*





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Central Queensland Coal Project  
**Chapter 19A – Economics**

20 December 2018

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## 19 (A) Economic Environment

This chapter describes the existing economic environment most relevant to the Central Queensland Coal Project. The chapter includes methods of assessment, relevant regulatory framework, existing economic environment including an economic baseline assessment, potential beneficial and adverse impacts, and proposed mitigation measures to minimise social and economic impacts to the region and more broadly.

This chapter has been updated since the original Environmental Impact Statement (EIS) to incorporate relevant aspects of the Isaac Regional Council (IRC) into the assessment. The original technical economic assessment report that was previously provided as an appendix has now been updated and incorporated in text. The new assessment has been included and reported in this chapter to avoid confusion between the two assessments. Appendix A13 details all submissions including those relating to the original EIS Chapter 19 – Social and Economic. The social and economic components of the EIS Chapter 19 are now presented as separate chapters (i.e. Chapter 19A – Economics and Chapter 19B – Social Impacts).

### 19.1 Project Overview

Central Queensland Coal Proprietary Limited (Central Queensland Coal) and Fairway Coal Proprietary Limited (Fairway Coal) (the joint Proponents), propose to develop the Central Queensland Coal Mine Project (the Project). As Central Queensland Coal is the senior proponent, Central Queensland Coal is referred to throughout this Supplementary Environmental Impact Statement (SEIS). The Project comprises the Central Queensland Coal Mine where coal mining and processing activities will occur along with a train loadout facility (TLF).

The Project is located 130 km northwest of Rockhampton in the Styx Coal Basin in Central Queensland. The Project is located within the Livingstone Shire Council (LSC) Local Government Area (LGA). The Project is generally located on the “Mamelon” property, described as real property Lot 11 on MC23, Lot 10 on MC493 and Lot 9 on MC496. The TLF is located on the “Strathmuir” property, described as real property Lot 9 on MC230. A small section of the haul road to the TLF is located on the “Brussels” property described as real property Lot 85 on SP164785.

The Project will involve mining a maximum combined tonnage of up to 10 million tonnes per annum (Mtpa) of semi-soft coking coal (SSCC) and high grade thermal coal (HGTC). The Project will be located within Mining Lease (ML) 80187 and ML 700022, which are adjacent to Mineral Development Licence (MDL) 468 and Exploration Permit for Coal (EPC) 1029, both of which are held by the Proponent. It is intended that all aspects of the Project will be authorised by a site specific environmental authority (EA).

Development of the Project is expected to commence in 2019 with initial early construction works and extend operationally for approximately 19 years until the depletion of the current reserve, and rehabilitation and mine closure activities are successfully completed.

The Project consists of two open cut operations that will be mined using a truck and shovel methodology. The run-of-mine (ROM) coal will ramp up to approximately 2 Mtpa during Stage 1 (2019 - 2022), where coal will be crushed, screened and washed to SSCC grade with an estimate 80% yield. Stage 2 of the Project (2023 - 2038) will include further processing of up to an additional 4 Mtpa ROM coal within another coal handling and preparation plant (CHPP) to SSCC and up to 4 Mtpa of HGTC with an estimated 95% yield. At full production two CHPPs, one servicing Open Cut 1 and the other servicing Open Cut 2, will be in operation. Rehabilitation works will occur

progressively through mine operation, with final rehabilitation and mine closure activities occurring between 2036 to 2038.

A new TLF will be developed to connect into the existing Queensland Rail North Coast Rail Line. This connection will allow the product coal to be transported to the established coal loading infrastructure at the Dalrymple Bay Coal Terminal (DBCT).

Access to the Project will be via the Bruce Highway. The Project will employ a peak workforce of approximately 275 people during construction and between 100 (2019) to 500 (2030) during operation, with the workforce reducing to approximately 20 during decommissioning. Central Queensland Coal will manage the Project construction and ongoing operations with the assistance of contractors.

This AEIS supports the EIS by responding to the submissions that were made during the public notification period regarding the original EIS and SEIS and identifies the material changes to the Project.

## 19.2 Relevant Legislation and Guidelines

Whilst there is no specific Commonwealth and State legislative requirements relating to the economic environment, the following documents are relevant when considering the economic impacts to the region because of the Project:

- *Planning Act 2016*;
- *Regional Planning Interests Act 2014*;
- Queensland State Planning Policy (SPP);
- *Environmental Protection Act 1994*; and
- *Queensland Resources and Energy Sector Code of Practice for Local Content 2013*.

### 19.2.1 Legislation

The following legislation has been considered in this chapter.

#### 19.2.1.1 Planning Act 2016

As of 3 July 2017, the *Planning Act 2016* (Planning Act) replaced the *Sustainable Planning Act 2009* (SP Act). The new Act is Queensland's principal planning legislation and comprises of three main elements: plan making, development assessment and dispute resolution. In comparison to the SP Act, the Planning Act is very similar. The Act still has the SPP which is provided in more detail in Section 19.2.2.1. Under the SPP sits the various regional plans and schemes, which are covered in Section 19.2.3.

#### 19.2.1.2 Regional Planning Interests Act 2014

The *Regional Planning Interests Act 2014* was introduced by the Queensland Government to protect areas of regional interest from inappropriate development and assist with resolving land use conflict between activities contributing to the Queensland economy (DILGP 2015). The Project site will be considered an area of regional interest if defined as either a; priority agricultural area;

priority living area; strategic cropping area; or strategic environmental area, which contributes or will likely contribute to Queensland's economic, social and environmental prosperity.

The Project activities are not located within any mapped area of regional interest.

### 19.2.1.3 Environmental Protection Act 1994 (EP Act)

The object of the *Environmental Protection Act 1994* (EP Act) is to protect Queensland's environment while allowing for development that improves the total quality of life and maintains ecological processes. As per Section 8 (d) of the EP Act, environment includes 'the social, economic, aesthetic and cultural conditions' that affect or are affected by other components of the environment (Queensland Legislation 2017), and as such bear relevance in this chapter. Additionally, Environmental Impact Statements (EIS) prepared under the EP Act are required to assess the potential adverse and beneficial environmental, economic and social impacts of the Project to effectively propose environmental management measures (s40). In accordance with the EP Act, economic objectives have been set out in the Terms of Reference (ToR) for the Project which requires the development to:

- Describe the likely impacts (positive and negative) on the economies materially impacted by the Project, both potential and direct economic impacts including estimated costs on industry and the community; and
- Identify opportunities to capture the economic benefits of the Project for local suppliers, local workers (including members of Indigenous communities and people with a disability), agricultural and tourism industries, local recruitment and training providers, and for those workers and their families who are relocating or for Fly-in Fly-out (FIFO) workers.

## 19.2.2 Relevant Guidance Documents

The following guidance documents have been considered in this chapter.

### 19.2.2.1 Queensland State Planning Policy

The most recently revised SPP commenced on 3 July 2017 and has been developed to provide a comprehensive set of principles to guide state government and local government in the planning of land use and development (DILGP 2017).

The SPP includes 17 state interests under five broad themes, with the most relevant interests in the assessment of the economic environment for this Project being:

- Economic growth through mining and extractive resources - support the productive use of resources, a strong mining and resource industry, economical supply of construction materials, and avoidance of land use conflicts wherever possible;
- Economic growth through development - planning supports employment needs and economic growth by facilitating a range of residential, commercial, retail and industrial development opportunities;
- Economic growth through tourism – social, cultural and natural values underpinning the tourism developments are protected to maximise economic growth; and
- Infrastructure through strategic airports and ports - planning enables the growth and development of Queensland's aviation industry and strategic ports.



### 19.2.2.2 Resources and Energy Sector Code of Practice for Local Content 2013

The *Queensland Resources and Energy Sector Code of Practice for Local Content 2013* (the Code) is referred to in the ToR as a guiding policy document when developing strategies to ensure local suppliers of goods and services receive full, fair and reasonable opportunity to tender for work throughout the Project lifecycle. Whilst compliance with the Code is voluntary, its use as a guiding policy is strongly encouraged by key industry peak body Queensland Resources Council (QRC 2017). More specifically related to this chapter, successful implementation of this policy can achieve broader social and economic benefits of:

- Employment and business growth in Queensland and the region;
- Long-term sustainability of local economies; and
- Achieving a consistently renewed social licence to operate.

### 19.2.3 Relevant Programs and Plans

The Queensland Government has developed statutory regional plans for the individual Queensland regions, with the aim of providing overarching strategic direction to achieve regional outcomes that align with the State's interest in planning and development as set out in the SPP (DILGP 2016).

#### 19.2.3.1 Central Queensland Regional Plan

The Central Queensland Regional Plan (DILGP 2016) includes two of the three community profiles to be assessed further in this chapter regarding existing social and economic environment – LSC and Rockhampton Regional Council (RRC). Based on consultation with the Regional Planning Committee, local government, industry / community stakeholder and state agencies, the following regional policies were identified as most relevant to the region:

- Maximise the productive use of key mining resources;
- Provide for liveable communities; and
- Support the long-term viability and growth of the agricultural sector.

The local government planning schemes are designed to integrate the economic, social and environmental needs of the local community through focusing on land use, development, infrastructure and valuable features of the area (DILGP 2016).

#### 19.2.3.2 Livingstone Planning Scheme 2009

The *Livingstone Planning Scheme 2018* commenced on 1 May 2018. It replaced the Livingstone Shire Planning Scheme 2005 (Reprint 7). The planning scheme sets out LSC's intention for the future development in the planning scheme area, over the next ten years. The planning scheme seeks to advance state and regional policies, including state planning policies and the Central Queensland regional plan, through more detailed local responses considering the local context.

### **19.2.3.3 Livingstone Shire Council Corporate Plan 2014 – 2019**

The Livingstone Shire Council Corporate Plan 2014 – 2019 is the principal document from which the LSC plans and strategic document are developed. The Project will provide input into the implementation of the following key aspects addressed in the Corporate Plan:

- **Assets** – The goal is implementing reliable, durable, cost effective infrastructures and Council assets which meet the needs and aspirations of the communities of the LSC. The proponent will contribute with this aspect through undertaking upgrades to existing infrastructure in the area in conjunction with the LSC;
- **Environment** – The goal is preserving an environment which is valued, sustainable and maintains a balance between the natural and built forms. The proponent will work with the LSC to ensure environmental impacts are minimised through the implementation of management measures. These measures will reduce potential harm to the environment in the region and contribute to the LSC’s achievement strategies;
- **Economy** – The goal is a diverse, strong, innovative and sustainable local economy providing employment and business opportunities for residents. The Project has the potential to impact the local economy through providing employment for the local population and diversifying the local economy. The proponent will engage with the LSC to maximise these opportunities in the region;
- **Community** – The goal is to create diverse and unique communities which are connected with larger community in order to achieve a more engaged, supportive, inclusive, creative and confident Shire. The Project has the potential to enhance local communities through engagement of local work force and services. This will assist the LSC to achieve its goals; and
- **Governance** – The goal is an efficient, progressive, transparent and financially sustainable organisation which is responsive to the needs of the community through sound decision making and leadership. The proponent will engage with the LSC to ensure that transparent and sustainable communication is achieved throughout the Project lifetime.

### **19.2.3.4 Rockhampton Region Planning Scheme 2015**

The Rockhampton Region Planning Scheme 2015 is a revised planning scheme for the area, replacing and consolidating the individual Fitzroy Shire, Mount Morgan Shire and Rockhampton City Planning Schemes. The Planning Scheme has been developed into an online planning and development service (RRC 2017a).

### **19.2.3.5 Rockhampton Regional Council Corporate Plan 2017-2022**

The Rockhampton Regional Council Corporate Plan 2017 – 2022 sets the strategic direction and priorities for the Council’s five years strategic plan document which outlines the goals and outcomes to achieve the community’s expectations. This corporate plan is designed around five themes as follows:

- **Community** – The goal is to create strong communities with a sense of belonging where residents will celebrate their diversity and have modern services available to support a safe, healthy and engaged lifestyle. The Project has the potential to contribute with the RRC to achieve its goal through providing better conditions to the local community residents;

- Economy – The goal is to create and nurture diverse opportunities to balance work, play and growth. The Project has the potential to improve and diversify the local economy through providing employment for residents and to involve local services;
- Environment – The goal is to have an environmentally balanced and aware community, which preserves and maintains the environment and incorporates sustainability principals. The proponent will work with the RRC to ensure environmental impacts are minimised and sustainable practices are applied through implementation of management measures. These measures will be aligned and contribute to the RRC’s achievement goal;
- Service Excellence – The goal is to focus on community outcomes that effectively balances the community’s aspirations with the resources available. The Project has the potential to enhance local community through providing employment diversity and seeking local work force which will promote local economic growth. This contributes to the RRS’s achievement goal; and
- Local Government Leader – The proponent will contribute to the RRC to achieve its goal through maintaining a clear, transparent and close relationship with the RRC.

#### **19.2.3.6 Isaac Regional Council - Broadsound Shire Council Planning Scheme 2005**

The IRC was formed in 2008 from the Belyando, Nebo and Broadsound Shire Councils (IRC 2018a), as a result there are three different planning schemes across the IRC. The IRC is currently in the process for preparing a new planning scheme. The relevant planning scheme for the affected communities includes the *Broadsound Planning Scheme 2005*. The *Broadsound Planning Scheme 2005* includes Desired Environmental Outcomes (DEOs). The relevant DEOs include:

- Economic development; and
- Maintenance of cultural, economic, physical and social wellbeing of people and communities.

A review of the desired environmental outcomes concluded that the proposed Project assists council and contributes positively in meeting the objectives of the DEO’s by providing the residents of the regional with a range of economic development and employment opportunities if they choose to engage with the Project.

#### **19.2.3.7 Isaac Regional Council Community Strategic Plan 2015-2035**

The IRC Community Strategic Plan 2015-2035 informs all IRC’s strategic planning documents, including the Corporate Plan – Isaac 2020, the Annual Operational Plan and the Budget. The Plan identifies key themes that reinforce what the Isaac regions communities, economy, infrastructure and environment is to be in 2035 and how to measure success in each of these areas. The key themes include:

- Communities;
- Economy;
- Infrastructure; and
- Environment.

Each theme contains goals and achievement guides. For the key theme of ‘communities’, the Project will be able to help deliver a range of programs and services to promote community safety, health and wellbeing through the presence and location of workers. Additional workers will be able to promote and help deliver community facilities and services.

Supporting the 'economy' theme, the Project will help improve the regional economy through providing and supporting a mix of industry sectors. The Project will utilise support services located within IRC. Addressing the 'infrastructure' theme, the Project, through the requirement of IRC's infrastructure services, will allow the IRC to provide infrastructure that the region requires and needs. Considering the 'environment' theme, the Project will put in place various management measures and programmes to prevent significant and long-lasting impacts to the surrounding region.

### **19.2.3.8 Isaac Regional Council Corporate Plan 2015-2020**

IRC adopted a five-year corporate plan following two phases of community consultation. The Plan has five clear strategic themes that mirror those of the IRC Community Strategic Plan 2015-2035, with the addition of Governance as a key theme. These themes identify goals, strategies and performance indicators to show how these will be achieved for the future. Regarding the five themes, the Project will facilitate in the implementation as outlined:

- Communities – strategies involved improved engagement/partnerships in the region, as such, the proponent will facilitate these relationships with the IRC and through Project services will be able to facilitate community services;
- Economy – strategies include proactively engaging with and supporting all industry sectors, commerce and government. The proponent will engage with the IRC regarding opportunities to capitalise on the Project's injection of personnel and services in the region;
- Infrastructure – strategies involve provision of roads, water, sewer and parks infrastructure. The Project through its economic injection will support the IRC with the provision of these services to the community;
- Environment – strategies involve the management of natural resources and partnering with industry to minimise environmental harm. While the Project is located in the LSC LGA, the proponent will work with the IRC to ensure environmental impacts are appropriately managed; and
- Governance – strategies include pursuing financial sustainability through use of council's resources and assists. The Project through its financial injection in the region will assist with providing financial sustainability in the region through the use of IRC services and labour forces.

### **19.2.3.9 Mackay Isaac Whitsunday Regional Plan**

The Mackay Isaac Whitsunday Regional Plan [Department of Infrastructure, Local Government and Planning (DILGP) 2012] includes one of the community profiles assessed, being the IRC. This Plan establishes a vision and direction for the region to 2031 (DILGP 2012) and is the pre-eminent plan for the Mackay, Isaac and Whitsunday region. The Plan identifies Desired Regional Outcomes (DROs), that articulate the preferred direction for development and land use outcomes for the Mackay, Isaac and Whitsunday region. Relevant DROs identified include:

- Environment;
- Natural resource management;
- Strong communities;
- Strong economy; and
- Transport.

Local government planning schemes refine the strategic intentions of the Regional Plan.



## 19.3 Environmental Objectives and Performance Outcomes

### 19.3.1 Environmental Objectives

The environmental objectives for the Project, relevant to the economic environment are to:

- Avoid or mitigate adverse economic impacts arising from the Project; and
- Capitalise on opportunities potentially available to affected communities.

### 19.3.2 Performance Outcomes

The economic performance outcomes are:

- Project operations and activities minimise adverse impacts to the economic environment of the region and maximise benefits that the operations may bring;
- Use of local workers and contractors, where appropriate; and
- Procure local and regional businesses and services, where possible.

## 19.4 Assessment Methodology

### 19.4.1 Terms of Reference Requirements

The Queensland Government has formulated an assessment framework for the exploitation of energy and mineral resources developed over many years and by successive government administrations in consultation with the community. This framework allows for the extraction of energy and mineral resources subject to acceptable mitigation of impacts and the payment of Queensland Government mining royalties. The assessment framework is in effect a large multi-criteria assessment of proposed projects, included in which is economic assessment. As such, the EIS is the basis for decision making in relation to an approval.

The economic assessment approach adopted for the Central Queensland Coal Project EIS was directed by the specific requirements of the EIS ToR. The ToR for the EIS were prepared in draft and finalised subject to community feedback. Therefore, to apply an alternate methodology would have resulted in an impact assessment report being lodged that did not address the agreed requirements of the ToR or achieve community expectations.

#### 19.4.1.1 Applied Method Vs Cost Benefit Analysis

The EIS ToR requires an assessment of Project impacts on both the regional and state economies and supplier markets. As such, a cost benefit analysis would not address the requirements of the ToR. The approach adopted by the economic assessment is an approach commonly adopted to assess a range of resource focused proposals. In considering the matter of Project financial viability, the ToR does not require an assessment of the Project's viability or the quantum of return on investment received by the Project proponent. The EIS seeks to assess the spectrum of impacts of the Project based on the maximum footprint of development on the environment in which the Project is undertaken.

## 19.4.2 Economic Impact Assessment

### 19.4.2.1 Study Area

The economic assessment used local and regional data to establish an overview of the existing economic environment and to assess the Project's anticipated economic contribution and impacts. The economic impact assessment study area has been based on the Project location along with the consideration of likely primary sources of labour, goods and services that will be utilised by the Project. The study area represents the regional economy most likely to be either directly or indirectly affected by the Project. The economic study area includes:

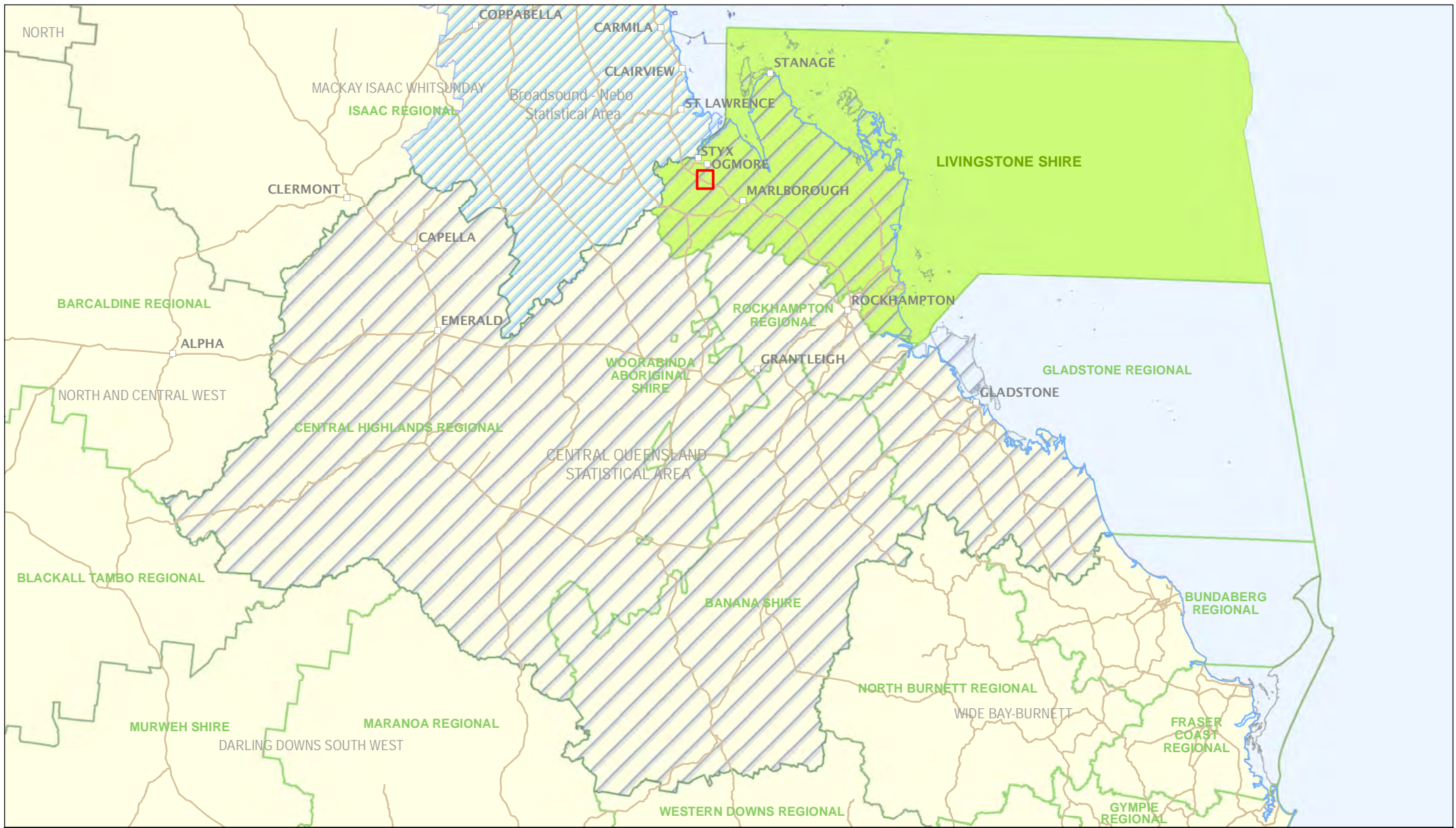
- LSC (local);
- Central Queensland Statistical Area (regional); and
- Broadsound-Nebo Statistical Area (regional).

The study area for the economic assessment is illustrated in Figure 19-1.

### 19.4.2.2 Existing Economic Environment

The economic assessment (also referred to as the baseline assessment) provides a baseline to assess the significance of potential impacts. The baseline assessment used data from the following sources:

- Various Australian Bureau of Statistics (ABS) catalogues, including the Census of Population and Housing, Labour Force Survey, Regional Population Growth, Australian Business Register and Agricultural Commodities publications;
- Office of Economic and Statistical Research;
- Various local and Queensland Government agencies; and
- Proprietary CDM Smith models.



**Figure 19-1**  
Study area for  
the economic assessment





0 20 40 km

Scale @ A4 1:3,000,000  
Date: 06/04/18  
Drawn: SB.

 Project


**Australian Census**

 Central Queensland Statistical Area Level 4 (SA4)

 Broadsound - Nebo Statistical Area Level 2 (SA2)

**Local Government**

 Livingstone

 Surrounding LGA

 Main

DATA SOURCE  
QLD Spatial Catalogue (QSpatial), 2017  
Australian Bureau of Statistics, 2011



### 19.4.2.3 Economic Impact Assessment

The economic contribution and impact assessment utilised a regional input-output approach. This approach provides indicative results relating to the total demand generated by the Project during both the construction and operational phases in terms of:

- Output;
- Household incomes;
- Employment; and
- Value added.

These four different measures of economic impact are discussed in Table 19-1.

**Table 19-1 Measures of economic impact**

Impact Measure	Description
Output	The output impact measures the increase in gross sales throughout the entire economy by aggregating all individual transactions (direct and indirect) resulting from the economic stimulus. The output impact provides an indication of the degree of structural dependence between sectors of the economy. However, output impacts are regarded as overstating the impact on the economy as they count all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.
Household Incomes	The household income impact measures the additional wages, salaries and supplements paid to households associated with the industry under consideration and with other industries benefiting from the stimulus to the economy.
Employment	The employment impact measures the number of full-time equivalent (FTE) positions for one year created directly and indirectly by the stimulus <sup>1</sup> . However, the short-term response to increased demand may be that existing employees work overtime. Consequently, actual levels of employment generated (in terms of persons employed) will tend to be lower than those estimated by the input-output analysis. This short-term employment response (of working additional overtime) will be more prevalent where the demand stimulus is likely to be temporary and short lived, or where there is limited spare capacity in the economy (that is, when the economy is at or near full employment).
Value Added	The value added or Gross Regional Product (GRP) impact measures only the net activity at each stage of production resulting from a stimulus. GRP is defined as the addition of consumption, investment and government expenditure, plus net exports (exports minus imports) from a region. The value added (or GRP) impact is the preferred measure for the assessment of contribution to the economy from a stimulus or impact, and as such should be used to describe the net impact of the event. Value added is the measure of economic impact resulting from a stimulus that is preferred by economists.

Source: Jensen, R. and West, G. (2002) Community Economic Analysis, Department of Primary Industries: Brisbane, Qld

<sup>1</sup>Therefore, if impacts are to be spread over a number of years, the FTE estimate (which relates to the annual equivalent) should be divided by the number of years over which the impact will be spread (in the absence of a clearly defined staging program) to provide an indicative ongoing employment estimate over the life of the impact.



The total economic impact of a stimulus or activity comprises the following effects:

- Direct or initial effect, being the stimulus for the economic impact. This is typically described as the change in sales or contribution to final demand by the stimulus or activity; and
- Flow on effects, comprising production induced effects and consumption induced effects, these being:
  - First round production effects: purchases of inputs required from other industry sectors in the economy to produce the additional output generated by the stimulus or activity
  - Industrial support production effects: second, third and subsequent round industrial flow on effects stimulated by the purchases made in the first round
  - Consumption induced effects: purchases made by households upon receiving additional income from labour payments stemming from the production of additional output generated by the stimulus or activity under assessment.

The extent of these impacts can be represented by multipliers calculated in aggregate for various regional, state or national economies. There are commonly four multipliers used to measure impact, being output, household income, employment and value added.

Two sets of multipliers can be generated, namely:

- Type 1 Multipliers, which estimate the direct and production induced impacts of a stimulus or activity; and
- Type 2 Multipliers, which estimate the direct, production induced, and consumption induced impacts of a stimulus or activity.

Type 1 Multipliers are used in the analysis of this Project. Queensland Treasury's preference is for use of only Type 1 Multipliers, given that Type 2 Multipliers typically overstate the extent of consumption-induced impacts of any given stimulus or activity.

The regional input-output approach has a number of limitations, which may result in overestimation of impacts, including:

- The absence of capacity constraints such that the supply of each good is perfectly elastic, implying that each industry can supply whatever quantity is demanded of it and there are no budget constraints;
- The assumed linearity and homogeneity of the input function, which implies constant returns to scale and no substitution between inputs. This occurs because the approach assumes inputs purchased by each industry are a function only of the level of output of that industry;
- Each commodity, or type of commodity, is supplied by a single industry sector, implying there is only one method used to produce each commodity and each sector has only a single primary output;
- The assumption that the economy is in equilibrium at given prices and that the economy is not subject to other external influences; and
- The additivity assumption suggests the total effect of carrying on several types of production is the sum of the separate effects, which is not a true reflection of economic systems.

The limitations are typically most relevant when introducing a wholly new economic driver to a State or regional economy that may result in significant structural change. However, it is considered that the introduction of a new coal mine (such as the Central Queensland Coal Project) to the mature coal and coal logistics sector in Queensland does not fit this criterion.

#### **19.4.2.4 Potential Overstatement of Economic Impacts**

The approach adopted to assess the economic impacts of the Project mitigates much of the risks. The assessment presented in the EIS focussed on the stimulus generated by direct supply chain and the consequent flow-on effects as opposed to assuming an increase in coal production.

As outlined in Section 19.4.2.3, the potential overstatement of economic impacts when utilising the input output modelling approach is highest when introducing a wholly new economic driver to the regional or State economy. However, the introduction of the Central Queensland Coal Project is not considered as being representative of a new economic driver given the established coal mining and coal logistics sector in Queensland.

#### **19.4.2.5 Marginal versus General Change and Relevance of Assessment Approach**

All economic modelling and analytical approaches have limitations. While it is correct to say that regional impact (or input-output) models implicitly assume there is no constraint on the supply of inputs, it is also pertinent to consider the context of what the model is being used to assess. Regional impact models are useful to understand changes in demand for input resulting from a project, where that project represents a marginal change. Within economics, changes can be characterised as marginal (unlikely to have a material impact on the structure of the economy) or general (change that is almost certain to have a major structural impact).

The Queensland economy is characterised by a significant and mature resource industry, with a major part of that being the coal industry. Put another way, Queensland has a mature coal industry. The Central Queensland Coal Project represents an incremental addition to an already established coal industry and is unlikely to represent a major structural change to the Queensland economy. Hence, the change to regional and local economies resulting from the Central Queensland Coal Project would be characterised as a marginal change. Given the scale of the Central Queensland Coal Project and the size of the regional and state economies it is reasonable to assume that supply markets could be augmented to meet incremental changes in demand resulting from the Project.

The issue of the appropriateness or otherwise of regional impact models was dealt with in *Hancock Galilee Pty Ltd v Currie and Ors* [2017] QLC 35, in which His Honour Cochrane WL (at paragraph 333 and 334 of his decision) determined that notwithstanding the limitations of the modelling approach adopted in that resource application that:

*"I am satisfied that the analysis done by Mr Brown demonstrates economic benefits accruing to the Queensland economy including, but not limited to, the potential generation of substantial revenue in the form of royalties.*

*Accordingly, so far as the matter of economics is concerned, I am of the view that on balance the evidence justified recommending granting of the lease and I am further satisfied that no proper basis has been demonstrated for refusing to grant the lease premised upon a demonstrable lack of economic benefit."*

In summary, the approach adopted in the economic assessment for the Project is appropriate for the assessment of the proposed resource development and provides sufficient information to determine the Project generates significant positive economic impacts.

#### 19.4.2.6 Potential Impact on Other Industries

The issue of the potential for the Project to have negative impacts on other industries was also addressed within *Hancock Galilee Pty Ltd v Currie and Ors* [2017] decision. The Project itself will not have any material impact on the structure of regional and state economies and represents a marginal or incremental increase in resource activity within the region. The most significant potential negative impact on other industries is the withdrawal of the land area associated with the mining lease from grazing, which has been assessed in the economic assessment.

Even when considering the potential structural impacts of the resources boom between 2004 and 2012, the extent of purported adverse impacts on other sectors was typically overstated, because issues such as trade and tariff reforms, drought, global monetary policies and the general transitioning of the Australian economy towards a knowledge intense services economy were ignored.

#### 19.4.2.7 Assessment Methodology and if the Project Proceeds

It is noted that some submissions to the EIS raised concerns regarding the veracity of the economic assessment approach adopted because the approach cannot predict if the Project will ultimately proceed or when the Project might proceed. This is true of all analytical approaches, as the timeframe for the Project proceeding, or if the Project proceeds, depends on factors outside the scope of any economic assessment. For example, the Australia Institute submission states that the economic assessment approach adopted for the Keven's Corner Coal project anticipated the project would commence in 2014; however, because the project is yet to commence the Australia Institute consider this a failure of the economic assessment methodology, without pointing out that delays in project commencement were largely attributable to a number of appeals relating to the granting of approvals for the project. The Australia Institute similarly cite other examples where projects have not proceeded and claimed that in some way reflects negatively on the analytical approach adopted. No economic analytical approach would be able to predict the appeal of approvals or other similar external influences.

## 19.5 Existing Economic Environment

This section describes the existing local, regional, state and national economies that may be affected by the Project. The following aspects are considered:

- Size and structure of the existing economy;
- Industry analysis;
- Development pipeline;
- Agricultural production;
- Socio-economic index for areas; and
- Value of ecosystem services.

## 19.5.1 Size and Structure of the Existing Economy

### 19.5.1.1 Population Size and Projected Growth

The population of the LSC LGA is projected to increase from 37,954 persons in 2016, to 57,042 persons in 2036, or by 2.1% per annum. The population of Broadsound-Nebo Statistical Area is projected to increase from 10,522 in 2016 to 12,629 in 2036, or by 0.9% per annum. The rate of population growth within the LSC LGA over this period is anticipated to be higher than in Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and in Queensland.

The working age population (i.e. those persons aged between 15 years and 64 years) within the LSC LGA is projected to increase from 24,116 persons in 2016 to 32,238 persons in 2036, or by 1.5% per annum. The lower rates of growth for the working age population within all regions relative to the rate of growth for the total population indicates that the proportion of persons within the working age cohort is anticipated to decline between 2016 and 2036.

The population projections for LSC, Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and Queensland between 2016 and 2036 is presented in Table 19-2.

**Table 19-2 Population projections 2016-2036**

	2016	2021	2026	2031	2036	Avg Annual Growth, 2016-2036
<b>Total Population</b>						
LSC LGA	37,954	41,427	45,994	51,142	57,042	2.1%
Broadsound – Nebo SA2	10,522	10,950	11,475	12,046	12,629	0.9%
Central Queensland SA4	241,858	260,561	281,178	302,583	324,246	1.5%
Queensland	4,853,048	5,250,292	5,730,062	6,240,546	6,763,153	1.7%
<b>Working Age Population (15-64 yrs)</b>						
LSC LGA	24,116	25,277	27,231	29,475	32,238	1.5%
Broadsound – Nebo SA2	7,404	7,600	7,911	8,294	8,687	0.8%
Central Queensland SA4	158,755	167,398	177,399	188,044	198,898	1.1%
Queensland	3,180,503	3,371,867	3,619,087	3,887,600	4,159,168	1.4%

Note: Population projection data in this table was the latest available at the time of report preparation Source: QGSO 2017a, 2016

### 19.5.1.2 Gross Regional Product

Gross Regional Product (GRP) represents the market value of all final goods and services produced within the regional economy during a given period, while Gross State Product is the market value of that produced within the State economy. Between 2000-01 and 2010-11, the nominal GRP at current prices within Central Queensland Statistical Area increased from \$7,842 million in 2001 to \$20,974 million in 2011, or by 10.3% per annum. Central Queensland Statistical Area recorded significantly higher rates of GRP growth than Queensland (which achieved 8.8% per annum growth over the same period). The nominal GRP for Central Queensland Statistical Area is provided in Table 19-3.

Notable drivers of Central Queensland Statistical Area GRP growth were construction, mining, manufacturing and transport, postal and warehousing.



**Table 19-3 Nominal gross regional product by industry for Central Queensland and Queensland**

Industry	Central Queensland SA4			Queensland		
	2001*	2011*	Ave Annual Growth, 2001-2011	2001*	2011*	Ave Annual Growth, 2001-2011
Agriculture, forestry and fishing	\$570	\$534	-0.7%	\$5,079	\$6,795	3.0%
Mining	\$1,943	\$6,840	13.4%	\$7,813	\$26,990	13.2%
Manufacturing	\$789	\$1,556	7.0%	\$11,665	\$20,577	5.8%
Electricity, gas, water and waste services	\$341	\$778	8.6%	\$2,178	\$6,636	11.8%
Construction	\$441	\$3,408	22.7%	\$7,293	\$23,436	12.4%
Wholesale trade	\$363	\$622	5.5%	\$6,239	\$13,524	8.0%
Retail trade	\$297	\$585	7.0%	\$6,697	\$13,732	7.4%
Accommodation and food services	\$167	\$285	5.5%	\$3,749	\$6,555	5.7%
Transport, postal and warehousing	\$514	\$1,123	8.1%	\$7,267	\$15,821	8.1%
Information media and telecommunications	\$134	\$153	1.3%	\$3,756	\$5,284	3.5%
Financial and insurance services	\$178	\$384	8.0%	\$6,280	\$16,831	10.4%
Rental, hiring and real estate services	\$81	\$279	13.2%	\$2,482	\$6,273	9.7%
Professional, scientific and technical services	\$154	\$558	13.7%	\$4,918	\$15,421	12.1%
Administrative and support services	\$87	\$218	9.6%	\$2,109	\$5,365	9.8%
Public administration and safety	\$223	\$532	9.1%	\$5,931	\$14,079	9.0%
Education and training	\$289	\$500	5.6%	\$5,131	\$10,406	7.3%
Health care and social assistance	\$288	\$630	8.1%	\$6,441	\$16,092	9.6%
Arts and recreation services	\$29	\$28	-0.4%	\$1,039	\$1,495	3.7%
Other services	\$127	\$268	7.8%	\$2,552	\$4,633	6.1%
Ownership of dwellings	\$337	\$811	9.2%	\$8,774	\$23,255	10.2%
<b>Gross Value Added</b>	<b>\$7,354</b>	<b>\$20,094</b>	<b>10.6%</b>	<b>\$107,393</b>	<b>\$253,201</b>	<b>9.0%</b>
<b>Gross Regional Product</b>	<b>\$7,842</b>	<b>\$20,974</b>	<b>10.3%</b>	<b>\$116,561</b>	<b>\$269,866</b>	<b>8.8%</b>

\* (current prices - \$m)

Source: Queensland Treasury and Trade (2013)

## 19.5.2 Industry Analysis

The industry analysis provides an overview of the labour market characteristics within the LSC LGA, Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and Queensland, based on several data sources, including the Australian Government's Department of Employment (Small Area Labour Market statistics) and the 2016 census (employment by industry and occupation and post-school qualifications).

### 19.5.2.1 Workforce Size

The size of the labour force in the LSC LGA increased from 14,135 persons in 2006-07 to 18,262 persons in 2015-16, representing an average annual growth rate of 2.6%. The size of the labour force in Broadsound-Nebo Statistical Area increased from 5,442 persons in 2006-07 to 5,709 persons in 2016-17, or by an average growth rate 0.5% per annum. By comparison, the size of the labour force in Central Queensland Statistical Area has grown at an average annual rate of 1.6%, whereas the size of the labour force in Queensland has grown at an average annual rate of 1.4%. However, between 2014-15 and 2015-16, the size of the labour force in the Broadsound-Nebo Statistical Area decreased marginally.

A summary of the labour force size in the LSC LGA, Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and Queensland between 2006-07 and 2015-16 is presented in Table 19-4.

**Table 19-4 Labour force size**

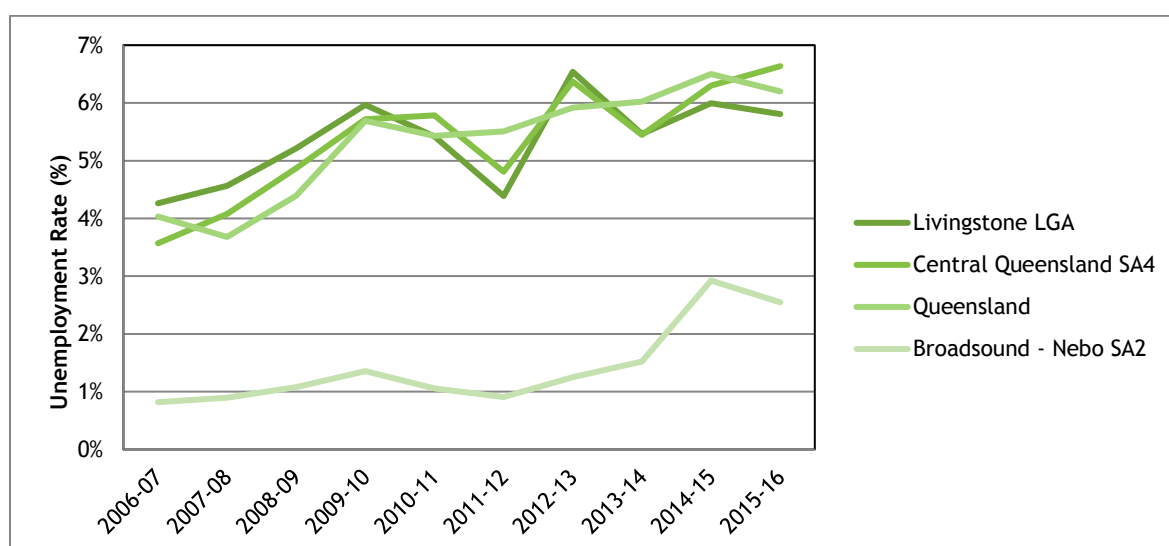
Period	LSC LGA	Broadsound – Nebo SA2	Central Queensland SA4	Queensland
2006-07	14,135	5,442	105,831	2,189,074
2007-08	14,691	5,657	109,997	2,240,974
2008-09	15,602	5,835	113,907	2,321,500
2009-10	15,929	5,894	113,587	2,389,025
2010-11	17,002	6,071	119,799	2,403,615
2011-12	17,067	6,210	118,268	2,417,381
2012-13	16,810	6,593	116,409	2,430,818
2013-14	17,712	6,572	122,253	2,466,888
2014-15	18,048	6,166	123,691	2,486,032
2015-16	18,262	5,709	124,329	2,517,488
Ave. Ann. Change, 2006-07 to 2015-16	2.6%	0.5%	1.6%	1.4%
Ave. Ann. Change, 2011-12 to 2015-16	1.4%	-1.7%	1.0%	0.8%
Ave. Ann. Change, 2014-15 to 2015-16	0.6%	-3.8%	0.3%	0.6%

Source: Department of Employment (various years)

### 19.5.2.2 Unemployment Rate

The unemployment rate in the LSC LGA has increased from 4.3% in 2006-07 to 5.8% in 2015-16. This has similar to that of Central Queensland SA4, until 2014-15 when the unemployment rate in the LSC LGA began diverging below that of Central Queensland Statistical Area. Notably, the unemployment rate in Broadsound-Nebo Statistical Area has been low over this period, trending at around 1% until 2014-15, when the unemployment rate increased to 2.9%.

Figure 19-2 and Table 19-5 summarise the unemployment rate trends in the LSC LGA, Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and Queensland between 2006-07 and 2015-16.



Source: Department of Employment (various years)

**Figure 19-2 Unemployment rate in Livingstone Shire, Central Queensland SA4 and Queensland**

**Table 19-5 Unemployment rate**

Period	LSC LGA	Broadsound – Nebo SA2	Central Queensland SA4	Queensland
2006-07	4.3%	0.8%	3.6%	4.0%
2007-08	4.6%	0.9%	4.1%	3.7%
2008-09	5.2%	1.1%	4.9%	4.4%
2009-10	6.0%	1.4%	5.7%	5.7%
2010-11	5.4%	1.1%	5.8%	5.4%
2011-12	4.4%	0.9%	4.8%	5.5%
2012-13	6.5%	1.2%	6.4%	5.9%
2013-14	5.5%	1.5%	5.4%	6.0%
2014-15	6.0%	2.9%	6.3%	6.5%
2015-16	5.8%	2.5%	6.6%	6.2%
<b>Ave. Ann. Change, 2006-07 to 2015-16</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.3%</b>	<b>0.2%</b>
<b>Ave. Ann. Change, 2011-12 to 2015-16</b>	<b>0.3%</b>	<b>0.3%</b>	<b>0.4%</b>	<b>0.1%</b>
<b>Ave. Ann. Change, 2014-15 to 2015-16</b>	<b>-0.2%</b>	<b>-0.4%</b>	<b>0.3%</b>	<b>-0.3%</b>

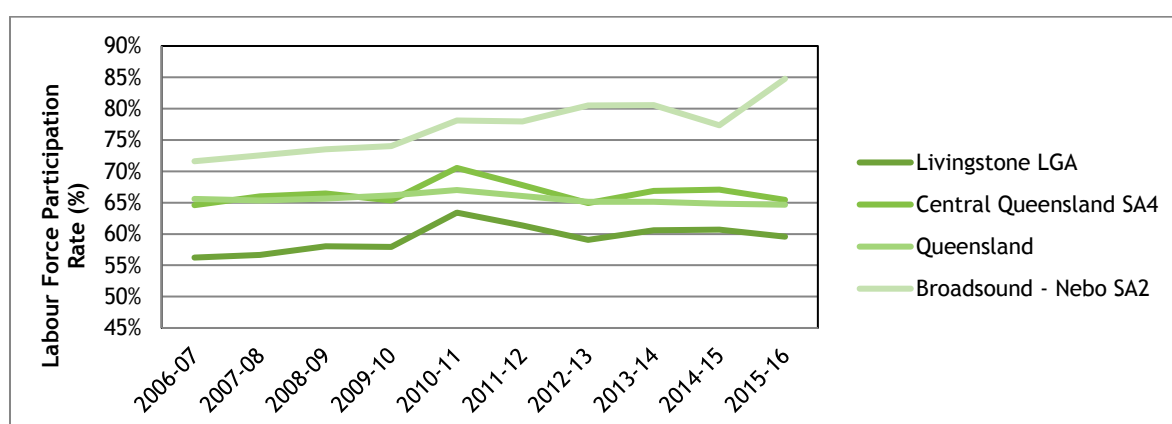
Note: The average annual change figures in this table represent the average annual percentage point change in the unemployment rate.

Source: Department of Employment (various years)

### 19.5.2.3 Labour Force Participation Rate

Between 2006-07 and 2015-16, the labour force participation rate in the LSC LGA has consistently been below that of Broadsound-Nebo Statistical Area, Central Queensland Statistical Area and Queensland by several percentage points. The labour force participation rate in Broadsound-Nebo Statistical Area has been consistently higher than that of other benchmarks and has been trending upwards between 2006-07 and 2015-16. The labour force participation rate in Central Queensland Statistical Area has been loosely on par with Queensland, though was significantly higher in 2010-11 and between 2013-14 and 2014-15.

Figure 19-3 summarises the labour force participation rate trends in the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland between 2006-07 and 2015-16.



Source: Department of Employment (various years), ABS 2015, QGSO (2016)

**Figure 19-3 Labour force participation rate**

The average labour force participation rate in the LSC LGA was 59.4% in the 2006-07 to 2015-16 period, significantly lower than in Broadsound-Nebo Statistical Area (77.1%), Central Queensland Statistical Area (66.5%) and Queensland (65.6%).

Table 19-6 summarises the labour force participation rates in the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland between 2006-07 and 2015-16.

**Table 19-6 Labour force participation rate**

Period	LSC LGA	Broadsound – Nebo SA2	Central Queensland SA4	Queensland
2006-07	56.2%	71.6%	64.6%	65.6%
2007-08	56.7%	72.6%	66.0%	65.3%
2008-09	58.0%	73.5%	66.5%	65.6%
2009-10	57.9%	74.0%	65.4%	66.1%
2010-11	63.4%	78.1%	70.5%	67.0%
2011-12	61.4%	78.0%	67.8%	66.1%
2012-13	59.0%	80.5%	64.9%	65.1%
2013-14	60.6%	80.6%	66.9%	65.1%
2014-15	60.7%	77.4%	67.1%	64.8%
2015-16	59.6%	84.8%	65.5%	64.7%
<b>Average, 2006-07 to 2015-16</b>	<b>59.4%</b>	<b>77.1%</b>	<b>66.5%</b>	<b>65.6%</b>
<b>Average, 2011-12 to 2015-16</b>	<b>60.3%</b>	<b>80.2%</b>	<b>66.4%</b>	<b>65.2%</b>
<b>Average, 2014-15 to 2015-16</b>	<b>60.1%</b>	<b>81.1%</b>	<b>66.3%</b>	<b>64.7%</b>

Source: Department of Employment (various years), ABS 2015, QGSO 2016

#### 19.5.2.4 Employment by Industry

In the LSC LGA, 11.4% and 10.9% of persons were employed in the health care and social assistance and education and training sectors respectively, as of the 2016 census. In Broadsound – Nebo Statistical Area, 40.3% and 13.8% of persons were employed in the mining and agriculture, forestry and fishing sectors respectively. The LSC LGA and Broadsound-Nebo Statistical Area both recorded a lower incidence of employment in manufacturing and transport, postal and warehousing relative to the Central Queensland Statistical Area and Queensland.

The proportion of employment by industry sector in the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland in 2016 is summarised in Table 19-7.

**Table 19-7 Employment by industry**

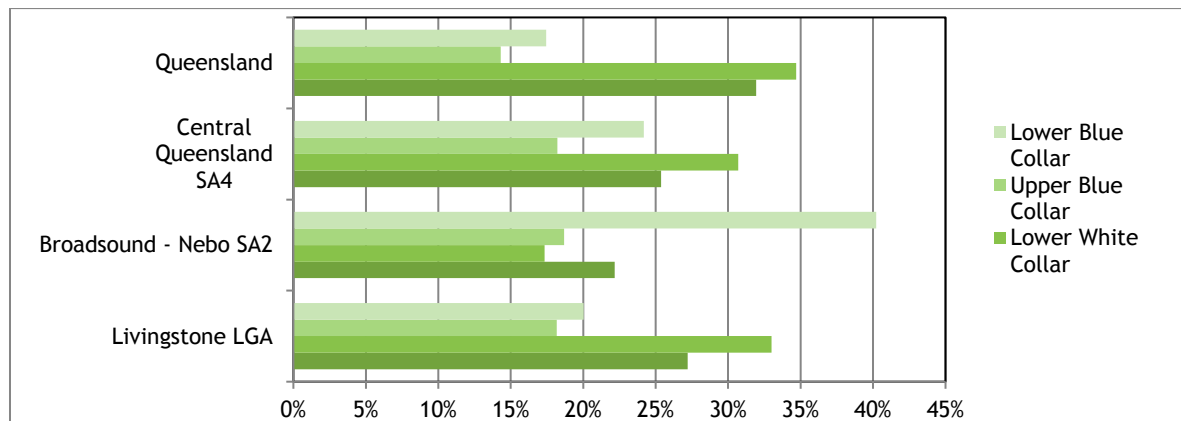
Industry	LSC LGA	Broadsound – Nebo SA2	Central Queensland SA4	Queensland
Construction	9.718%	3.1%	8.2%	9.0%
Wholesale trade	2.3%	0.9%	2.4%	2.6%
Retail trade	9.724%	5.0%	9.6%	9.9%
Accommodation and food services	7.3%	6.0%	6.7%	7.3%
Transport, postal and warehousing	4.0%	4.4%	5.9%	5.1%
Information media and telecommunications	0.6%	0.2%	0.5%	1.2%
Financial and insurance services	1.3%	0.2%	1.1%	2.5%
Rental, hiring and real estate services	1.6%	0.4%	1.5%	2.0%
Professional, scientific and technical services	3.6%	1.2%	3.9%	6.3%
Administrative and support services	3.1%	4.0%	2.9%	3.5%
Public administration and safety	6.4%	3.5%	5.5%	6.6%
Education and training	10.9%	6.1%	9.0%	9.0%
Health care and social assistance	11.4%	3.0%	10.5%	13.0%
Arts and recreation services	1.1%	0.4%	0.8%	1.6%
Other services	4.2%	3.0%	4.1%	3.9%
<b>Total</b>	<b>15,425</b>	<b>3,898</b>	<b>97,655</b>	<b>2,136,455</b>

Source: QGSO 2017a, b, QGSO 2016

### 19.5.2.5 Occupation Type

The LSC LGA recorded a marginally higher proportion of upper white collar workers than Central Queensland Statistical Area though lower than the state average. The LSC LGA, Broadsound-Nebo Statistical Area and Central Queensland Statistical Area recorded significantly higher proportions of blue collar workers relative to Queensland as of the 2016 census.

The proportion of employment by occupation in the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland as of the 2016 census is summarised in Figure 19-4.



Source: QGSO 2017a, b, QGSO 2016

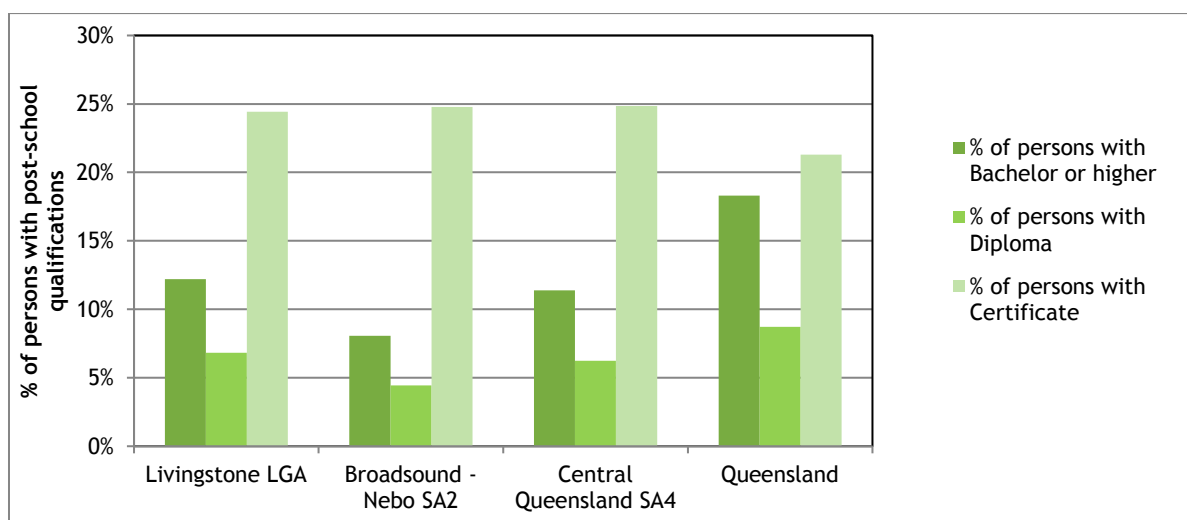
**Figure 19-4 Employment by occupation type**

### 19.5.2.6 Qualifications

This section has been updated to include the Broadsound-Nebo Statistical Area and the updated Central Queensland Statistical Area. The LSC LGA data has been kept to facilitate reading. The incidence of persons with a post school qualification in the LSC LGA was higher than in Broadsound-Nebo Statistical Area and Central Queensland SA4, though lower than the state average. The incidence of persons with a certificate is higher in the LSC LGA, Broadsound-Nebo Statistical Area and Central Queensland Statistical Area than Queensland.

The proportion of the population aged 15 years and over with postgraduate, bachelor, diploma and certificate qualifications in the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland as of the 2016 census is summarised in Figure 19-5.





Source: QGSO 2017a, b, QGSO 2016

**Figure 19-5 Proportion of persons with a post school qualification**

### 19.5.2.7 Enterprise Activity

The latest edition of the ABS Counts of Australian Businesses publication presents business count estimates by industry at the Statistical Area Level 2 level. This section reports the number of businesses by industry registered within the LSC LGA, Broadsound-Nebo Statistical Area and Central Queensland SA4. Significant business activity in the region(s) is undertaken by enterprises registered outside the region(s). This business register data provides an indication of the number and capability of locally based businesses.

#### Livingstone Shire

As of February 2017, there was an estimated 3,235 registered businesses in the LSC, with an estimated 63.6% classified as sole operators. Just under a quarter of all registered businesses were classified within the agriculture, forestry and fishing Sector (761 businesses) and just over a fifth were classified within the construction sector (731 businesses). There were 44 businesses within the LSC LGA that recorded employment of 20-199 workers, comprising six in accommodation and food services, five in administrative and support services and six in health care and social assistance. There were no businesses identified within LSC LGA that employed 200 or more workers.

The count of registered businesses within the LSC LGA by employment size as of February 2017 is presented in Table 19-8.

**Table 19-8 Counts of Australian Businesses, LSC LGA, February 2017**

Industry	Employing Businesses				Total Non-Employing	Total Businesses
	1-19	20-199	200+	Total Employing		
Agriculture, Forestry and Fishing	21.5%	0.3%	0.0%	21.7%	78.3%	1,100
Mining	52.3%	6.8%	0.0%	59.1%	40.9%	44
Manufacturing	28.0%	3.0%	0.0%	31.0%	69.0%	100
Electricity, Gas, Water and Waste Services	50.0%	0.0%	0.0%	50.0%	50.0%	10
Construction	48.0%	0.4%	0.0%	48.4%	51.6%	788
Wholesale Trade	25.9%	0.0%	0.0%	25.9%	74.1%	58
Retail Trade	55.6%	4.2%	0.0%	59.7%	40.3%	144
Accommodation and Food Services	66.4%	6.9%	0.0%	73.3%	26.7%	131
Transport, Postal and Warehousing	33.9%	1.6%	0.0%	35.4%	64.6%	192
Information Media and Telecommunications	30.0%	0.0%	0.0%	30.0%	70.0%	10

Financial and Insurance Services	19.8%	1.6%	0.0%	21.4%	78.6%	192
Rental, Hiring and Real Estate Services	14.4%	1.0%	0.0%	15.4%	84.6%	312
Professional, Scientific and Technical Services	36.8%	0.0%	0.0%	36.8%	63.2%	212
Administrative and Support Services	42.6%	3.9%	0.0%	46.5%	53.5%	129
Public Administration and Safety	100.0%	0.0%	0.0%	100.0%	0.0%	6
Education and Training	40.0%	6.0%	0.0%	46.0%	54.0%	50
Health Care and Social Assistance	48.4%	6.3%	0.0%	54.7%	45.3%	95
Arts and Recreation Services	40.0%	0.0%	0.0%	40.0%	60.0%	45
Other Services	54.4%	0.0%	0.0%	54.4%	45.6%	215
Not Classified	0.0%	0.0%	0.0%	0.0%	100.0%	32
<b>Total</b>	<b>34.7%</b>	<b>1.3%</b>	<b>0.0%</b>	<b>36.0%</b>	<b>64.0%</b>	<b>3,865</b>

Source: Australian Bureau of Statistics (2017d)

### Broadsound-Nebo Statistical Area

As of February 2017, there was an estimated 642 registered businesses in Broadsound-Nebo Statistical Area with an estimated 62% classified as sole operators. Approximately 53% of all registered businesses were classified within the agriculture, forestry and fishing Sector (339 businesses) and approximately 9% were classified within the construction sector (57 businesses). There were 6 businesses within the Broadsound-Nebo Statistical Area that recorded employment of 20-199 workers, comprising three in retail trade and three in accommodation and food services. There were no businesses identified within Broadsound-Nebo Statistical Area that employed 200 or more workers.

The count of registered businesses within Broadsound-Nebo Statistical Area by employment size as of February 2017 is presented in Table 19-9.

**Table 19-9 Counts of Australian Businesses, Broadsound – Nebo SA2, February 2017**

Industry	Employing Businesses				Total Non-Employing	Total Businesses
	1-19	20-199	200+	Total Employing		
Agriculture, Forestry and Fishing	31.9%	0.0%	0.0%	31.9%	68.1%	339
Mining	0.0%	0.0%	0.0%	0.0%	100.0%	9
Manufacturing	30.0%	0.0%	0.0%	30.0%	70.0%	10
Electricity, Gas, Water and Waste Services	-	-	-	-	-	-
Construction	28.1%	0.0%	0.0%	28.1%	71.9%	57
Wholesale Trade	27.3%	0.0%	0.0%	27.3%	72.7%	11
Retail Trade	68.2%	13.6%	0.0%	81.8%	18.2%	22
Accommodation and Food Services	68.4%	15.8%	0.0%	84.2%	15.8%	19
Transport, Postal and Warehousing	32.3%	0.0%	0.0%	32.3%	67.7%	31
Information Media and Telecommunications	-	-	-	-	-	-
Financial and Insurance Services	15.8%	0.0%	0.0%	15.8%	84.2%	19
Rental, Hiring and Real Estate Services	18.8%	0.0%	0.0%	18.8%	81.3%	32
Professional, Scientific and Technical Services	23.5%	0.0%	0.0%	23.5%	76.5%	17
Administrative and Support Services	50.0%	0.0%	0.0%	50.0%	50.0%	20
Public Administration and Safety	-	-	-	-	-	-
Education and Training	33.3%	0.0%	0.0%	33.3%	66.7%	9
Health Care and Social Assistance	0.0%	0.0%	0.0%	0.0%	100.0%	6
Arts and Recreation Services	0.0%	0.0%	0.0%	0.0%	100.0%	5
Other Services	56.7%	0.0%	0.0%	56.7%	43.3%	30
Not Classified	0.0%	0.0%	0.0%	0.0%	100.0%	6
<b>Total</b>	<b>32.9%</b>	<b>0.9%</b>	<b>0.0%</b>	<b>33.8%</b>	<b>66.2%</b>	<b>642</b>

Source: Australian Bureau of Statistics (2017d)

## Central Queensland SA4

Within Central Queensland SA4, there were an estimated 17,795 registered businesses as of February 2017, with an estimated 63% of all businesses classified as sole operators. The most common business types (in terms of number of businesses) in Central Queensland Statistical Area were agriculture, forestry and fishing (4,763 businesses), construction (2,924 businesses) and rental, hiring and real estate services (1,610 businesses). As of February 2017, there were no registered businesses in Central Queensland Statistical Area that employed 200 or more persons.

The count of registered businesses within Central Queensland Statistical Area by employment size as of February 2017 is presented in Table 19-10.

**Table 19-10 Counts of Australian Businesses, Central Queensland SA4, February 2017**

Industry	Employing Businesses				Total Non-Employing	Total Businesses
	1-19	20-199	200+	Total Employing		
Agriculture, Forestry and Fishing	18.0%	0.3%	0.0%	18.2%	81.8%	4,763
Mining	51.3%	1.9%	0.0%	53.2%	46.8%	154
Manufacturing	45.9%	5.6%	0.0%	51.4%	48.6%	519
Electricity, Gas, Water and Waste Services	61.5%	0.0%	0.0%	61.5%	38.5%	52
Construction	45.5%	1.3%	0.0%	46.8%	53.2%	2,924
Wholesale Trade	46.4%	2.1%	0.0%	48.4%	51.6%	289
Retail Trade	60.1%	5.3%	0.0%	65.5%	34.5%	883
Accommodation and Food Services	61.1%	12.4%	0.0%	73.5%	26.5%	671
Transport, Postal and Warehousing	33.0%	1.6%	0.0%	34.5%	65.5%	1,071
Information Media and Telecommunications	21.4%	7.1%	0.0%	28.6%	71.4%	42
Financial and Insurance Services	17.0%	0.9%	0.0%	17.9%	82.1%	955
Rental, Hiring and Real Estate Services	16.7%	1.2%	0.0%	17.9%	82.1%	1,610
Professional, Scientific and Technical Services	46.6%	2.1%	0.0%	48.6%	51.4%	1,061
Administrative and Support Services	45.3%	4.6%	0.0%	49.9%	50.1%	523
Public Administration and Safety	54.5%	0.0%	0.0%	54.5%	45.5%	44
Education and Training	60.8%	3.1%	0.0%	63.9%	36.1%	194
Health Care and Social Assistance	49.0%	3.6%	0.0%	52.6%	47.4%	661
Arts and Recreation Services	40.2%	3.7%	0.0%	43.9%	56.1%	164
Other Services	55.1%	1.5%	0.0%	56.6%	43.4%	1,044
Not Classified	15.8%	0.0%	0.0%	15.8%	84.2%	171
<b>Total</b>	<b>35.2%</b>	<b>2.0%</b>	<b>0.0%</b>	<b>37.3%</b>	<b>62.7%</b>	<b>17,795</b>

Source: Australian Bureau of Statistics (2017d)

## Regional Comparison

In the LSC LGA, 22.6% of registered businesses were within the construction sector, as compared to 8.9% in Broadsound – Nebo Statistical Area, 16.4% of registered businesses in Central Queensland Statistical Area and 17.1% of registered businesses in Queensland, as of February 2017.

The LSC LGA, Broadsound-Nebo Statistical Area and Central Queensland Statistical Area had a significantly higher proportion of registered businesses within the agriculture, forestry and fishing sector compared to Queensland at 23.5%, 52.8%, 26.8% and 9.7% respectively. The LSC LGA and Broadsound-Nebo Statistical Area had significantly lower proportions of registered businesses within the retail trade and health care and social assistance sectors relative to Central Queensland Statistical Area and Queensland.

The distribution of total businesses by industry section within the LSC LGA, Central Queensland SA4 and Queensland as of February 2017 is presented in Table 19-11.

**Table 19-11 Total businesses by industry section, regional comparison, 2017**

Industry	LSC LGA	Broadsound – Nebo SA2	Central Queensland SA4	Queensland
Agriculture, Forestry and Fishing	23.5%	52.8%	26.8%	9.7%
Mining	1.1%	1.4%	0.9%	0.4%
Manufacturing	2.8%	1.6%	2.9%	3.8%
Electricity, Gas, Water and Waste Services	0.3%	0.0%	0.3%	0.3%
Construction	22.6%	8.9%	16.4%	17.1%
Wholesale Trade	1.5%	1.7%	1.6%	3.1%
Retail Trade	3.8%	3.4%	5.0%	5.9%
Accommodation and Food Services	3.6%	3.0%	3.8%	4.0%
Transport, Postal and Warehousing	5.0%	4.8%	6.0%	5.9%
Information Media and Telecommunications	0.3%	0.0%	0.2%	0.7%
Financial and Insurance Services	5.3%	3.0%	5.4%	9.7%
Rental, Hiring and Real Estate Services	8.7%	5.0%	9.0%	10.0%
Professional, Scientific and Technical Services	6.0%	2.6%	6.0%	11.0%
Administrative and Support Services	3.4%	3.1%	2.9%	3.9%
Public Administration and Safety	0.2%	0.0%	0.2%	0.3%
Education and Training	1.3%	1.4%	1.1%	1.3%
Health Care and Social Assistance	2.8%	0.9%	3.7%	5.6%
Arts and Recreation Services	1.2%	0.8%	0.9%	1.1%
Other Services	5.7%	4.7%	5.9%	4.7%
Not Classified	1.0%	0.9%	1.0%	1.3%
<b>Total</b>	<b>3,235</b>	<b>642</b>	<b>17,795</b>	<b>425,576</b>

Source: Australian Bureau of Statistics (2017d)

### 19.5.3 Development Pipeline

There were a number of major developments identified within the surrounding study area and broader central Queensland. Major developments are identified as:

- Projects that require both a tenure from the DNRME that gives access to the land, and an environmental authority from the Department of Environment and Science (DES) that regulates the environmental management of the Project; and
- Projects required to undergo an EIS process preceding, and additional to, the draft environmental authority stage.

The proposed major developments within the study area and surrounds are summarised in Table 19-12. Whilst all of these major developments are not in the study area, they have been included in respect of their potential to compete for skilled workers, contribute to road movements, compete for accommodation availability, influence property markets and may in some form result in a cumulative contribution to local and regional economies.

A project is considered relevant for inclusion in the development pipeline if the geographic extent of its regional economic impacts and influences might overlap with the geographic extent of economic impacts and influences of the Central Queensland Coal Project. For example, the regional economic extent of the Central Queensland Coal Project is identified as Central Queensland and hence will likely draw significant supply chain inputs in terms of capital and labour from central Queensland. So too, will nearly all of the projects identified in Table 19-12. Several of the projects identified within Table 19-12 remain under planning or are in the approval phase. Given the expected life of the Central Queensland Coal Project, there is clear potential for projects still under planning or approval processes to have overlapping influences with the Central Queensland Coal Project over its project life.

**Table 19-12 Development pipeline within the study area**

Project	Proponent	Location	Project Details	Status
<b>Coal, Mineral and Gas Projects</b>				
Broughton Coal Mine Project	UandD Mining Industry Pty Ltd	100km west-south west of Mackay, 27km north-west of the township of Nebo in the IRC local government area	3Mt coal per annum over 15 years	EIS under preparation
Gladstone New Fuels Development Project Stage 2A	Aussun Pty Ltd, Stuart Pty Ltd	15km north-west of Gladstone	5Mt oil shale per annum over 20 years	EIS under preparation
New Lenton Coal Project	New Lenton Coal Pty Ltd	65km north-west of Nebo, adjacent Isaac River, 65km north of Moranbah and 20km south of Glenden.	8Mt ROM coal per annum	EIS under preparation
Saraji East Mining Lease Project	BHP Coal Pty Ltd, QCT Mining Pty Ltd, Mitsubishi Development Pty Ltd, QCT Investment Pty Ltd, BHP Queensland Coal Investments Pty, Ltd, QCT Resources Pty Ltd and Umal Consolidated Pty Ltd	30km north of Dysart, Central Queensland	7Mt metallurgical product coal per annum over 25-30 years	EIS under preparation
Baralaba South Project	Wonbindi Coal Pty Ltd	115km south-west of Rockhampton, 8km south of Baralaba.	6Mt ROM coal per annum over 23-40 years	EIS under preparation
Olive Downs Project	Pembroke Resources South Pty Ltd	40km south-east of Moranbah	14Mt coking coal per annum	Draft EIS under preparation
South Burnett Coal Project	MRV Tarong Basin Coal Pty Ltd	6km south of Kingaroy	Open cut thermal coal mine	EIS under preparation
Kevin's Corner Project	Hancock Galilee Pty Ltd	160km west of Emerald	30Mt coal per annum	Approved (2013)
Arrow LNG Plant	Arrow CSG Pty Ltd	Curtis Island	LNG processing plant, pipeline, dredging	Approved (2013)
Boundary Hill South Project	Anglo American's Coal Pty Ltd	20km north of Biloela	2.6Mt coal per annum	Approved (2016)
Curragh North Coal Project	Wesfarmers Curragh Pty Ltd	25km north of Blackwater	7Mt coal per annum over 40 years	Approved (2016)
Rolleston Coal Expansion Project	Glencore Coal Queensland Pty Ltd	Rolleston	19Mt coal per annum over 30 years	Approved (2015)
Springsure Creek Coal Mine Project	Springsure Creek Coal Pty Ltd	47km south-east of Emerald	11Mt coal per annum	Approved (2013)
Walton Coal Project*	Walton Coal Pty Ltd	170 kilometres (km) west of Rockhampton, approximately 100km east of Emerald	1.9 – 2.2 Mt per annum over 8 years	Public notification of draft ToR
Queensland Curtis LNG Project*	Queensland Gas Company Ltd (QGC), a wholly owned subsidiary of the BG International Group.	- Gas fields: Surat Basin - Pipelines: from gas fields to Gladstone - LNG processing plant and export facility: Curtis Island, near Gladstone	Integrated liquefied natural gas (LNG) project	Approved (2010)



Project	Proponent	Location	Project Details	Status
Wiggins Island Coal Terminal*	Gladstone Ports Corporation Limited/Wiggins Island Coal Export Terminal Pty Ltd	Port of Gladstone	Coal export terminal with an ultimate capacity of 84 million tonnes per annum; and rail and supporting infrastructure	Approved (2008)
Central Queensland Gas Pipeline*	Central Queensland Pipeline Pty Ltd	Between Moranbah and Gladstone	A 450-kilometre, underground, high-pressure gas transmission pipeline from the Bowen Basin to Gladstone.	Approved (2007)
<b>Other Projects</b>				
Capricorn Integrated Resort	Iwasaki Sangyo Co Pty Ltd	9km north-east of Yeppoon, 45km north of Rockhampton	300 rooms, golf course, cattle farm, residential community 8,000 dwellings, airstrip	Draft EIS under preparation
Gladstone Steel Plant Project	Boulder Steel Ltd	Gladstone state development area	5Mt semi-finished steel per annum, port facilities, coal dump station, co-generation power station	EIS under preparation
Gladstone-Fitzroy Pipeline	Gladstone Area Water Board	Stanwell-Gladstone	Underground pipeline	Approved (2015)
Lower Fitzroy River Infrastructure Project	SunWater Ltd (Government-owned)	Lower Fitzroy River: 62 km northwest and 66 km southwest of Rockhampton	Raising of existing Eden Bann weir, construction of new Rookwood weir	Approved (2017)
Nathan Dam and Pipelines	SunWater Ltd (Government-owned)	36km north-east of Taroomb	888,000ML dam, 66,000ML per annum, 149km trunk pipeline	Approved (2017)
Port of Gladstone Western Basin Dredging Project	Gladstone Ports Co Ltd	10km north of Gladstone city	deepening and widening of existing channels, new channels	Approved (2010)
Great Keppel Island Resort	GKI Resort Pty Ltd	12km off coast of Yeppoon	250 rooms, 750 villas, 300 apartments, marina, yacht club, golf course	Approved (2014)
Moura Link-Aldoga Rail Project*	QR National Limited	Immediately north-west of greater Gladstone	Major expansion of the QR National rail network north of greater Gladstone, to cater for new tonnages from existing and new coal mines.	Approved (2009)
Fisherman's Landing Port Expansion*	Gladstone Port Corporation Limited	Port of Gladstone	Northern expansion of Fisherman's Landing facility (at the Port of Gladstone) through land reclamation.	Approved (2010)
Surat Basin Rail Project*	Surat Basin Rail Pty Ltd, as agent for and on behalf of the Surat	The railway line will run from just outside Wandoan (230 km north-west of Toowoomba)	A 210-kilometre railway in the Surat Basin that will connect the	Approved (2010)

Project	Proponent	Location	Project Details	Status
	Basin Rail Joint Venture, comprising ATEC Dawson Valley Railway Pty Ltd (a subsidiary of Australian Transport and Energy Corridor Limited), Xstrata Coal Surat Basin Rail Pty Ltd (a subsidiary of Xstrata Coal Queensland Pty Ltd) and QR Surat Basin Pty Ltd (a subsidiary of QR National Limited)	to just outside Banana (130 km west of Gladstone)	Western Railway system near Wandoan to the Moura Railway system near Banana	
Hummock Hill Island Development*	Eaton Place Pty Ltd	Rodds Bay, 30 km south of Gladstone	Residential and tourism development	Approved (2011)
Spring Gully Power Station*	Origin Energy Power Limited	80 km north-east of Roma	A 1000-megawatt combined-cycle gas-fired power station, constructed in two 500 MW stages	Approved (2006)
Port of Gladstone Gatcombe and Golding Cutting Channel Duplication Project*	Gladstone Ports Corporation Limited	Port of Gladstone	Duplication of the existing Gatcombe and Golding Cutting Channel in the Port of Gladstone to provide a two-way passage from the outer harbour, around East Banks, to the western side of Facing Island	EIS under preparation

Source: DSD (2018), DES (2018)

\* Projects within the study area not previously included in Table 19-19, Chapter 19 of the EIS

## 19.5.4 Agricultural Production

Agricultural production data (in terms of volume and value of production) has been collated from the ABS as of the 2010-11 financial year for the LSC LGA, Broadsound – Nebo Statistical Area, Central Queensland Statistical Area and Queensland. This is the most recent comprehensive dataset available at the small area level.

The assessment of agricultural production has focussed on the key commodities produced within Central Queensland Statistical Area and has included all commodities produced within the LSC LGA and Broadsound – Nebo Statistical Area.

### 19.5.4.1 Volume of Production

#### Cropping

In the LSC LGA, the cropping commodities produced in 2010-11 were:

- Sugar cane: 27,980 tonnes or 0.1% of Queensland production;
- Wheat: 916 tonnes or 0.1% of Queensland production; and
- Sorghum: 227 tonnes (less than 0.1% of Queensland production).

In Broadsound – Nebo Statistical Area, the cropping commodities produced in 2010-11 were:

- Sugar cane: 282,737 tonnes or 1.2% of Queensland production;
- Sorghum: 33,211 tonnes or 2.8% of Queensland production;
- Wheat: 6,835 tonnes or 0.4% of Queensland production; and
- Chick peas: 4,626 tonnes or 3.3% of Queensland production.

In Central Queensland SA4, the key cropping commodities produced in 2010-11 were:

- Mung beans: 19,863 tonnes or 44.2% of Queensland production;
- Rice: 944 tonnes or 41.1% of Queensland production;
- Sunflower: 2,776 tonnes or 29.0% of Queensland production; and
- Chickpeas: 37,674 tonnes or 27.1% of Queensland production.

#### Fruit and Vegetables for Human Consumption

In 2010-11 the key fruit and vegetable crops for human consumption, grown in the LSC LGA were:

- Pineapples: 10,466 tonnes or 12.6% of Queensland production;
- Pumpkins: 852 tonnes or 2.1% of Queensland production; and
- Melons: 659 tonnes or 0.9% of Queensland production.

In 2010-11 the key fruit and vegetable crops for human consumption, grown in Broadsound-Nebo Statistical Area were:

- Tomatoes: 24 tonnes (less than 0.1% of Queensland production);
- Pumpkins: 8 tonnes (less than 0.1% of Queensland production); and
- Melons: 8 tonnes (less than 0.1% of Queensland production).

In Central Queensland SA4, the key fruit and vegetables crops for human consumption in 2010-11 were:

- Grapes: 5,486 tonnes or 46.6% of Queensland production;
- Pineapples: 10,466 tonnes or 12.6% of Queensland production (all of which produced in the LSC LGA); and
- Pumpkins: 2,697 tonnes or 6.5% of Queensland production.

### **Livestock**

Within the LSC LGA and Broadsound – Nebo Statistical Area, the majority of livestock identified were meat cattle, with an estimated 163,189 and 457,342 head in 2010-11, accounting for 1.3% and 3.7% of Queensland production respectively. In Central Queensland SA4, the dominant livestock in 2010-11 were:

- Meat cattle: 1,882,737 head, accounting for 15.1% of Queensland production; and
- Pigs: 19,934 head, accounting for 3.1% of Queensland production.

#### **19.5.4.2 Value of Production**

### **Cropping**

Within Central Queensland SA4, cotton accounted for the majority of the value of production at \$64.8 million but only 8.3% of the total value of cotton production in Queensland. Wheat and sorghum were also substantial contributors to the total value of production at \$50.9 million and \$33.2 million or 13.5% and 13.2% of total value, respectively.

### **Fruit and Vegetable for Human Consumption**

In the LSC LGA, pineapples accounted for the majority of the value of production at \$6.3 million, or 12.5% of the total Queensland value. Within Central Queensland SA4, grapes were the most valuable crop, with an estimated value of \$14.9 million in 2010-11 (or 46.1% of total Queensland value).

### **Livestock**

Within the LSC LGA, Broadsound-Nebo Statistical Area and Central Queensland SA4, cattle and calves slaughtered accounted for the majority of livestock value in 2010-11 (accounting for 1.4% of Queensland value, 3.1% of Queensland value and 14.1% of Queensland value, respectively).

## 19.5.5 Socio-Economic Index for Areas

The Socio-Economic Index for Areas is an ABS summary measure of social and economic census data and includes four indexes. The Index of Relative Socio-economic Disadvantage summarises the economic and social conditions of people and households within an area, with a lower score indicating greater disadvantage and a higher score indicating least disadvantage (ABS 2013c).

The Index of Relative Socio-economic Disadvantage for each of the chosen geographical areas is broken down into quintiles according to their level of disadvantage (Table 19-13). The Rockhampton population is heavily skewed towards the most disadvantaged quintiles whilst the LSC population favours the middle quintiles.

**Table 19-13 Population by index of relative socio-economic disadvantage as at 2016 Census**

Area	Q1 (most disadvantaged)	Q2	Q3	Q4	Q5 (least disadvantaged)
Livingstone (S)	16.5	24.6	24.6	26.2	8.0
Rockhampton (R)	39.1	29.8	13.4	7.3	10.4
Broadsound-Nebo	6.1	40.5	25.1	23.8	4.5
Queensland	20.0	20.0	20.0	20.0	20.0
Australia	n/a	n/a	n/a	n/a	n/a

Source: QGSO 2017a, b, QGSO 2016

## 19.5.6 Value of Ecosystem Services

The value of ecosystem services refers to the habitat, biological or system properties or processes of ecosystems. Ecosystem goods (such as food) and services (such as waste assimilation) represent the benefits human populations derive, directly or indirectly, for ecosystem functions (Costanza et al. 1997). The impact to ecosystems services is identified in Section 19.6.6.

## 19.6 Potential Impacts

The purpose of this section of the report is to estimate the economic impacts of the construction and operational phases of the Project in a regional, state and national context.

Central Queensland Coal has provided indicative capital and operating expenditures for the Project which have been used as inputs to the estimation of the regional, state and national stimulus generated by the Project.

### 19.6.1 Project Expenditures

#### Construction Costs

The construction costs associated with the Project are estimated at \$262.3 million, comprising:

- \$114.1 million of expenditure incurred within Central Queensland;
- \$54.9 million of expenditure incurred within the rest of Queensland;
- \$46.1 million of expenditure incurred interstate; and
- \$47.3 million of expenditure incurred overseas.



Project expenditures incurred overseas represent direct imports and as such do not make an economic contribution at a state, regional or national level and hence are excluded from the economic impact analysis.

Construction costs are anticipated to be incurred over a nineteen year period, with costs highest in 2019 (\$50.0 million), 2020 (\$61.0 million) and 2022 (\$42.0 million).

The anticipated construction costs by origin of purchase for the Project are presented in Table 19-14.

**Table 19-14 Anticipated total construction costs (\$m) by origin of purchase**

Expenditure	Origin of Purchase (\$m)				Total (\$m)
	CQ Region	Rest of Qld	National	International	
<b>Open Cut</b>					
Mining Engineering	\$14.2	\$9.4	\$5.4	\$0.0	\$29.0
Civil Engineering	\$6.7	\$4.1	\$3.4	\$0.0	\$14.2
Other Costs	\$4.9	\$4.5	\$2.9	\$0.0	\$12.3
Contingency	\$3.7	\$4.7	\$3.7	\$0.0	\$12.1
<b>Subtotal</b>	<b>\$29.5</b>	<b>\$22.7</b>	<b>\$15.4</b>	<b>\$0.0</b>	<b>\$67.6</b>
<b>Coal Handling Preparation Plant</b>					
Civil Engineering	\$2.3	\$2.9	\$0.0	\$1.0	\$6.2
Equipment	\$3.3	\$3.3	\$5.3	\$37.3	\$49.2
Installation	\$2.1	\$3.8	\$2.7	\$1.0	\$9.6
Other Costs	\$2.1	\$2.7	\$2.5	\$1.5	\$8.8
Contingency	\$2.5	\$3.0	\$3.7	\$3.3	\$12.5
<b>Subtotal</b>	<b>\$12.3</b>	<b>\$15.7</b>	<b>\$14.2</b>	<b>\$44.1</b>	<b>\$86.3</b>
<b>Infrastructure</b>					
Civil Engineering	\$35.5	\$7.3	\$7.4	\$1.0	\$51.2
Other Costs	\$31.0	\$5.3	\$6.1	\$1.1	\$43.5
Contingency	\$5.8	\$3.9	\$3.0	\$1.1	\$13.7
<b>Subtotal</b>	<b>\$72.3</b>	<b>\$16.5</b>	<b>\$16.5</b>	<b>\$3.2</b>	<b>\$108.4</b>
<b>Total</b>	<b>\$114.1</b>	<b>\$54.9</b>	<b>\$46.1</b>	<b>\$47.3</b>	<b>\$262.3</b>

Source: Central Queensland Coal

## Operational Costs

Central Queensland Coal have also provided operational costs for the Project over a twenty year period. Total operational costs of the Project are estimated at \$5,643.4 million, comprising:

- \$3,386.1 million of operational expenditure incurred within Central Queensland;
- \$846.5 million of operational expenditure incurred within the rest of Queensland;
- \$846.5 million of operational expenditure incurred interstate; and
- \$564.3 million of operational expenditure incurred internationally<sup>2</sup>.

The annual operating costs for the Project by expenditure category and origin of purchase are presented in Table 19-15.

<sup>2</sup> Approximately 60% of operating expenditures are anticipated to be made locally, with approximately 15% to be made within the rest of Queensland and 15% to be made interstate. Approximately 10% of operating expenditures will be made overseas.

**Table 19-15 Anticipated operational costs (\$m) by origin of purchase, Central Queensland**

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Mining and CHPP Operations	\$10.3	\$20.6	\$20.9	\$20.5	\$41.0	\$40.8	\$40.9	\$40.5	\$41.2	\$42.0
Vehicle Fleets and Fuel	\$15.4	\$30.8	\$31.4	\$30.7	\$61.5	\$61.1	\$61.4	\$60.7	\$61.9	\$63.0
Camp Costs	\$1.8	\$3.6	\$3.7	\$3.6	\$7.2	\$7.1	\$7.2	\$7.1	\$7.2	\$7.3
Consumables	\$7.7	\$15.4	\$15.7	\$15.3	\$30.7	\$30.6	\$30.7	\$30.3	\$30.9	\$31.5
Water Management	\$1.5	\$3.1	\$3.1	\$3.1	\$6.1	\$6.1	\$6.1	\$6.1	\$6.2	\$6.3
Professional Services	\$0.8	\$1.5	\$1.6	\$1.5	\$3.1	\$3.1	\$3.1	\$3.0	\$3.1	\$3.1
Repairs and Maintenance	\$5.1	\$10.3	\$10.5	\$10.2	\$20.5	\$20.4	\$20.5	\$20.2	\$20.6	\$21.0
Plant and Equipment	\$2.6	\$5.1	\$5.2	\$5.1	\$10.2	\$10.2	\$10.2	\$10.1	\$10.3	\$10.5
Transport Costs	\$6.2	\$12.3	\$12.6	\$12.3	\$24.6	\$24.5	\$24.6	\$24.3	\$24.7	\$25.2
<b>Total</b>	<b>\$51.3</b>	<b>\$102.8</b>	<b>\$104.7</b>	<b>\$102.3</b>	<b>\$204.9</b>	<b>\$203.8</b>	<b>\$204.7</b>	<b>\$202.3</b>	<b>\$206.2</b>	<b>\$209.9</b>
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mining and CHPP Operations	\$75.6	\$113.3	\$41.9	\$41.5	\$20.3	\$20.4	\$20.5	\$20.8	\$3.2	\$1.2
Vehicle Fleets and Fuel	\$113.4	\$169.9	\$62.9	\$62.3	\$30.5	\$30.5	\$30.8	\$31.2	\$4.8	\$1.8
Camp Costs	\$13.2	\$19.8	\$7.3	\$7.3	\$3.6	\$3.6	\$3.6	\$3.6	\$0.6	\$0.2
Consumables	\$56.7	\$85.0	\$31.5	\$31.1	\$15.2	\$15.3	\$15.4	\$15.6	\$2.4	\$0.9
Water Management	\$11.3	\$17.0	\$6.3	\$6.2	\$3.0	\$3.1	\$3.1	\$3.1	\$0.5	\$0.2
Professional Services	\$5.7	\$8.5	\$3.1	\$3.1	\$1.5	\$1.5	\$1.5	\$1.6	\$0.2	\$0.1
Repairs and Maintenance	\$37.8	\$56.6	\$21.0	\$20.8	\$10.2	\$10.2	\$10.3	\$10.4	\$1.6	\$0.6
Plant and Equipment	\$18.9	\$28.3	\$10.5	\$10.4	\$5.1	\$5.1	\$5.1	\$5.2	\$0.8	\$0.3
Transport Costs	\$45.3	\$68.0	\$25.2	\$24.9	\$12.2	\$12.2	\$12.3	\$12.5	\$1.9	\$0.7
<b>Total</b>	<b>\$377.8</b>	<b>\$566.5</b>	<b>\$209.7</b>	<b>\$207.6</b>	<b>\$101.5</b>	<b>\$101.8</b>	<b>\$102.5</b>	<b>\$103.8</b>	<b>\$15.9</b>	<b>\$6.0</b>

Source: Central Queensland Coal

## 19.6.2 Regional, State and National Economic Impacts During Construction

The Project's contribution to output, household income, employment and value added during the construction phase for the Central Queensland, rest of Queensland and national economy is discussed in the following sections. Capital expenditures are anticipated to incur between 2019 and 2037.

### Output

During the construction phase of the Project, output or consumption effects are anticipated to be highest during 2020, with the Central Queensland region likely to record the most significant stimulus. In 2020, output or consumption effects for the Central Queensland, state and national economy are estimated at:

- Central Queensland: Total output contribution of \$60.7 million, comprising \$26.8 million in direct impacts and \$33.8 million in indirect impacts (refer to Table 19-16);
- Rest of Queensland: Total output contribution of \$23.3 million, comprising \$12.5 million in direct impacts and \$10.8 million in indirect impacts (refer to Table 19-17); and
- National: Total output impacts of \$22.0 million, comprising \$11.0 million in direct impacts and \$11.0 million in indirect impacts (refer to Table 19-18).

Output impacts are anticipated to be concentrated within the construction and manufacturing sectors at the regional, state and national level. The mining sector is also anticipated to record significant output impacts, particularly within the Central Queensland economy.

**Table 19-16 Contribution to output (\$m), Central Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$10.9	\$13.3	\$0.4	\$9.2	\$0.4	\$0.9	\$0.9	\$0.9	\$0.9	\$5.2	\$7.4	\$1.5	\$2.2	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	-
Manufacturing	\$12.6	\$15.4	\$0.5	\$10.6	\$0.5	\$1.0	\$1.0	\$1.0	\$1.0	\$6.1	\$8.6	\$1.8	\$2.5	\$1.0	\$1.0	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	-
Electricity, Gas, Water and Waste Services	\$5.9	\$7.3	\$0.2	\$5.0	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$2.9	\$4.0	\$0.8	\$1.2	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	-
Construction	\$14.4	\$17.6	\$0.6	\$12.1	\$0.6	\$1.2	\$1.2	\$1.2	\$1.2	\$6.9	\$9.8	\$2.0	\$2.9	\$1.2	\$1.2	\$0.6	\$0.6	\$0.6	\$0.6	\$0.1	-
Wholesale Trade	\$0.7	\$0.8	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.2	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$1.7	\$2.0	\$0.1	\$1.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.8	\$1.1	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Information Media and Telecommunications	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.7	\$0.8	\$0.0	\$0.5	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$1.2	\$1.4	\$0.0	\$1.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.6	\$0.8	\$0.2	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.3	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.3	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$22.0	\$26.8	\$0.9	\$18.5	\$0.9	\$1.8	\$1.8	\$1.8	\$1.8	\$10.6	\$15.0	\$3.1	\$4.4	\$1.8	\$1.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.1	-
Indirect	\$27.7	\$33.8	\$1.1	\$23.3	\$1.1	\$2.2	\$2.2	\$2.2	\$2.2	\$13.3	\$18.9	\$3.9	\$5.5	\$2.2	\$2.2	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	-
Total	\$49.7	\$60.7	\$2.0	\$41.8	\$2.0	\$4.0	\$4.0	\$4.0	\$4.0	\$23.9	\$33.8	\$7.0	\$9.9	\$4.0	\$4.0	\$2.0	\$2.0	\$2.0	\$2.0	\$0.3	-

**Table 19-17 Contribution to output (\$m), rest of Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$2.5	\$3.1	\$0.1	\$2.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.2	\$1.7	\$0.4	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.0	-
Manufacturing	\$4.0	\$4.9	\$0.2	\$3.4	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$1.9	\$2.7	\$0.6	\$0.8	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$8.2	\$10.0	\$0.3	\$6.9	\$0.3	\$0.7	\$0.7	\$0.7	\$0.7	\$3.9	\$5.6	\$1.1	\$1.6	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.0	-
Wholesale Trade	\$0.4	\$0.5	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.7	\$0.8	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.4	\$0.5	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$1.2	\$1.4	\$0.0	\$1.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.6	\$0.8	\$0.2	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.4	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$10.3	\$12.5	\$0.4	\$8.6	\$0.4	\$0.8	\$0.8	\$0.8	\$0.8	\$4.9	\$7.0	\$1.4	\$2.0	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.1	-
Indirect	\$8.9	\$10.8	\$0.4	\$7.4	\$0.4	\$0.7	\$0.7	\$0.7	\$0.7	\$4.2	\$6.0	\$1.2	\$1.8	\$0.7	\$0.7	\$0.4	\$0.4	\$0.4	\$0.1	-
Total	\$19.1	\$23.3	\$0.8	\$16.0	\$0.8	\$1.5	\$1.5	\$1.5	\$1.5	\$9.2	\$13.0	\$2.7	\$3.8	\$1.5	\$1.5	\$0.8	\$0.8	\$0.8	\$0.1	-

**Table 19-18 Contribution to output (\$m), national, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$1.6	\$2.0	\$0.1	\$1.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.8	\$1.1	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Manufacturing	\$4.5	\$5.5	\$0.2	\$3.8	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$2.2	\$3.1	\$0.6	\$0.9	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$7.1	\$8.6	\$0.3	\$5.9	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$3.4	\$4.8	\$1.0	\$1.4	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0	-
Wholesale Trade	\$0.5	\$0.6	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.4	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.6	\$0.8	\$0.0	\$0.5	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.4	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$1.4	\$1.7	\$0.1	\$1.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.7	\$1.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Administrative and Support Services	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$9.0	\$11.0	\$0.4	\$7.6	\$0.4	\$0.7	\$0.7	\$0.7	\$0.7	\$4.3	\$6.1	\$1.3	\$1.8	\$0.7	\$0.7	\$0.4	\$0.4	\$0.4	\$0.1	\$0.1	-
Indirect	\$9.0	\$11.0	\$0.4	\$7.6	\$0.4	\$0.7	\$0.7	\$0.7	\$0.7	\$4.3	\$6.2	\$1.3	\$1.8	\$0.7	\$0.7	\$0.4	\$0.4	\$0.4	\$0.1	\$0.1	-
Total	\$18.0	\$22.0	\$0.7	\$15.2	\$0.7	\$1.4	\$1.4	\$1.4	\$1.4	\$8.7	\$12.3	\$2.5	\$3.6	\$1.4	\$1.4	\$0.7	\$0.7	\$0.7	\$0.1	\$0.1	-



## Household Income

Household income effects are anticipated to be highest during 2020, with the Central Queensland region likely to record the most significant stimulus. In 2020, household income effects for the Central Queensland, state and national economy are estimated at:

- Central Queensland: Total household income contribution of \$11.7 million, comprising \$5.6 million in direct impacts and \$6.1 million in indirect impacts (refer to Table 19-19);
- Rest of Queensland: Total household income contribution of \$5.1 million, comprising \$2.5 million in direct impacts and \$2.6 million in indirect impacts (refer to Table 19-20); and
- National: Total household income contribution of \$5.0 million, comprising \$2.3 million in direct impacts and \$2.7 million in indirect impacts (refer to Table 19-21).

Within all regions reviewed, household income effects are anticipated to be highest within the construction sector.

**Table 19-19 Contribution to household income (\$m), Central Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$1.7	\$2.1	\$0.1	\$1.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.8	\$1.2	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Manufacturing	\$2.8	\$3.4	\$0.1	\$2.3	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.3	\$1.9	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.7	\$0.8	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$2.7	\$3.3	\$0.1	\$2.3	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.3	\$1.8	\$0.4	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Wholesale Trade	\$0.2	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$4.6	\$5.6	\$0.2	\$3.8	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$2.2	\$3.1	\$0.6	\$0.9	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	-
Indirect	\$5.0	\$6.1	\$0.2	\$4.2	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$2.4	\$3.4	\$0.7	\$1.0	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	-
Total	\$9.6	\$11.7	\$0.4	\$8.0	\$0.4	\$0.8	\$0.8	\$0.8	\$0.8	\$4.6	\$6.5	\$1.3	\$1.9	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.1		

**Table 19-20 Contribution to household income (\$m), rest of Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Manufacturing	\$1.0	\$1.2	\$0.0	\$0.8	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.5	\$0.7	\$0.1	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$1.5	\$1.9	\$0.1	\$1.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.7	\$1.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Wholesale Trade	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.4	\$0.5	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$2.0	\$2.5	\$0.1	\$1.7	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.0	\$1.4	\$0.3	\$0.4	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Indirect	\$2.1	\$2.6	\$0.1	\$1.8	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.0	\$1.4	\$0.3	\$0.4	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Total	\$4.1	\$5.1	\$0.2	\$3.5	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$2.0	\$2.8	\$0.6	\$0.8	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	-

**Table 19-21 Contribution to household income (\$m), national, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Manufacturing	\$1.1	\$1.3	\$0.0	\$0.9	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.5	\$0.7	\$0.2	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$1.3	\$1.6	\$0.1	\$1.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.6	\$0.9	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Wholesale Trade	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.5	\$0.6	\$0.0	\$0.4	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$1.9	\$2.3	\$0.1	\$1.6	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.9	\$1.3	\$0.3	\$0.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Indirect	\$2.2	\$2.7	\$0.1	\$1.8	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.1	\$1.5	\$0.3	\$0.4	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.0	-
Total	\$4.1	\$5.0	\$0.2	\$3.4	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$1.9	\$2.8	\$0.6	\$0.8	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.0	-

## Employment

Employment impacts during the construction phase of the Project are anticipated to peak in 2020. Employment effects in 2020 are estimated to be as follows:

- Central Queensland: Total employment contribution of 117 FTEs, comprising 46 direct FTEs and 71 indirect FTEs (refer to Table 19-22);
- Rest of Queensland: Total employment contribution of 52 FTEs, comprising 18 direct FTEs and 34 indirect FTEs (refer to Table 19-23); and
- National: Total employment contribution of 53 direct FTEs, comprising 18 direct FTEs and 35 indirect FTEs (refer to Table 19-24).

Employment impacts are anticipated to be significant for the construction and manufacturing sectors in all areas analysed. In Central Queensland, significant employment impacts are also anticipated within the mining sector.

**Table 19-22 Contribution to employment (FTEs), Central Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Mining	15	18	1	12	1	1	1	1	1	7	10	2	3	1	1	1	1	1	0	0	-
Manufacturing	39	48	2	33	2	3	3	3	3	19	27	5	8	3	3	2	2	2	0	0	-
Electricity, Gas, Water and Waste Services	6	7	0	5	0	0	0	0	0	3	4	1	1	0	0	0	0	0	0	0	-
Construction	14	17	1	12	1	1	1	1	1	7	10	2	3	1	1	1	1	1	0	0	-
Wholesale Trade	2	2	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Retail Trade	2	2	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Accommodation and Food Services	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Transport, Postal and Warehousing	5	6	0	4	0	0	0	0	0	2	3	1	1	0	0	0	0	0	0	0	-
Information Media and Telecommunications	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Financial and Insurance Services	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Rental, Hiring and Real Estate Services	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Professional, Scientific and Technical Services	5	6	0	4	0	0	0	0	0	2	3	1	1	0	0	0	0	0	0	0	-
Administrative and Support Services	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Public Administration and Safety	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Arts and Recreation Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Other Services	2	3	0	2	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	-
Direct	38	46	2	32	2	3	3	3	3	18	26	5	8	3	3	2	2	2	0	0	-
Indirect	58	71	2	49	2	5	5	5	5	28	40	8	12	5	5	2	2	2	0	0	-
Total	96	117	4	81	4	8	8	8	8	46	65	13	19	8	8	4	4	4	1	1	-



**Table 19-23 Contribution to employment (FTEs), rest of Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Mining	3	4	0	3	0	0	0	0	0	2	2	0	1	0	0	0	0	0	0	0	-
Manufacturing	13	16	1	11	1	1	1	1	1	6	9	2	3	1	1	1	1	1	0	0	-
Electricity, Gas, Water and Waste Services	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Construction	10	13	0	9	0	1	1	1	1	5	7	1	2	1	1	0	0	0	0	0	-
Wholesale Trade	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Retail Trade	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Accommodation and Food Services	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Transport, Postal and Warehousing	2	3	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Information Media and Telecommunications	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Financial and Insurance Services	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Rental, Hiring and Real Estate Services	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-
Professional, Scientific and Technical Services	5	6	0	4	0	0	0	0	0	2	3	1	1	0	0	0	0	0	0	0	-
Administrative and Support Services	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Public Administration and Safety	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Arts and Recreation Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Other Services	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Direct	15	18	1	12	1	1	1	1	1	7	10	2	3	1	1	1	1	1	0	0	-
Indirect	28	34	1	23	1	2	2	2	2	13	19	4	6	2	2	1	1	1	0	0	-
Total	42	52	2	36	2	3	3	3	3	20	29	6	8	3	3	2	2	2	0	0	-

**Table 19-24 Contribution to employment (FTEs), national, construction table updated**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
Agriculture, Forestry and Fishing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Mining	2	3	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Manufacturing	15	18	1	12	1	1	1	1	1	7	10	2	3	1	1	1	1	1	0	0	-
Electricity, Gas, Water and Waste Services	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Construction	9	11	0	8	0	1	1	1	1	4	6	1	2	1	1	0	0	0	0	0	-
Wholesale Trade	2	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Retail Trade	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Accommodation and Food Services	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Transport, Postal and Warehousing	2	2	0	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Information Media and Telecommunications	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Financial and Insurance Services	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-
Rental, Hiring and Real Estate Services	1	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	-
Professional, Scientific and Technical Services	6	7	0	5	0	0	0	0	0	3	4	1	1	0	0	0	0	0	0	0	-
Administrative and Support Services	1	2	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Public Administration and Safety	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Arts and Recreation Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
Other Services	1	1	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	-
Direct	15	18	1	13	1	1	1	1	1	7	10	2	3	1	1	1	1	1	0	0	-
Indirect	29	35	1	24	1	2	2	2	2	14	19	4	6	2	2	1	1	1	0	0	-
Total	44	53	2	37	2	3	3	3	3	21	30	6	9	3	3	2	2	2	0	0	-

## Value Added

During the construction phase of the Project, value added impacts are anticipated to peak in 2020, with Central Queensland likely to experience the most significant stimulus. In 2020, value added effects for the Central Queensland, state and national economy are estimated at:

- Central Queensland: Total value added contribution of \$22.1 million, comprising \$9.7 million in direct impacts and \$12.3 million in indirect impacts (refer to Table 19-25);
- Rest of Queensland: Total value added contribution of \$8.9 million, comprising \$4.5 million in direct impacts and \$4.4 million in indirect impacts (refer to Table 19-26); and
- National: Total value added contribution of \$8.6 million, comprising \$4.0 million in direct impacts and \$4.6 million in indirect impacts (refer to Table 19-27).

Value added impacts are anticipated to be significant within the construction and manufacturing sectors in all areas analysed. The mining sector is also anticipated to record significant value added impacts within Central Queensland.

**Table 19-25 Contribution to value added (\$m), Central Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Mining	\$4.7	\$5.8	\$0.2	\$4.0	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$2.3	\$3.2	\$0.7	\$0.9	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.0	-
Manufacturing	\$3.8	\$4.6	\$0.2	\$3.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$1.8	\$2.6	\$0.5	\$0.8	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.0	-
Electricity, Gas, Water and Waste Services	\$1.8	\$2.2	\$0.1	\$1.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.9	\$1.2	\$0.3	\$0.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	-
Construction	\$5.0	\$6.1	\$0.2	\$4.2	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$2.4	\$3.4	\$0.7	\$1.0	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.0	-
Wholesale Trade	\$0.3	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.7	\$0.9	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.4	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.6	\$0.7	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.4	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$8.0	\$9.7	\$0.3	\$6.7	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$3.8	\$5.4	\$1.1	\$1.6	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.0	-
Indirect	\$10.1	\$12.3	\$0.4	\$8.5	\$0.4	\$0.8	\$0.8	\$0.8	\$0.8	\$4.9	\$6.9	\$1.4	\$2.0	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.1	-
Total	\$18.1	\$22.1	\$0.7	\$15.2	\$0.7	\$1.4	\$1.4	\$1.4	\$1.4	\$8.7	\$12.3	\$2.5	\$3.6	\$1.4	\$1.4	\$0.7	\$0.7	\$0.7	\$0.1	-

**Table 19-26 Contribution to value added (\$m), rest of Queensland, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038		
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-	
Mining	\$1.1	\$1.3	\$0.0	\$0.9	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.5	\$0.7	\$0.1	\$0.2	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Manufacturing	\$1.4	\$1.7	\$0.1	\$1.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.7	\$0.9	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$2.8	\$3.4	\$0.1	\$2.3	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.3	\$1.9	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	-
Wholesale Trade	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.3	\$0.4	\$0.0	\$0.3	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.6	\$0.7	\$0.0	\$0.5	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.3	\$0.4	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$3.7	\$4.5	\$0.1	\$3.1	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$1.8	\$2.5	\$0.5	\$0.7	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	-
Indirect	\$3.6	\$4.4	\$0.1	\$3.0	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$1.7	\$2.5	\$0.5	\$0.7	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	-
Total	\$7.3	\$8.9	\$0.3	\$6.2	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$3.5	\$5.0	\$1.0	\$1.5	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0	\$0.0	-

**Table 19-27 Contribution to value added (\$m), national, construction phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038		
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-	
Mining	\$0.7	\$0.9	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Manufacturing	\$1.6	\$1.9	\$0.1	\$1.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.8	\$1.1	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	-
Electricity, Gas, Water and Waste Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Construction	\$2.4	\$2.9	\$0.1	\$2.0	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$1.1	\$1.6	\$0.3	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	-
Wholesale Trade	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Retail Trade	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Accommodation and Food Services	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Transport, Postal and Warehousing	\$0.3	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Information Media and Telecommunications	\$0.1	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Financial and Insurance Services	\$0.2	\$0.3	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Rental, Hiring and Real Estate Services	\$0.2	\$0.2	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Professional, Scientific and Technical Services	\$0.7	\$0.9	\$0.0	\$0.6	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.5	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Administrative and Support Services	\$0.2	\$0.2	\$0.0	\$0.2	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Public Administration and Safety	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Other Services	\$0.1	\$0.1	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	-
Direct	\$3.3	\$4.0	\$0.1	\$2.7	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$1.6	\$2.2	\$0.5	\$0.7	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	-
Indirect	\$3.8	\$4.6	\$0.2	\$3.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$1.8	\$2.6	\$0.5	\$0.8	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0	-
Total	\$7.0	\$8.6	\$0.3	\$5.9	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$3.4	\$4.8	\$1.0	\$1.4	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0	\$0.0	-



### 19.6.3 Economic Impacts of Operation

A detailed overview of the Project’s contribution to output, household income, employment and value added during the operational phase is presented in the following sections. In addition, Figure 19-6 to Figure 19-9 provide an overview of the Project’s contribution to output, household income, employment and value added within Central Queensland during the operational phase.

Saleable coal production is anticipated to occur from 2019, with Project impacts highest during 2030.

#### Output

Output contributions are anticipated to be highest in 2030 of the Project and are estimated to be:

- Central Queensland: Total output contribution of \$1,148.7 million, comprising \$566.5 million of direct output contribution and \$582.2 million of indirect output contribution (refer to Table 19-28);
- Rest of Queensland: Total output contribution of \$240.9 million, comprising \$141.6 million in direct output contribution and \$99.2 million in indirect output contribution (refer to Table 19-29); and
- National: Direct output contribution of \$258.0 million, comprising \$141.6 million in direct output contribution and \$116.4 million in indirect output contribution (refer to Table 19-30).

Output contributions are anticipated to be highest within the wholesale trade and mining sectors across all regions analysed.

The Project’s direct and indirect contribution to output within the Central Queensland economy is illustrated in Figure 19-6.

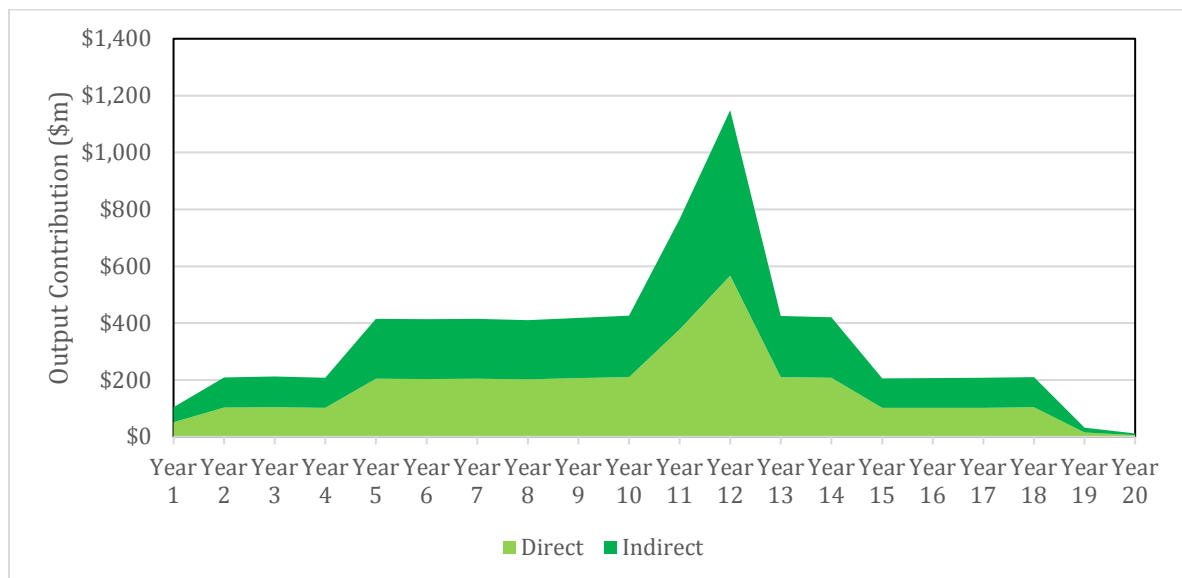


Figure 19-6 Direct and indirect contribution to output (\$m), Project operational phase

**Table 19-28 Contribution to output (\$m), Central Queensland operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.4	\$0.8	\$0.8	\$0.8	\$1.7	\$1.6	\$1.7	\$1.6	\$1.7	\$1.7	\$3.1	\$4.6	\$1.7	\$1.7	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Mining	\$25.9	\$52.0	\$52.9	\$51.7	\$103.6	\$103.1	\$103.5	\$102.3	\$104.3	\$106.2	\$191.1	\$286.4	\$106.1	\$105.0	\$51.3	\$51.5	\$51.9	\$52.5	\$8.1	\$3.0
Manufacturing	\$6.2	\$12.4	\$12.6	\$12.3	\$24.6	\$24.5	\$24.6	\$24.3	\$24.8	\$25.2	\$45.4	\$68.1	\$25.2	\$24.9	\$12.2	\$12.2	\$12.3	\$12.5	\$1.9	\$0.7
Electricity, Gas, Water and Waste Services	\$15.4	\$31.0	\$31.5	\$30.8	\$61.7	\$61.4	\$61.7	\$60.9	\$62.1	\$63.2	\$113.8	\$170.7	\$63.2	\$62.5	\$30.6	\$30.7	\$30.9	\$31.3	\$4.8	\$1.8
Construction	\$4.1	\$8.2	\$8.3	\$8.1	\$16.3	\$16.2	\$16.2	\$16.1	\$16.4	\$16.7	\$30.0	\$45.0	\$16.7	\$16.5	\$8.1	\$8.1	\$8.1	\$8.2	\$1.3	\$0.5
Wholesale Trade	\$33.0	\$66.3	\$67.5	\$65.9	\$132.0	\$131.4	\$131.9	\$130.4	\$132.9	\$135.3	\$243.5	\$365.1	\$135.2	\$133.8	\$65.4	\$65.6	\$66.1	\$66.9	\$10.3	\$3.9
Retail Trade	\$0.6	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.2	\$2.3	\$2.3	\$4.1	\$6.2	\$2.3	\$2.3	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Accommodation and Food Services	\$0.6	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.2	\$2.3	\$2.3	\$4.1	\$6.2	\$2.3	\$2.3	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Transport, Postal and Warehousing	\$4.8	\$9.7	\$9.9	\$9.6	\$19.3	\$19.2	\$19.3	\$19.1	\$19.4	\$19.8	\$35.6	\$53.4	\$19.8	\$19.6	\$9.6	\$9.6	\$9.7	\$9.8	\$1.5	\$0.6
Information Media and Telecommunications	\$0.3	\$0.5	\$0.5	\$0.5	\$1.0	\$1.0	\$1.0	\$1.0	\$1.0	\$1.0	\$1.9	\$2.8	\$1.0	\$1.0	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Financial and Insurance Services	\$0.8	\$1.6	\$1.6	\$1.6	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.3	\$5.9	\$8.9	\$3.3	\$3.3	\$1.6	\$1.6	\$1.6	\$1.6	\$0.2	\$0.1
Rental, Hiring and Real Estate Services	\$2.0	\$4.1	\$4.2	\$4.1	\$8.1	\$8.1	\$8.1	\$8.0	\$8.2	\$8.3	\$15.0	\$22.5	\$8.3	\$8.3	\$4.0	\$4.0	\$4.1	\$4.1	\$0.6	\$0.2
Professional, Scientific and Technical Services	\$2.6	\$5.2	\$5.3	\$5.1	\$10.3	\$10.2	\$10.3	\$10.2	\$10.4	\$10.6	\$19.0	\$28.5	\$10.5	\$10.4	\$5.1	\$5.1	\$5.2	\$5.2	\$0.8	\$0.3
Administrative and Support Services	\$0.9	\$1.8	\$1.9	\$1.8	\$3.7	\$3.7	\$3.7	\$3.6	\$3.7	\$3.8	\$6.8	\$10.2	\$3.8	\$3.7	\$1.8	\$1.8	\$1.8	\$1.9	\$0.3	\$0.1
Public Administration and Safety	\$0.3	\$0.7	\$0.7	\$0.7	\$1.3	\$1.3	\$1.3	\$1.3	\$1.3	\$1.4	\$2.4	\$3.7	\$1.4	\$1.3	\$0.7	\$0.7	\$0.7	\$0.7	\$0.1	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.4	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Other Services	\$6.0	\$12.0	\$12.2	\$12.0	\$23.9	\$23.8	\$23.9	\$23.6	\$24.1	\$24.5	\$44.1	\$66.2	\$24.5	\$24.2	\$11.9	\$11.9	\$12.0	\$12.1	\$1.9	\$0.7
Direct	\$51.3	\$102.8	\$104.7	\$102.3	\$204.9	\$203.8	\$204.7	\$202.3	\$206.2	\$209.9	\$377.8	\$566.5	\$209.7	\$207.6	\$101.5	\$101.8	\$102.5	\$103.8	\$15.9	\$6.0
Indirect	\$52.7	\$105.7	\$107.6	\$105.2	\$210.6	\$209.5	\$210.4	\$207.9	\$212.0	\$215.8	\$388.3	\$582.2	\$215.6	\$213.3	\$104.3	\$104.7	\$105.4	\$106.7	\$16.4	\$6.2
Total	\$103.9	\$208.5	\$212.2	\$207.5	\$415.4	\$413.3	\$415.0	\$410.2	\$418.2	\$425.7	\$766.2	\$1,148.7	\$425.3	\$420.9	\$205.8	\$206.5	\$207.9	\$210.6	\$32.3	\$12.2

**Table 19-29 Contribution to output (\$m), rest of Queensland, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.8	\$1.3	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Mining	\$3.4	\$6.9	\$7.0	\$6.9	\$13.8	\$13.7	\$13.8	\$13.6	\$13.9	\$14.1	\$25.4	\$38.1	\$14.1	\$14.0	\$6.8	\$6.8	\$6.9	\$7.0	\$1.1	\$0.4
Manufacturing	\$1.2	\$2.3	\$2.4	\$2.3	\$4.7	\$4.7	\$4.7	\$4.6	\$4.7	\$4.8	\$8.6	\$12.9	\$4.8	\$4.7	\$2.3	\$2.3	\$2.3	\$2.4	\$0.4	\$0.1
Electricity, Gas, Water and Waste Services	\$0.8	\$1.5	\$1.5	\$1.5	\$3.0	\$3.0	\$3.0	\$3.0	\$3.0	\$3.1	\$5.6	\$8.3	\$3.1	\$3.1	\$1.5	\$1.5	\$1.5	\$1.5	\$0.2	\$0.1
Construction	\$1.3	\$2.6	\$2.6	\$2.6	\$5.1	\$5.1	\$5.1	\$5.1	\$5.2	\$5.2	\$9.4	\$14.1	\$5.2	\$5.2	\$2.5	\$2.5	\$2.6	\$2.6	\$0.4	\$0.1
Wholesale Trade	\$8.4	\$16.9	\$17.2	\$16.8	\$33.6	\$33.5	\$33.6	\$33.2	\$33.9	\$34.5	\$62.0	\$93.0	\$34.4	\$34.1	\$16.7	\$16.7	\$16.8	\$17.1	\$2.6	\$1.0
Retail Trade	\$0.2	\$0.4	\$0.4	\$0.4	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$1.5	\$2.2	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Accommodation and Food Services	\$0.2	\$0.3	\$0.3	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.7	\$0.7	\$1.2	\$1.8	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.1	\$0.0
Transport, Postal and Warehousing	\$1.2	\$2.5	\$2.5	\$2.5	\$4.9	\$4.9	\$4.9	\$4.9	\$5.0	\$5.0	\$9.1	\$13.6	\$5.0	\$5.0	\$2.4	\$2.4	\$2.5	\$2.5	\$0.4	\$0.1
Information Media and Telecommunications	\$0.3	\$0.5	\$0.5	\$0.5	\$1.0	\$1.0	\$1.0	\$1.0	\$1.0	\$1.0	\$1.9	\$2.8	\$1.0	\$1.0	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Financial and Insurance Services	\$0.5	\$0.9	\$0.9	\$0.9	\$1.9	\$1.8	\$1.9	\$1.8	\$1.9	\$1.9	\$3.4	\$5.1	\$1.9	\$1.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.1	\$0.1
Rental, Hiring and Real Estate Services	\$1.0	\$1.9	\$2.0	\$1.9	\$3.8	\$3.8	\$3.8	\$3.8	\$3.9	\$3.9	\$7.1	\$10.6	\$3.9	\$3.9	\$1.9	\$1.9	\$1.9	\$1.9	\$0.3	\$0.1
Professional, Scientific and Technical Services	\$1.2	\$2.4	\$2.4	\$2.4	\$4.7	\$4.7	\$4.7	\$4.7	\$4.8	\$4.8	\$8.7	\$13.1	\$4.8	\$4.8	\$2.3	\$2.4	\$2.4	\$2.4	\$0.4	\$0.1
Administrative and Support Services	\$0.5	\$1.0	\$1.0	\$1.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.1	\$2.1	\$3.8	\$5.6	\$2.1	\$2.1	\$1.0	\$1.0	\$1.0	\$1.0	\$0.2	\$0.1
Public Administration and Safety	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.3	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.3	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$1.5	\$3.0	\$3.1	\$3.0	\$6.0	\$6.0	\$6.0	\$5.9	\$6.0	\$6.1	\$11.0	\$16.6	\$6.1	\$6.1	\$3.0	\$3.0	\$3.0	\$3.0	\$0.5	\$0.2
Direct	\$12.8	\$25.7	\$26.2	\$25.6	\$51.2	\$51.0	\$51.2	\$50.6	\$51.6	\$52.5	\$94.5	\$141.6	\$52.4	\$51.9	\$25.4	\$25.5	\$25.6	\$26.0	\$4.0	\$1.5
Indirect	\$9.0	\$18.0	\$18.3	\$17.9	\$35.9	\$35.7	\$35.9	\$35.4	\$36.1	\$36.8	\$66.2	\$99.2	\$36.7	\$36.4	\$17.8	\$17.8	\$18.0	\$18.2	\$2.8	\$1.1
Total	\$21.8	\$43.7	\$44.5	\$43.5	\$87.1	\$86.7	\$87.0	\$86.0	\$87.7	\$89.3	\$160.7	\$240.9	\$89.2	\$88.3	\$43.2	\$43.3	\$43.6	\$44.2	\$6.8	\$2.6

**Table 19-30 Contribution to output (\$m), national, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.1	\$0.2	\$0.3	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.4	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Mining	\$3.3	\$6.5	\$6.7	\$6.5	\$13.0	\$13.0	\$13.0	\$12.9	\$13.1	\$13.4	\$24.0	\$36.0	\$13.3	\$13.2	\$6.5	\$6.5	\$6.5	\$6.6	\$1.0	\$0.4
Manufacturing	\$1.4	\$2.7	\$2.8	\$2.7	\$5.5	\$5.4	\$5.5	\$5.4	\$5.5	\$5.6	\$10.1	\$15.1	\$5.6	\$5.5	\$2.7	\$2.7	\$2.7	\$2.8	\$0.4	\$0.2
Electricity, Gas, Water and Waste Services	\$0.8	\$1.6	\$1.6	\$1.6	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.3	\$5.9	\$8.9	\$3.3	\$3.3	\$1.6	\$1.6	\$1.6	\$1.6	\$0.2	\$0.1
Construction	\$1.4	\$2.7	\$2.8	\$2.7	\$5.5	\$5.4	\$5.5	\$5.4	\$5.5	\$5.6	\$10.1	\$15.1	\$5.6	\$5.5	\$2.7	\$2.7	\$2.7	\$2.8	\$0.4	\$0.2
Wholesale Trade	\$8.5	\$17.1	\$17.5	\$17.1	\$34.2	\$34.0	\$34.1	\$33.7	\$34.4	\$35.0	\$63.0	\$94.5	\$35.0	\$34.6	\$16.9	\$17.0	\$17.1	\$17.3	\$2.7	\$1.0
Retail Trade	\$0.2	\$0.5	\$0.5	\$0.5	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.0	\$1.7	\$2.6	\$1.0	\$1.0	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Accommodation and Food Services	\$0.2	\$0.3	\$0.3	\$0.3	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$1.2	\$1.8	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.1	\$0.0
Transport, Postal and Warehousing	\$1.3	\$2.6	\$2.6	\$2.6	\$5.1	\$5.1	\$5.1	\$5.1	\$5.2	\$5.3	\$9.5	\$14.2	\$5.3	\$5.2	\$2.5	\$2.6	\$2.6	\$2.6	\$0.4	\$0.2
Information Media and Telecommunications	\$0.5	\$1.0	\$1.0	\$1.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.1	\$3.7	\$5.6	\$2.1	\$2.0	\$1.0	\$1.0	\$1.0	\$1.0	\$0.2	\$0.1
Financial and Insurance Services	\$0.8	\$1.6	\$1.7	\$1.6	\$3.3	\$3.3	\$3.3	\$3.2	\$3.3	\$3.4	\$6.0	\$9.1	\$3.4	\$3.3	\$1.6	\$1.6	\$1.6	\$1.7	\$0.3	\$0.1
Rental, Hiring and Real Estate Services	\$0.9	\$1.9	\$1.9	\$1.9	\$3.8	\$3.8	\$3.8	\$3.7	\$3.8	\$3.9	\$7.0	\$10.5	\$3.9	\$3.8	\$1.9	\$1.9	\$1.9	\$1.9	\$0.3	\$0.1
Professional, Scientific and Technical Services	\$1.6	\$3.2	\$3.3	\$3.2	\$6.4	\$6.4	\$6.4	\$6.3	\$6.5	\$6.6	\$11.8	\$17.8	\$6.6	\$6.5	\$3.2	\$3.2	\$3.2	\$3.3	\$0.5	\$0.2
Administrative and Support Services	\$0.6	\$1.2	\$1.2	\$1.2	\$2.4	\$2.4	\$2.4	\$2.4	\$2.4	\$2.5	\$4.5	\$6.7	\$2.5	\$2.5	\$1.2	\$1.2	\$1.2	\$1.2	\$0.2	\$0.1
Public Administration and Safety	\$0.1	\$0.3	\$0.3	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$1.1	\$1.7	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Other Services	\$1.5	\$3.0	\$3.1	\$3.0	\$6.1	\$6.0	\$6.1	\$6.0	\$6.1	\$6.2	\$11.2	\$16.8	\$6.2	\$6.1	\$3.0	\$3.0	\$3.0	\$3.1	\$0.5	\$0.2
Direct	\$12.8	\$25.7	\$26.2	\$25.6	\$51.2	\$51.0	\$51.2	\$50.6	\$51.6	\$52.5	\$94.5	\$141.6	\$52.4	\$51.9	\$25.4	\$25.5	\$25.6	\$26.0	\$4.0	\$1.5
Indirect	\$10.5	\$21.1	\$21.5	\$21.0	\$42.1	\$41.9	\$42.1	\$41.6	\$42.4	\$43.1	\$77.6	\$116.4	\$43.1	\$42.6	\$20.9	\$20.9	\$21.1	\$21.3	\$3.3	\$1.2
Total	\$23.3	\$46.8	\$47.7	\$46.6	\$93.3	\$92.8	\$93.2	\$92.1	\$93.9	\$95.6	\$172.1	\$258.0	\$95.5	\$94.5	\$46.2	\$46.4	\$46.7	\$47.3	\$7.3	\$2.7

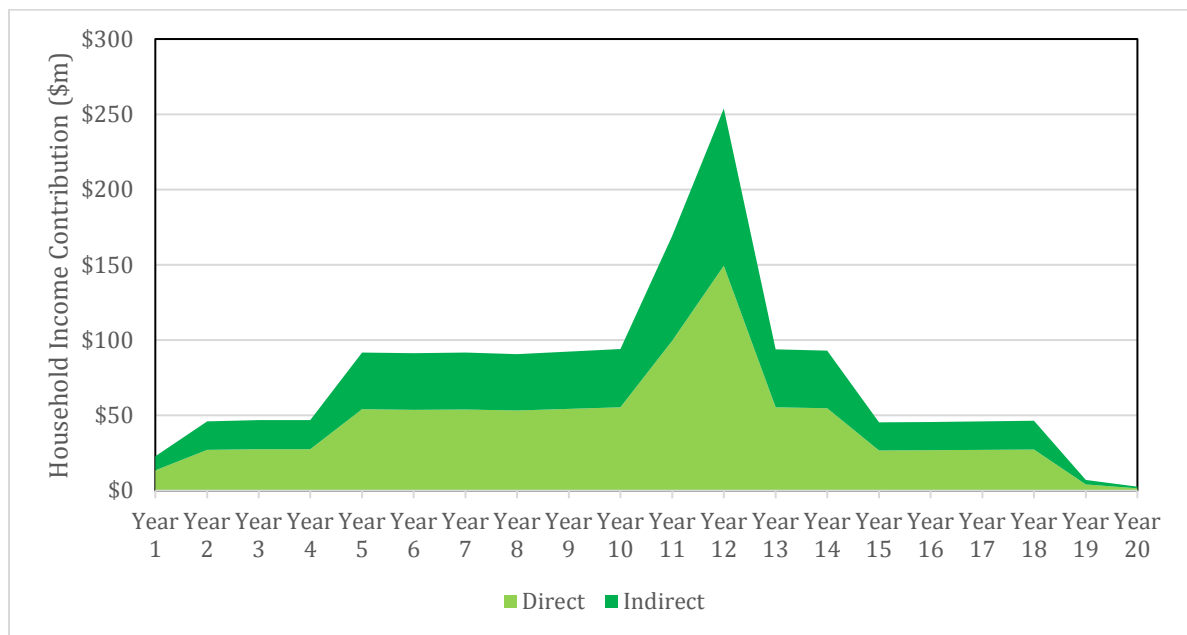
### Household Income

In 2030, household income effects are anticipated to be highest across all regions analysed and are estimated to be:

- Central Queensland: Total household income contribution of \$253.8 million, comprising \$149.4 million in direct household income contribution and \$104.4 million in indirect household income contribution (refer to Table 19);
- Rest of Queensland: Total household income contribution of \$61.2 million, comprising \$37.3 million in direct household income contribution and \$23.9 million in indirect household income contribution (refer to Table 19-32); and
- National: Total household income contribution of \$66.2 million, comprising \$37.3 million in direct household income contribution and \$28.8 million in indirect household income contribution (refer to Table ).

Household income impacts are anticipated to be highest within the wholesale trade sector across all regions analysed.

The Project’s direct and indirect contribution to household income within the Central Queensland economy is illustrated in Figure 19-7.



**Figure 19-7 Direct and indirect contribution to household income (\$m), Project operational phase**

**Table 19-31 Contribution to household income (\$m), Central Queensland operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.0	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.3	\$0.4	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Mining	\$4.1	\$8.3	\$8.5	\$8.5	\$16.5	\$16.5	\$16.5	\$16.3	\$16.6	\$16.9	\$30.5	\$45.7	\$16.9	\$16.8	\$8.2	\$8.2	\$8.3	\$8.4	\$1.3	\$0.5
Manufacturing	\$0.9	\$1.8	\$1.8	\$1.8	\$3.5	\$3.5	\$3.5	\$3.5	\$3.6	\$3.6	\$6.5	\$9.8	\$3.6	\$3.6	\$1.8	\$1.8	\$1.8	\$1.8	\$0.3	\$0.1
Electricity, Gas, Water and Waste Services	\$1.8	\$3.6	\$3.7	\$3.7	\$7.2	\$7.2	\$7.2	\$7.1	\$7.3	\$7.4	\$13.3	\$19.9	\$7.4	\$7.3	\$3.6	\$3.6	\$3.6	\$3.7	\$0.6	\$0.2
Construction	\$0.6	\$1.3	\$1.3	\$1.3	\$2.6	\$2.6	\$2.6	\$2.5	\$2.6	\$2.6	\$4.7	\$7.1	\$2.6	\$2.6	\$1.3	\$1.3	\$1.3	\$1.3	\$0.2	\$0.1
Wholesale Trade	\$10.2	\$20.5	\$20.8	\$20.8	\$40.8	\$40.6	\$40.7	\$40.3	\$41.0	\$41.8	\$75.2	\$112.7	\$41.7	\$41.3	\$20.2	\$20.3	\$20.4	\$20.7	\$3.2	\$1.2
Retail Trade	\$0.2	\$0.4	\$0.4	\$0.4	\$0.9	\$0.9	\$0.9	\$0.8	\$0.9	\$0.9	\$1.6	\$2.4	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Accommodation and Food Services	\$0.2	\$0.3	\$0.3	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.7	\$0.7	\$1.2	\$1.8	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.1	\$0.0
Transport, Postal and Warehousing	\$1.1	\$2.2	\$2.3	\$2.3	\$4.4	\$4.4	\$4.4	\$4.4	\$4.4	\$4.5	\$8.2	\$12.2	\$4.5	\$4.5	\$2.2	\$2.2	\$2.2	\$2.2	\$0.3	\$0.1
Information Media and Telecommunications	\$0.0	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.3	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Financial and Insurance Services	\$0.2	\$0.4	\$0.5	\$0.5	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.6	\$2.4	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Rental, Hiring and Real Estate Services	\$0.4	\$0.8	\$0.8	\$0.8	\$1.5	\$1.5	\$1.5	\$1.5	\$1.6	\$1.6	\$2.8	\$4.3	\$1.6	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Professional, Scientific and Technical Services	\$0.9	\$1.7	\$1.8	\$1.8	\$3.5	\$3.4	\$3.5	\$3.4	\$3.5	\$3.5	\$6.4	\$9.6	\$3.5	\$3.5	\$1.7	\$1.7	\$1.7	\$1.8	\$0.3	\$0.1
Administrative and Support Services	\$0.4	\$0.8	\$0.8	\$0.8	\$1.6	\$1.6	\$1.6	\$1.6	\$1.6	\$1.7	\$3.0	\$4.5	\$1.7	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Public Administration and Safety	\$0.2	\$0.3	\$0.3	\$0.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.6	\$0.7	\$1.2	\$1.8	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$1.7	\$3.4	\$3.4	\$3.4	\$6.7	\$6.7	\$6.7	\$6.6	\$6.7	\$6.9	\$12.4	\$18.5	\$6.9	\$6.8	\$3.3	\$3.3	\$3.4	\$3.4	\$0.5	\$0.2
Direct	\$13.5	\$27.1	\$27.6	\$27.6	\$54.0	\$53.7	\$54.0	\$53.3	\$54.4	\$55.4	\$99.6	\$149.4	\$55.3	\$54.7	\$26.8	\$26.8	\$27.0	\$27.4	\$4.2	\$1.6
Indirect	\$9.5	\$19.0	\$19.3	\$19.3	\$37.8	\$37.6	\$37.7	\$37.3	\$38.0	\$38.7	\$69.7	\$104.4	\$38.7	\$38.3	\$18.7	\$18.8	\$18.9	\$19.1	\$2.9	\$1.1
Total	\$23.0	\$46.1	\$46.9	\$46.9	\$91.8	\$91.3	\$91.7	\$90.6	\$92.4	\$94.1	\$169.3	\$253.8	\$94.0	\$93.0	\$45.5	\$45.6	\$45.9	\$46.5	\$7.1	\$2.7



**Table 19-32 Contribution to household income (\$m), rest of Queensland, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Mining	\$0.5	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.1	\$2.2	\$2.2	\$4.0	\$6.0	\$2.2	\$2.2	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Manufacturing	\$0.2	\$0.4	\$0.4	\$0.4	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.6	\$2.4	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Electricity, Gas, Water and Waste Services	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.4	\$0.5	\$0.4	\$0.5	\$0.5	\$0.8	\$1.2	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Construction	\$0.2	\$0.4	\$0.4	\$0.4	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$0.8	\$1.5	\$2.2	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Wholesale Trade	\$2.6	\$5.2	\$5.3	\$5.2	\$10.4	\$10.3	\$10.4	\$10.3	\$10.5	\$10.6	\$19.2	\$28.7	\$10.6	\$10.5	\$5.1	\$5.2	\$5.2	\$5.3	\$0.8	\$0.3
Retail Trade	\$0.1	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.6	\$0.9	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Accommodation and Food Services	\$0.0	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.4	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Transport, Postal and Warehousing	\$0.3	\$0.5	\$0.5	\$0.5	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.0	\$3.0	\$1.1	\$1.1	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Information Media and Telecommunications	\$0.0	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.3	\$0.5	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Financial and Insurance Services	\$0.1	\$0.3	\$0.3	\$0.3	\$0.5	\$0.5	\$0.5	\$0.5	\$0.6	\$0.6	\$1.0	\$1.5	\$0.6	\$0.6	\$0.3	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0
Rental, Hiring and Real Estate Services	\$0.2	\$0.3	\$0.3	\$0.3	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$1.3	\$1.9	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.1	\$0.0
Professional, Scientific and Technical Services	\$0.4	\$0.8	\$0.8	\$0.8	\$1.6	\$1.6	\$1.6	\$1.6	\$1.6	\$1.6	\$3.0	\$4.4	\$1.6	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Administrative and Support Services	\$0.2	\$0.4	\$0.5	\$0.4	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.6	\$2.5	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.5	\$0.1	\$0.0
Public Administration and Safety	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$0.4	\$0.8	\$0.9	\$0.8	\$1.7	\$1.7	\$1.7	\$1.7	\$1.7	\$1.7	\$3.1	\$4.6	\$1.7	\$1.7	\$0.8	\$0.8	\$0.8	\$0.9	\$0.1	\$0.0
Direct	\$3.4	\$6.8	\$6.9	\$6.7	\$13.5	\$13.4	\$13.5	\$13.3	\$13.6	\$13.8	\$24.9	\$37.3	\$13.8	\$13.7	\$6.7	\$6.7	\$6.8	\$6.8	\$1.0	\$0.4
Indirect	\$2.2	\$4.3	\$4.4	\$4.3	\$8.6	\$8.6	\$8.6	\$8.5	\$8.7	\$8.9	\$15.9	\$23.9	\$8.8	\$8.8	\$4.3	\$4.3	\$4.3	\$4.4	\$0.7	\$0.3
Total	\$5.5	\$11.1	\$11.3	\$11.1	\$22.1	\$22.0	\$22.1	\$21.9	\$22.3	\$22.7	\$40.8	\$61.2	\$22.7	\$22.4	\$11.0	\$11.0	\$11.1	\$11.2	\$1.7	\$0.6

**Table 19-33 Contribution to household income (\$m), national, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Mining	\$0.5	\$1.0	\$1.1	\$1.0	\$2.1	\$2.1	\$2.1	\$2.0	\$2.1	\$2.1	\$3.8	\$5.7	\$2.1	\$2.1	\$1.0	\$1.0	\$1.0	\$1.0	\$0.2	\$0.1
Manufacturing	\$0.3	\$0.5	\$0.5	\$0.5	\$1.0	\$1.0	\$1.0	\$1.0	\$1.0	\$1.1	\$1.9	\$2.9	\$1.1	\$1.1	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Electricity, Gas, Water and Waste Services	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.3	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Construction	\$0.2	\$0.4	\$0.4	\$0.4	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.6	\$2.4	\$0.9	\$0.9	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Wholesale Trade	\$2.6	\$5.3	\$5.4	\$5.3	\$10.5	\$10.5	\$10.5	\$10.4	\$10.6	\$10.8	\$19.5	\$29.2	\$10.8	\$10.7	\$5.2	\$5.2	\$5.3	\$5.3	\$0.8	\$0.3
Retail Trade	\$0.1	\$0.2	\$0.2	\$0.2	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.7	\$1.0	\$0.4	\$0.4	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Accommodation and Food Services	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Transport, Postal and Warehousing	\$0.3	\$0.6	\$0.6	\$0.6	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.0	\$3.1	\$1.1	\$1.1	\$0.5	\$0.6	\$0.6	\$0.6	\$0.1	\$0.0
Information Media and Telecommunications	\$0.1	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.6	\$0.9	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Financial and Insurance Services	\$0.2	\$0.5	\$0.5	\$0.5	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.7	\$2.6	\$0.9	\$0.9	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Rental, Hiring and Real Estate Services	\$0.2	\$0.3	\$0.3	\$0.3	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$1.2	\$1.9	\$0.7	\$0.7	\$0.3	\$0.3	\$0.3	\$0.3	\$0.1	\$0.0
Professional, Scientific and Technical Services	\$0.5	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.2	\$2.2	\$2.2	\$4.0	\$6.1	\$2.2	\$2.2	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Administrative and Support Services	\$0.3	\$0.5	\$0.5	\$0.5	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.0	\$2.9	\$1.1	\$1.1	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Public Administration and Safety	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.5	\$0.8	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$0.4	\$0.9	\$0.9	\$0.9	\$1.7	\$1.7	\$1.7	\$1.7	\$1.7	\$1.7	\$3.1	\$4.7	\$1.7	\$1.7	\$0.8	\$0.8	\$0.9	\$0.9	\$0.1	\$0.0
Direct	\$3.4	\$6.8	\$6.9	\$6.7	\$13.5	\$13.4	\$13.5	\$13.3	\$13.6	\$13.8	\$24.9	\$37.3	\$13.8	\$13.7	\$6.7	\$6.7	\$6.8	\$6.8	\$1.0	\$0.4
Indirect	\$2.6	\$5.2	\$5.3	\$5.2	\$10.4	\$10.4	\$10.4	\$10.3	\$10.5	\$10.7	\$19.2	\$28.8	\$10.7	\$10.6	\$5.2	\$5.2	\$5.2	\$5.3	\$0.8	\$0.3
Total	\$6.0	\$12.0	\$12.2	\$12.0	\$23.9	\$23.8	\$23.9	\$23.6	\$24.1	\$24.5	\$44.1	\$66.2	\$24.5	\$24.3	\$11.9	\$11.9	\$12.0	\$12.1	\$1.9	\$0.7

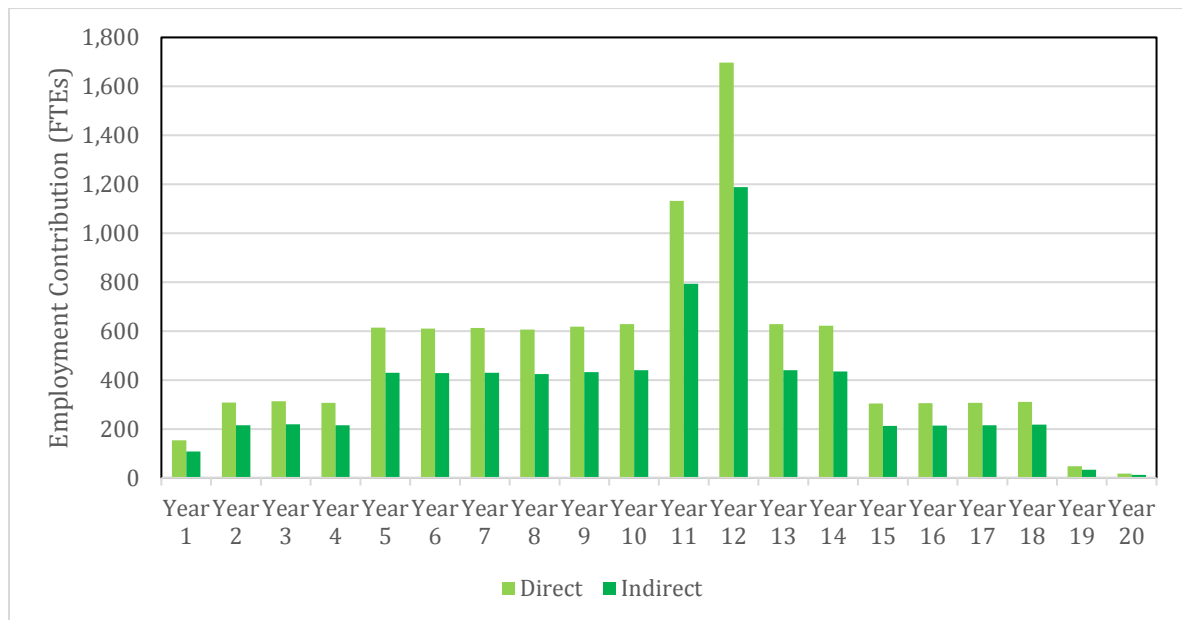
## Employment

Employment impacts are anticipated to be highest in 2030 and are estimated to be:

- Central Queensland: Total employment impacts of 2,887 FTEs, comprising 1,698 direct FTEs and 1,189 indirect FTEs (refer to Table );
- Rest of Queensland: Total employment impacts of 731 FTEs, comprising 424 direct FTEs and 307 indirect FTEs (refer to Table 19-35); and
- National: Total employment impacts of 790 FTEs, comprising 424 direct FTEs and 366 indirect FTEs (refer to Table 19-36).

Employment impacts are anticipated to be highest within the wholesale trade sector across all areas analysed.

The Project’s direct and indirect contribution of employment to the Central Queensland economy is illustrated in Figure 19-8.



**Figure 19-8 Direct and indirect contribution to employment (FTEs), Project operational phase**

**Table 19-34 Contribution to employment (FTEs), Central Queensland operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	1	3	3	3	6	6	6	6	6	6	11	16	6	6	3	3	3	3	0	0
Mining	34	69	70	69	137	137	137	136	138	141	253	380	141	139	68	68	69	70	11	4
Manufacturing	12	24	24	24	48	47	48	47	48	49	88	132	49	48	24	24	24	24	4	1
Electricity, Gas, Water and Waste Services	17	34	35	34	68	68	68	67	68	70	125	188	70	69	34	34	34	34	5	2
Construction	9	17	18	17	34	34	34	34	35	35	63	95	35	35	17	17	17	17	3	1
Wholesale Trade	100	200	204	199	399	397	399	394	402	409	736	1,104	409	404	198	198	200	202	31	12
Retail Trade	4	9	9	9	18	18	18	17	18	18	32	49	18	18	9	9	9	9	1	1
Accommodation and Food Services	4	7	7	7	14	14	14	14	14	15	26	39	14	14	7	7	7	7	1	0
Transport, Postal and Warehousing	13	27	27	27	54	53	53	53	54	55	99	148	55	54	27	27	27	27	4	2
Information Media and Telecommunications	1	1	1	1	2	2	2	2	2	2	4	6	2	2	1	1	1	1	0	0
Financial and Insurance Services	2	3	3	3	6	6	6	6	6	7	12	18	7	6	3	3	3	3	0	0
Rental, Hiring and Real Estate Services	4	8	9	8	17	17	17	17	17	17	31	46	17	17	8	8	8	9	1	0
Professional, Scientific and Technical Services	11	22	22	22	44	43	44	43	44	45	81	121	45	44	22	22	22	22	3	1
Administrative and Support Services	4	8	8	8	16	16	16	16	16	16	29	44	16	16	8	8	8	8	1	0
Public Administration and Safety	2	4	4	4	8	8	8	8	8	8	15	22	8	8	4	4	4	4	1	0
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Arts and Recreation Services	0	0	0	0	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0
Other Services	43	86	88	86	172	171	172	170	173	176	318	476	176	174	85	86	86	87	13	5
Direct	154	308	314	307	614	611	613	606	618	629	1,132	1,698	629	622	304	305	307	311	48	18
Indirect	108	216	220	215	430	428	430	425	433	441	793	1,189	440	436	213	214	215	218	33	13
Total	261	524	533	521	1,044	1,039	1,043	1,031	1,051	1,070	1,925	2,887	1,069	1,058	517	519	523	529	81	31

**Table 19-35 Contribution to employment (FTEs), rest of Queensland, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	0	1	1	1	2	2	2	2	2	2	3	4	2	2	1	1	1	1	0	0
Mining	4	9	9	9	18	18	18	18	18	18	33	49	18	18	9	9	9	9	1	1
Manufacturing	3	6	6	6	11	11	11	11	11	11	20	30	11	11	5	5	6	6	1	0
Electricity, Gas, Water and Waste Services	1	3	3	3	5	5	5	5	5	5	9	14	5	5	3	3	3	3	0	0
Construction	3	6	6	6	12	12	12	12	13	13	23	35	13	13	6	6	6	6	1	0
Wholesale Trade	25	51	52	51	102	101	102	100	102	104	188	281	104	103	50	51	51	52	8	3
Retail Trade	2	3	3	3	6	6	6	6	6	7	12	18	7	6	3	3	3	3	0	0
Accommodation and Food Services	1	2	2	2	4	4	4	4	4	5	8	12	4	4	2	2	2	2	0	0
Transport, Postal and Warehousing	3	7	7	7	14	14	14	14	14	14	26	38	14	14	7	7	7	7	1	0
Information Media and Telecommunications	1	1	1	1	2	2	2	2	2	2	4	6	2	2	1	1	1	1	0	0
Financial and Insurance Services	1	2	2	2	4	4	4	4	4	4	7	11	4	4	2	2	2	2	0	0
Rental, Hiring and Real Estate Services	2	4	4	4	8	8	8	8	8	9	15	23	9	8	4	4	4	4	1	0
Professional, Scientific and Technical Services	5	10	10	10	20	20	20	20	20	20	37	55	20	20	10	10	10	10	2	1
Administrative and Support Services	2	5	5	5	9	9	9	9	9	9	17	25	9	9	5	5	5	5	1	0
Public Administration and Safety	1	1	1	1	3	3	3	3	3	3	5	8	3	3	1	1	1	1	0	0
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arts and Recreation Services	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
Other Services	11	22	22	22	43	43	43	43	43	44	80	119	44	44	21	21	22	22	3	1
Direct	38	77	78	77	153	153	153	152	155	157	283	424	157	156	76	76	77	78	12	4
Indirect	28	56	57	55	111	110	111	110	112	114	205	307	114	112	55	55	56	56	9	3
Total	66	133	135	132	264	263	264	261	266	271	488	731	271	268	131	131	132	134	21	8

**Table 19-36 Contribution to employment (FTEs), national, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	0	1	1	1	2	2	2	2	2	2	3	5	2	2	1	1	1	1	0	0
Mining	4	9	9	8	17	17	17	17	17	17	31	47	17	17	8	8	9	9	1	0
Manufacturing	3	7	7	7	13	13	13	13	13	14	24	37	14	13	7	7	7	7	1	0
Electricity, Gas, Water and Waste Services	1	3	3	3	5	5	5	5	5	6	10	15	6	6	3	3	3	3	0	0
Construction	3	7	7	7	14	13	14	13	14	14	25	37	14	14	7	7	7	7	1	0
Wholesale Trade	26	52	53	52	103	103	103	102	104	106	190	286	106	105	51	51	52	52	8	3
Retail Trade	2	4	4	4	7	7	7	7	7	8	14	20	8	7	4	4	4	4	1	0
Accommodation and Food Services	1	2	2	2	5	5	5	5	5	5	9	13	5	5	2	2	2	2	0	0
Transport, Postal and Warehousing	4	7	8	7	15	15	15	15	15	15	27	41	15	15	7	7	7	7	1	0
Information Media and Telecommunications	1	2	2	2	4	4	4	4	4	4	8	11	4	4	2	2	2	2	0	0
Financial and Insurance Services	2	3	3	3	7	7	7	7	7	7	12	18	7	7	3	3	3	3	1	0
Rental, Hiring and Real Estate Services	2	4	4	4	8	8	8	8	8	8	15	23	8	8	4	4	4	4	1	0
Professional, Scientific and Technical Services	7	14	14	13	27	27	27	27	27	28	50	74	28	27	13	13	13	14	2	1
Administrative and Support Services	3	5	5	5	11	11	11	10	11	11	20	29	11	11	5	5	5	5	1	0
Public Administration and Safety	1	2	2	2	4	4	4	4	4	4	7	10	4	4	2	2	2	2	0	0
Education and Training	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Health Care and Social Assistance	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Arts and Recreation Services	0	0	0	0	1	1	1	1	1	1	1	2	1	1	0	0	0	0	0	0
Other Services	11	22	22	22	44	43	44	43	44	45	81	121	45	44	22	22	22	22	3	1
Direct	38	77	78	77	153	153	153	152	155	157	283	424	157	156	76	76	77	78	12	4
Indirect	33	66	68	66	132	132	132	131	133	136	244	366	135	134	66	66	66	67	10	4
Total	71	143	146	143	286	284	286	282	288	293	527	790	293	290	142	142	143	145	22	8



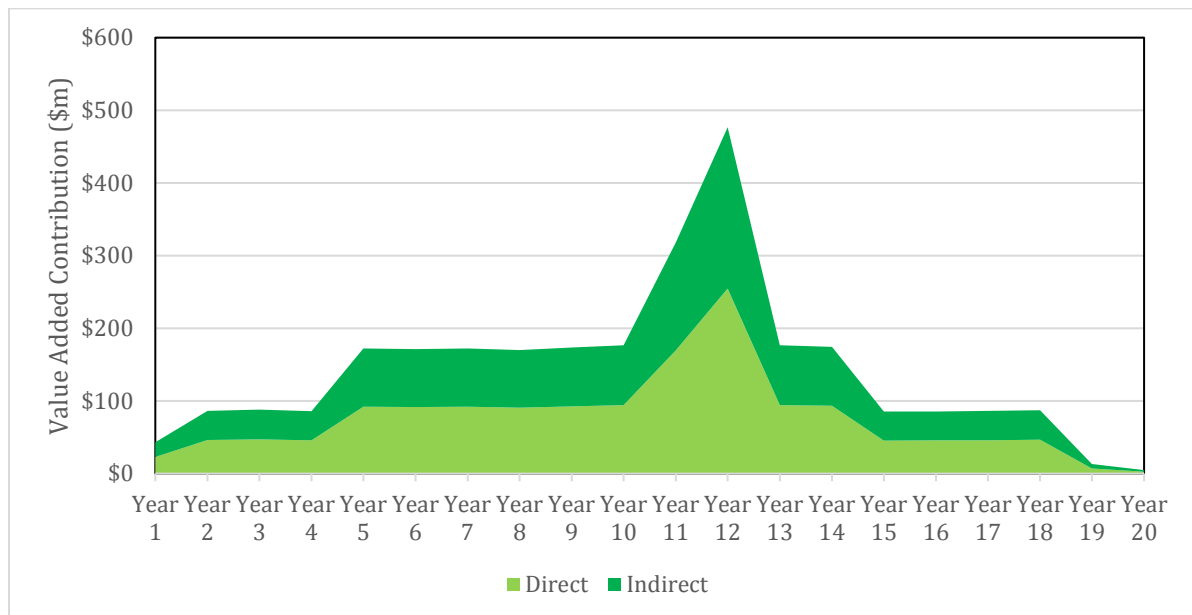
### Value Added

Value added impacts during the operational phase of the Project are anticipated to be highest in 2030, comprising:

- Central Queensland: Value added contribution of \$476.7 million, comprising \$254.5 million in direct value added impacts and \$222.2 million in indirect value added impacts (refer to Table 19-37);
- Rest of Queensland: Value added contribution of \$107.3 million, comprising \$63.6 million in direct value added and \$43.7 million in indirect value added impacts (refer to Table 19-38); and
- National: Value added contribution of \$115.9 million, comprising \$63.6 million in direct value added impacts and \$52.3 million in indirect value added impacts (refer to Table 19-39).

Value added impacts are anticipated to be highest within the wholesale trade sector across all areas analysed.

The direct and indirect value added impacts within the Central Queensland economy during the operational phase are illustrated in Figure 19-9.



**Figure 19-9 Direct and indirect contribution to value added (\$m), Project operational phase**

**Table 19-37 Contribution to value added (\$m), Central Queensland, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.2	\$0.4	\$0.4	\$0.4	\$0.7	\$0.7	\$0.7	\$0.7	\$0.8	\$0.8	\$1.4	\$2.1	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Mining	\$10.9	\$21.9	\$22.3	\$21.8	\$43.6	\$43.4	\$43.6	\$43.1	\$43.9	\$44.7	\$80.5	\$120.7	\$44.7	\$44.2	\$21.6	\$21.7	\$21.8	\$22.1	\$3.4	\$1.3
Manufacturing	\$1.2	\$2.3	\$2.4	\$2.3	\$4.7	\$4.6	\$4.7	\$4.6	\$4.7	\$4.8	\$8.6	\$12.9	\$4.8	\$4.7	\$2.3	\$2.3	\$2.3	\$2.4	\$0.4	\$0.1
Electricity, Gas, Water and Waste Services	\$5.2	\$10.5	\$10.7	\$10.4	\$20.8	\$20.7	\$20.8	\$20.6	\$21.0	\$21.4	\$38.5	\$57.6	\$21.3	\$21.1	\$10.3	\$10.4	\$10.4	\$10.6	\$1.6	\$0.6
Construction	\$1.2	\$2.4	\$2.5	\$2.4	\$4.9	\$4.8	\$4.9	\$4.8	\$4.9	\$5.0	\$9.0	\$13.4	\$5.0	\$4.9	\$2.4	\$2.4	\$2.4	\$2.5	\$0.4	\$0.1
Wholesale Trade	\$15.5	\$31.1	\$31.7	\$31.0	\$62.0	\$61.7	\$62.0	\$61.2	\$62.4	\$63.6	\$114.4	\$171.5	\$63.5	\$62.8	\$30.7	\$30.8	\$31.0	\$31.4	\$4.8	\$1.8
Retail Trade	\$0.3	\$0.6	\$0.7	\$0.6	\$1.3	\$1.3	\$1.3	\$1.3	\$1.3	\$1.3	\$2.4	\$3.5	\$1.3	\$1.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.1	\$0.0
Accommodation and Food Services	\$0.3	\$0.5	\$0.5	\$0.5	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.0	\$3.0	\$1.1	\$1.1	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Transport, Postal and Warehousing	\$2.2	\$4.4	\$4.4	\$4.3	\$8.7	\$8.7	\$8.7	\$8.6	\$8.8	\$8.9	\$16.0	\$24.1	\$8.9	\$8.8	\$4.3	\$4.3	\$4.4	\$4.4	\$0.7	\$0.3
Information Media and Telecommunications	\$0.1	\$0.2	\$0.3	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.4	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.3	\$0.0	\$0.0
Financial and Insurance Services	\$0.5	\$1.0	\$1.1	\$1.0	\$2.1	\$2.0	\$2.1	\$2.0	\$2.1	\$2.1	\$3.8	\$5.7	\$2.1	\$2.1	\$1.0	\$1.0	\$1.0	\$1.0	\$0.2	\$0.1
Rental, Hiring and Real Estate Services	\$0.9	\$1.7	\$1.8	\$1.7	\$3.4	\$3.4	\$3.4	\$3.4	\$3.4	\$3.5	\$6.3	\$9.5	\$3.5	\$3.5	\$1.7	\$1.7	\$1.7	\$1.7	\$0.3	\$0.1
Professional, Scientific and Technical Services	\$1.3	\$2.6	\$2.6	\$2.6	\$5.1	\$5.1	\$5.1	\$5.1	\$5.2	\$5.3	\$9.5	\$14.2	\$5.3	\$5.2	\$2.5	\$2.6	\$2.6	\$2.6	\$0.4	\$0.2
Administrative and Support Services	\$0.5	\$1.0	\$1.0	\$1.0	\$1.9	\$1.9	\$1.9	\$1.9	\$1.9	\$2.0	\$3.5	\$5.3	\$2.0	\$1.9	\$0.9	\$0.9	\$1.0	\$1.0	\$0.1	\$0.1
Public Administration and Safety	\$0.2	\$0.4	\$0.4	\$0.4	\$0.7	\$0.7	\$0.7	\$0.7	\$0.7	\$0.8	\$1.4	\$2.1	\$0.8	\$0.8	\$0.4	\$0.4	\$0.4	\$0.4	\$0.1	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$2.7	\$5.4	\$5.5	\$5.4	\$10.7	\$10.7	\$10.7	\$10.6	\$10.8	\$11.0	\$19.8	\$29.7	\$11.0	\$10.9	\$5.3	\$5.3	\$5.4	\$5.4	\$0.8	\$0.3
Direct	\$23.0	\$46.2	\$47.0	\$46.0	\$92.0	\$91.6	\$91.9	\$90.9	\$92.6	\$94.3	\$169.7	\$254.5	\$94.2	\$93.2	\$45.6	\$45.7	\$46.1	\$46.7	\$7.2	\$2.7
Indirect	\$20.1	\$40.3	\$41.1	\$40.1	\$80.4	\$80.0	\$80.3	\$79.4	\$80.9	\$82.4	\$148.2	\$222.2	\$82.3	\$81.4	\$39.8	\$39.9	\$40.2	\$40.7	\$6.2	\$2.4
Total	\$43.1	\$86.5	\$88.1	\$86.1	\$172.4	\$171.5	\$172.2	\$170.2	\$173.5	\$176.7	\$318.0	\$476.7	\$176.5	\$174.7	\$85.4	\$85.7	\$86.3	\$87.4	\$13.4	\$5.0

**Table 19-38 Contribution to value added (\$m), rest of Queensland, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Mining	\$1.4	\$2.9	\$2.9	\$2.9	\$5.8	\$5.7	\$5.8	\$5.7	\$5.8	\$5.9	\$10.6	\$15.9	\$5.9	\$5.8	\$2.9	\$2.9	\$2.9	\$2.9	\$0.4	\$0.2
Manufacturing	\$0.3	\$0.7	\$0.7	\$0.7	\$1.3	\$1.3	\$1.3	\$1.3	\$1.3	\$1.3	\$2.4	\$3.6	\$1.3	\$1.3	\$0.6	\$0.6	\$0.7	\$0.7	\$0.1	\$0.0
Electricity, Gas, Water and Waste Services	\$0.4	\$0.8	\$0.8	\$0.8	\$1.5	\$1.5	\$1.5	\$1.5	\$1.5	\$1.6	\$2.8	\$4.2	\$1.6	\$1.5	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Construction	\$0.4	\$0.8	\$0.8	\$0.8	\$1.5	\$1.5	\$1.5	\$1.5	\$1.5	\$1.5	\$2.8	\$4.2	\$1.5	\$1.5	\$0.7	\$0.7	\$0.8	\$0.8	\$0.1	\$0.0
Wholesale Trade	\$4.0	\$7.9	\$8.1	\$7.9	\$15.8	\$15.7	\$15.8	\$15.6	\$15.9	\$16.2	\$29.1	\$43.7	\$16.2	\$16.0	\$7.8	\$7.9	\$7.9	\$8.0	\$1.2	\$0.5
Retail Trade	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.3	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Accommodation and Food Services	\$0.1	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.6	\$0.9	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Transport, Postal and Warehousing	\$0.5	\$1.1	\$1.1	\$1.1	\$2.2	\$2.2	\$2.2	\$2.1	\$2.2	\$2.2	\$4.0	\$6.0	\$2.2	\$2.2	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Information Media and Telecommunications	\$0.1	\$0.2	\$0.2	\$0.2	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.9	\$1.3	\$0.5	\$0.5	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Financial and Insurance Services	\$0.3	\$0.6	\$0.6	\$0.6	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$1.1	\$2.0	\$3.1	\$1.1	\$1.1	\$0.5	\$0.5	\$0.6	\$0.6	\$0.1	\$0.0
Rental, Hiring and Real Estate Services	\$0.4	\$0.9	\$0.9	\$0.9	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$1.8	\$3.3	\$4.9	\$1.8	\$1.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.1	\$0.1
Professional, Scientific and Technical Services	\$0.6	\$1.2	\$1.2	\$1.2	\$2.4	\$2.4	\$2.4	\$2.3	\$2.4	\$2.4	\$4.4	\$6.6	\$2.4	\$2.4	\$1.2	\$1.2	\$1.2	\$1.2	\$0.2	\$0.1
Administrative and Support Services	\$0.3	\$0.5	\$0.5	\$0.5	\$1.0	\$1.0	\$1.0	\$1.0	\$1.1	\$1.1	\$1.9	\$2.9	\$1.1	\$1.1	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Public Administration and Safety	\$0.1	\$0.1	\$0.1	\$0.1	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.5	\$0.7	\$0.3	\$0.3	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$0.7	\$1.4	\$1.4	\$1.3	\$2.7	\$2.7	\$2.7	\$2.7	\$2.7	\$2.8	\$5.0	\$7.4	\$2.8	\$2.7	\$1.3	\$1.3	\$1.3	\$1.4	\$0.2	\$0.1
Direct	\$5.8	\$11.5	\$11.8	\$11.5	\$23.0	\$22.9	\$23.0	\$22.7	\$23.2	\$23.6	\$42.4	\$63.6	\$23.6	\$23.3	\$11.4	\$11.4	\$11.5	\$11.7	\$1.8	\$0.7
Indirect	\$4.0	\$7.9	\$8.1	\$7.9	\$15.8	\$15.7	\$15.8	\$15.6	\$15.9	\$16.2	\$29.2	\$43.7	\$16.2	\$16.0	\$7.8	\$7.9	\$7.9	\$8.0	\$1.2	\$0.5
Total	\$9.7	\$19.5	\$19.8	\$19.4	\$38.8	\$38.6	\$38.8	\$38.3	\$39.1	\$39.8	\$71.6	\$107.3	\$39.7	\$39.3	\$19.2	\$19.3	\$19.4	\$19.7	\$3.0	\$1.1

**Table 19-39 Contribution to value added (\$m), national, operational phase**

Industry	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
Agriculture, Forestry and Fishing	\$0.1	\$0.1	\$0.1	\$0.1	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.4	\$0.6	\$0.2	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0
Mining	\$1.4	\$2.7	\$2.8	\$2.7	\$5.4	\$5.4	\$5.4	\$5.4	\$5.5	\$5.6	\$10.0	\$15.0	\$5.6	\$5.5	\$2.7	\$2.7	\$2.7	\$2.8	\$0.4	\$0.2
Manufacturing	\$0.4	\$0.8	\$0.8	\$0.8	\$1.6	\$1.5	\$1.6	\$1.5	\$1.6	\$1.6	\$2.9	\$4.3	\$1.6	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Electricity, Gas, Water and Waste Services	\$0.4	\$0.8	\$0.8	\$0.8	\$1.6	\$1.6	\$1.6	\$1.6	\$1.6	\$1.7	\$3.0	\$4.5	\$1.7	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Construction	\$0.4	\$0.8	\$0.8	\$0.8	\$1.6	\$1.6	\$1.6	\$1.6	\$1.6	\$1.7	\$3.0	\$4.5	\$1.7	\$1.6	\$0.8	\$0.8	\$0.8	\$0.8	\$0.1	\$0.0
Wholesale Trade	\$4.0	\$8.1	\$8.2	\$8.0	\$16.0	\$16.0	\$16.0	\$15.8	\$16.2	\$16.4	\$29.6	\$44.4	\$16.4	\$16.3	\$8.0	\$8.0	\$8.0	\$8.1	\$1.2	\$0.5
Retail Trade	\$0.1	\$0.3	\$0.3	\$0.3	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$0.5	\$1.0	\$1.5	\$0.5	\$0.5	\$0.3	\$0.3	\$0.3	\$0.3	\$0.0	\$0.0
Accommodation and Food Services	\$0.1	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.6	\$0.9	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Transport, Postal and Warehousing	\$0.6	\$1.1	\$1.2	\$1.1	\$2.3	\$2.3	\$2.3	\$2.2	\$2.3	\$2.3	\$4.2	\$6.3	\$2.3	\$2.3	\$1.1	\$1.1	\$1.1	\$1.1	\$0.2	\$0.1
Information Media and Telecommunications	\$0.2	\$0.5	\$0.5	\$0.5	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$0.9	\$1.7	\$2.5	\$0.9	\$0.9	\$0.5	\$0.5	\$0.5	\$0.5	\$0.1	\$0.0
Financial and Insurance Services	\$0.5	\$1.0	\$1.0	\$1.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.0	\$2.1	\$3.7	\$5.6	\$2.1	\$2.1	\$1.0	\$1.0	\$1.0	\$1.0	\$0.2	\$0.1
Rental, Hiring and Real Estate Services	\$0.4	\$0.9	\$0.9	\$0.9	\$1.8	\$1.8	\$1.8	\$1.7	\$1.8	\$1.8	\$3.2	\$4.9	\$1.8	\$1.8	\$0.9	\$0.9	\$0.9	\$0.9	\$0.1	\$0.1
Professional, Scientific and Technical Services	\$0.8	\$1.6	\$1.6	\$1.6	\$3.2	\$3.2	\$3.2	\$3.2	\$3.2	\$3.3	\$6.0	\$8.9	\$3.3	\$3.3	\$1.6	\$1.6	\$1.6	\$1.6	\$0.3	\$0.1
Administrative and Support Services	\$0.3	\$0.6	\$0.6	\$0.6	\$1.3	\$1.2	\$1.3	\$1.2	\$1.3	\$1.3	\$2.3	\$3.5	\$1.3	\$1.3	\$0.6	\$0.6	\$0.6	\$0.6	\$0.1	\$0.0
Public Administration and Safety	\$0.1	\$0.2	\$0.2	\$0.2	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.3	\$0.6	\$0.9	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.0	\$0.0
Education and Training	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Health Care and Social Assistance	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Arts and Recreation Services	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0
Other Services	\$0.7	\$1.4	\$1.4	\$1.4	\$2.7	\$2.7	\$2.7	\$2.7	\$2.7	\$2.8	\$5.0	\$7.5	\$2.8	\$2.8	\$1.4	\$1.4	\$1.4	\$1.4	\$0.2	\$0.1
Direct	\$5.8	\$11.5	\$11.8	\$11.5	\$23.0	\$22.9	\$23.0	\$22.7	\$23.2	\$23.6	\$42.4	\$63.6	\$23.6	\$23.3	\$11.4	\$11.4	\$11.5	\$11.7	\$1.8	\$0.7
Indirect	\$4.7	\$9.5	\$9.7	\$9.4	\$18.9	\$18.8	\$18.9	\$18.7	\$19.0	\$19.4	\$34.9	\$52.3	\$19.4	\$19.2	\$9.4	\$9.4	\$9.5	\$9.6	\$1.5	\$0.6
Total	\$10.5	\$21.0	\$21.4	\$20.9	\$41.9	\$41.7	\$41.9	\$41.4	\$42.2	\$43.0	\$77.3	\$115.9	\$42.9	\$42.5	\$20.8	\$20.8	\$21.0	\$21.3	\$3.3	\$1.2

## 19.6.4 Value of Coal Exported

### 19.6.4.1 Discrepancies in Original EIS

In the original EIS, there were discrepancies identified in Table 3.19 of Appendix 10a – Economic Assessment to the Styx Coal Mine Project EIS. Firstly, in the second column, the production of High Grade Thermal Coal (HGTC) had been reported to occur in years nine and ten of the Styx Coal Project production schedule, rather than in years eleven and twelve and has since been amended.

Secondly, the export prices for both HGTC and Semi-Soft Coking Coal (SSCC) (columns four and five) were stated to have been in Australian Dollars per tonne but the values reported were in US Dollars per tonne. This has since been amended to reflect correct pricing in Australian Dollars.

These errors necessarily had implications for the ‘Export Value’ columns (columns six, seven and eight) which were calculated based on the production schedule and the ‘Export Price’ columns. These columns were stated to have been in Australian Dollars per tonne but the values reported were in US Dollars per tonne and have since been amended. The original export value derived from the production of HGTC which was incorrectly reported to occur in years nine and ten has also been amended to reflect the proper timing of this production.

The calculation of Royalties (column nine) was conducted separately from the ‘Export Value’ columns and was reported correctly in Australian Dollars. However, an addition to the column header has been made to clarify that the royalties are in fact reported in Australian Dollars.

There have been updates to the coal production schedule, with total production volumes over the life of the Project increasing from 36.9 million tonnes to 51.0 million tonnes. Hence for conciseness, only the calculations for the updated production schedule have been provided in subsequent sections of the report, ensuring that the discrepancies in the original EIS were not carried through to the updated production schedule.

### 19.6.4.2 Calculations based on Data Provided by Central Queensland Coal

The Project is anticipated to produce an estimated 51.0 million tonnes of SSCC and HGTC over the life of the Project. The majority of coal produced is anticipated to be SSCC, with HGTC to be produced only during 2029 and 2030 of the Project.

The exchange rate outlook for Australia is anticipated to remain, at least in the medium term, at approximately ~US\$0.76. The price of SSCC is anticipated to decrease marginally from US\$130 per tonne to approximately US\$125 per tonne (or AU\$171 per tonne to approximately AU\$164 per tonne) in the short to medium term. The price of HGTC is anticipated to remain at approximately US\$95 per tonne (or AU\$125 per tonne) in the medium term.

Based on the assumed coal prices and exchange rate, the total export value of the coal produced is estimated to be AUD\$8.2 billion over the life of the Project. Assuming Queensland coal mining royalty rates remain unchanged throughout the life of the Project, this will yield royalties of approximately \$765.0 million over the life of the Project.

It is pertinent to note that both coal prices and exchange rates are subject to fluctuations and shocks, so these estimates are intended to be indicative only, based on the current trade environment.

The anticipated production, export value and royalties generated over the life of the Project, based on export price forecast data provided by Central Queensland Coal is presented in Table 19-40.

**Table 19-40 Anticipated production, export value and Queensland government coal mining royalties**

Year	Production of Saleable Coal (Tonnes)		Export Price (AUD/t)		Export Value (\$m AUD)			Royalties (\$m)
	HGTC	SSCC	HGTC	SSCC	HGTC	SSCC	Total	Total
2019	-	776,547	\$125	\$171	-	\$132.8	\$132.8	\$12.7
2020	-	1,557,629	\$125	\$171	-	\$266.4	\$266.4	\$25.6
2021	-	1,585,876	\$125	\$171	-	\$271.3	\$271.3	\$26.0
2022	-	1,550,328	\$125	\$171	-	\$265.2	\$265.2	\$25.4
2023	-	3,103,832	\$125	\$164	-	\$510.5	\$510.5	\$47.9
2024	-	3,088,214	\$125	\$164	-	\$507.9	\$507.9	\$47.6
2025	-	3,101,055	\$125	\$164	-	\$510.0	\$510.0	\$47.8
2026	-	3,064,975	\$125	\$164	-	\$504.1	\$504.1	\$47.3
2027	-	3,124,445	\$125	\$164	-	\$513.9	\$513.9	\$48.2
2028	-	3,180,912	\$125	\$164	-	\$523.2	\$523.2	\$49.1
2029	950,000	4,715,467	\$125	\$164	\$118.8	\$775.6	\$894.3	\$82.3
2030	3,800,000	4,582,679	\$125	\$164	\$475.0	\$753.7	\$1,228.7	\$109.1
2031	-	3,177,845	\$125	\$164	-	\$522.7	\$522.7	\$49.0
2032	-	3,144,760	\$125	\$164	-	\$517.2	\$517.2	\$48.5
2033	-	1,538,000	\$125	\$164	-	\$253.0	\$253.0	\$23.7
2034	-	1,542,739	\$125	\$164	-	\$253.7	\$253.7	\$23.8
2035	-	1,553,762	\$125	\$164	-	\$255.6	\$255.6	\$24.0
2036	-	1,573,366	\$125	\$164	-	\$258.8	\$258.8	\$24.3
2037	-	241,226	\$125	\$164	-	\$39.7	\$39.7	\$3.7
2038	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4,750,000</b>	<b>46,203,657</b>	<b>-</b>	<b>-</b>	<b>\$593.8</b>	<b>\$7,635.3</b>	<b>\$8,229.0</b>	<b>\$766.0</b>

Note: HGTC – High Grade Thermal Coal, SSCC – Semi Soft Coking Coal

### 19.6.4.3 Alternative Scenario

An additional independent forecast of coal export prices has been provided to inform an alternative scenario, and thus a likely range of values, for the Central Queensland Coal Project export valuation and subsequent Queensland Government royalties estimate.

The alternative SSCC export price scenario is based on a historic average ratio to hard coking coal prices. Since the introduction of quarterly price contracts in April 2010, the price of SSCC has maintained an average of 72.8% of the price of hard coking coal and this relationship is expected to hold in the future. The thermal coal price forecast is based on understanding of market supply and demand fundamentals up to 2022, after which point it has been indexed with inflation.

#### **Coal Price Forecast – Semi-soft Coking Coal and High Quality Thermal Coal**

SSCC is used with hard coking coal to make coke, which in turn is used to produce steel. While hard coking coal is a necessary input into the production of coke due to its coking properties, semi-soft coal is not necessary for technical reasons, but provides a more economic blend of coke, and therefore is widely used across the coke and steel sectors.

As a result, the prices of hard coking coal and SSCC are closely linked, generally moving in similar directions, with semi-soft coal priced at a discount to hard coking coal. While in the short term this discount fluctuates, over a longer period it has consistently averaged 72.8%.

To forecast prices for SSCC, hard coking coal prices have been forecast, and then applied the historical ratio of SSCC prices to hard coking coal prices to forecast the SSCC price across the period 2018-43. The results are discussed in the following sections. A summary of the SSCC price forecast is presented at Table 19-41.

**Table 19-41 Semi-soft coking coal price forecast**

US\$/t	2018	2023	2028	2033	2038	2043
Semi-soft Coking Coal	146	104	118	132	149	168

Thermal coal is used to produce electricity. It is priced independently of coking coal. Since 2009, the average monthly prices of Newcastle benchmark thermal coal (6000 kcal/kg NAR basis) has been \$US83.49. The average price in 2017 was US\$88.20 and in January 2018, prices were consistently above \$US100/t.

The forecast prices for HGTC across the period 2018-43, are discussed in the following sections. A is presented at Table 19-42.

**Table 19-42 High quality thermal coal price forecast**

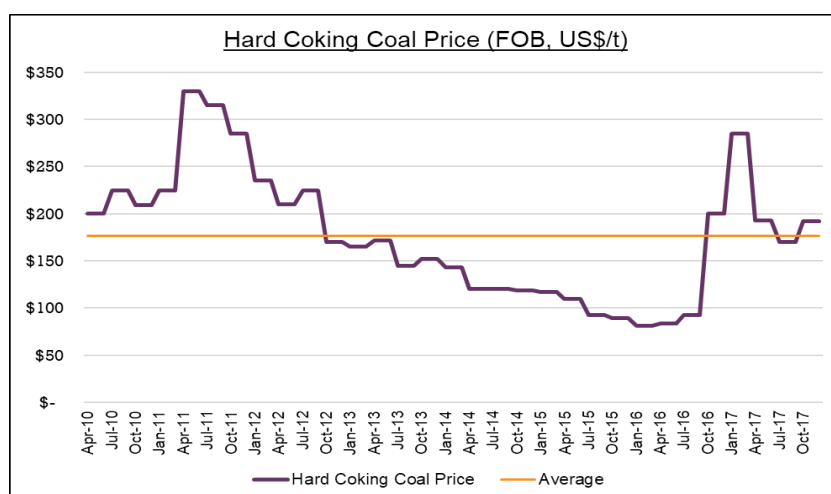
US\$/t	2018	2023	2028	2033	2038	2043
High Quality Thermal Coal	146	104	118	132	149	168

### ***Coking Coal - Historic Pricing Dynamics***

In April 2010 (the start of the Japanese Financial Year), coking coal price contracts moved from an annual basis to a quarterly basis across the industry. Since then, most metallurgical coal – including hard coking coal, semi-soft coal and pulverised coal injection (PCI) coal - has been sold on a quarterly price basis. This has predominantly been driven by the rise of China and India as the largest markets for coking coal imports over the last decade, which has had broader implications than simply changing trade flows and patterns.

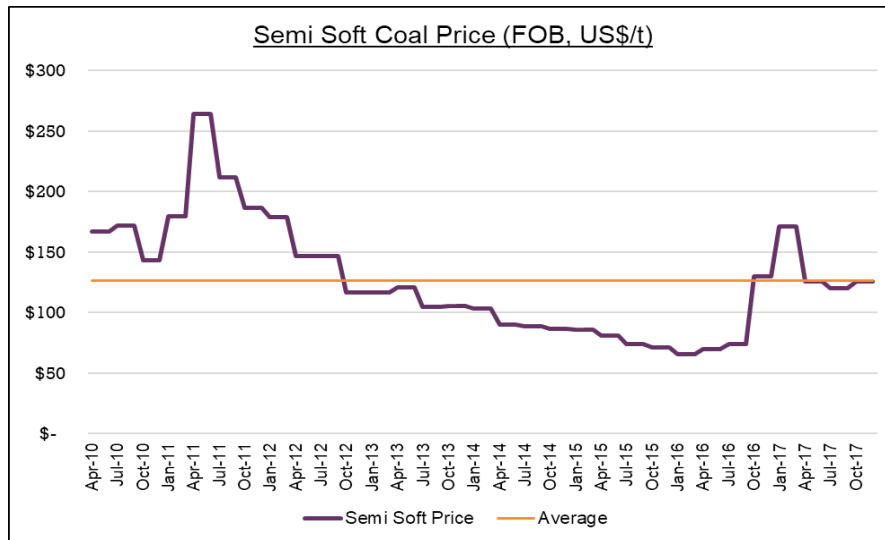
China and India both have domestic metallurgical coal production (in China's case a significant volume) which competes against imports. Therefore, some Chinese consumers only buy imported coal when it is opportune to do so, generally through spot contracts. As a result, there is much more spot buying of coking coal compared to a decade ago. This has been facilitated or encouraged by the move to spot price mechanisms from suppliers, led by BHP Billiton, the largest exporter of coking coal. This resulted in the development of a spot price index in early 2011.

For the purposes of this forecast, historical quarterly prices have been considered for analysis, as they are the most transparent and are still widely applied. Over nearly eight years of quarterly contract pricing, contract prices for hard coking coal have averaged US\$177/t, with a minimum of US\$81/t and a maximum of US\$330/t, as shown at Figure 19-10.

**Figure 19-10 Hard coking coal prices (Free on Board (FOB), US\$/t)**

It should be noted that even if annual pricing structures are included, and a 10-year sample is taken from 2008-17, the average hard coking coal price remains high at US\$182/t. These high average prices over a sustained period illustrate the relative scarcity of hard coking coal.

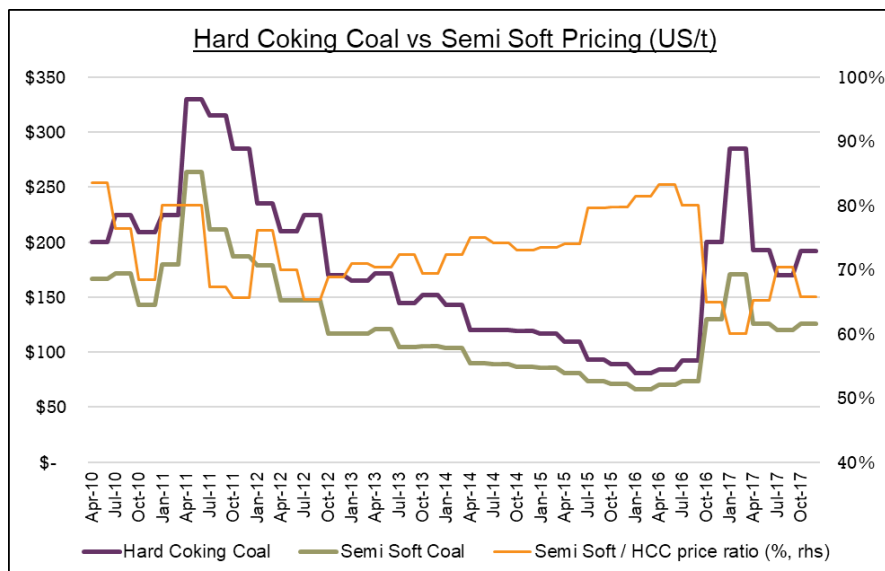
In terms of historical SSCC pricing, over the same period (starting in April 2010 when quarterly price contracts commenced), prices have averaged US\$127/t, with a minimum of US\$66/t and a maximum of US\$264/t, as shown at Figure 19-11.



**Figure 19-11 Semi soft coking coal prices FOB, US\$/t**

As with hard coking coal, the average price over a 10-year period from January 2008 to December 2017 (including some annual contract periods) is slightly higher than the average since April 2010, at US\$131.80/t.

As both hard coking coal and semi-soft coal are used in the coke making process and are to a point substitutes for each other, movements in their prices tend to mirror each other (see Figure 19-12).



**Figure 19-12 Hard coking coal versus semi-soft coking coal prices US\$/t**

The ratio of semi-soft to hard coking coal prices has averaged 72.8% since the introduction of quarterly price contracts in April 2010. This ratio has ranged from 60% to 84% across the period and is generally lower in periods of very high hard coking coal pricing such as October 2016 to March 2017. As hard coking coal prices weaken, the ratio of semi-soft prices to hard coking coal



prices increases – this is clearly illustrated in the period from 2013-2016. This acts as a self-regulating floor for both supply and prices of semi-soft coal.

### **Semi-Soft Coal Price Forecast**

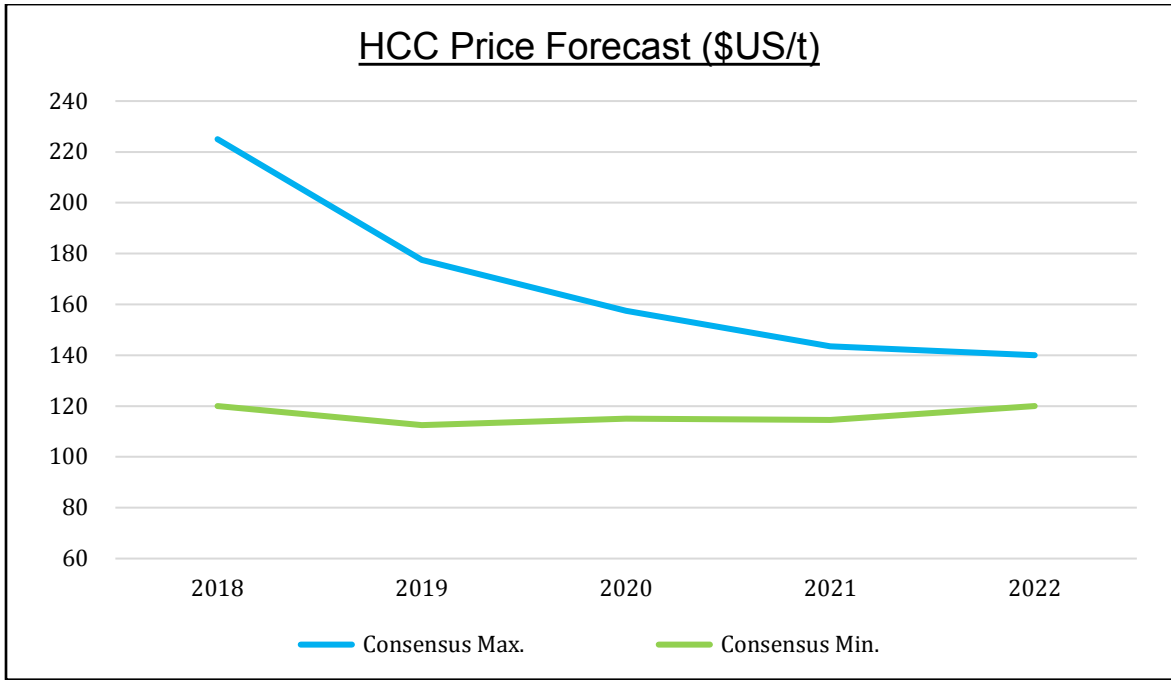
The price forecast for semi-soft (and hard coking coal) for 2018-43 is presented at Table 19-43. To forecast semi-soft prices, the historic average ratio of semi-soft to hard coking coal prices (72.8%) has been applied to the hard coking coal price forecast. It is quite possible that SSCC prices will range around this average ratio (72.8%) over the 25-year forecast period, possibly as widely as the range identified between 2010 and 2017 above (60.0% to 83.5%), based on the prevailing market conditions at the time.

The annual price forecast for semi-soft coal for 2018-43 is shown at Table 19-43 (and hard coking coal as a reference point). All prices are in nominal dollars and are rounded to the nearest dollar.

**Table 19-43 Semi-soft coking coal price forecast, 2018-43**

Year	HCC Price Forecast (US\$/t)	Semi-soft Price Forecast (US\$/t)
2018	200	146
2019	175	127
2020	150	109
2021	140	102
2022	140	102
2023	143	104
2024	147	107
2025	150	109
2026	154	112
2027	158	115
2028	161	118
2029	165	120
2030	169	123
2031	173	126
2032	177	129
2033	182	132
2034	186	135
2035	191	139
2036	195	142
2037	200	145
2038	205	149
2039	210	153
2040	215	156
2041	220	160
2042	225	164
2043	230	168

The forecast is based on the collation of broker and bank forecasts of hard coking coal prices. The range of these price forecasts (as at January 2018) is presented at Figure 19-13.

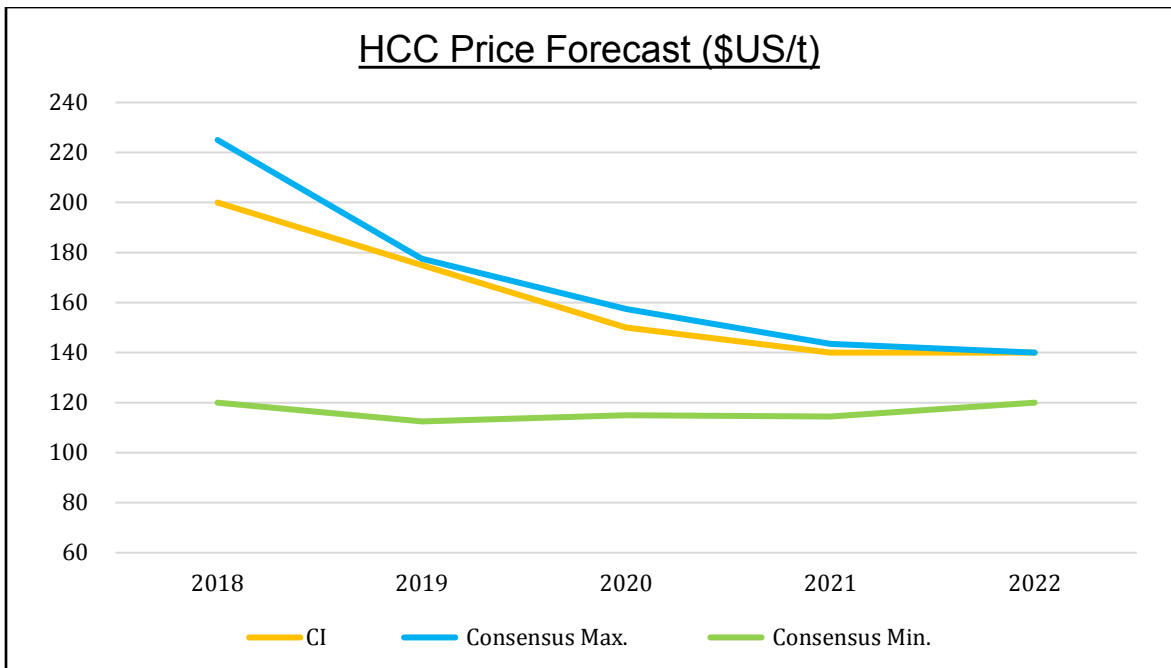


**Figure 19-13 Hard coking coal price forecast US\$/t**

A consensus view of SSCC forecasts is not available.

It should also be noted that the consensus view changes regularly as banks and brokers update their forecasts. Often, the forecasts follow market movements and therefore there is a lag effect.

A chart of the range of consensus views along with the SEIS hard coking price forecast is presented at Figure 19-14. Note that beyond 2022, the SEIS forecast is increased by inflation each year (assumed to be 2.4%).



**Figure 19-14 Hard coking coal price forecast US\$/t (including SEIS forecast)**

### **Central Queensland Coal Semi-Soft Coal**

To accurately assess the potential price for the Project's SSCC, it is necessary to understand the relative coal quality of the Project's coal compared to established benchmarks. Based on a range of coal quality parameters shown at Table 19-44, it was assessed that the Project's SSCC could be classified as a Newcastle-type SSCC and therefore be priced as Newcastle SSCC. As can be seen from Table 19-44, the Project's coal quality is consistently within the range of traded Newcastle SSCC.

**Table 19-44 Relative coal quality semi soft coking coal**

Coal	Total Moisture %	Ash (%)	Volatile Matter (%)	Phosphorus (%)	Sulphur (%)
NSW SS: min.	9.0	5.0	33.5	0.00	0.45
NSW SS: max.	12.0	10.5	39.0	0.07	1.10
Central QLD SS	10.0	6.0	32.0	0.03	0.55

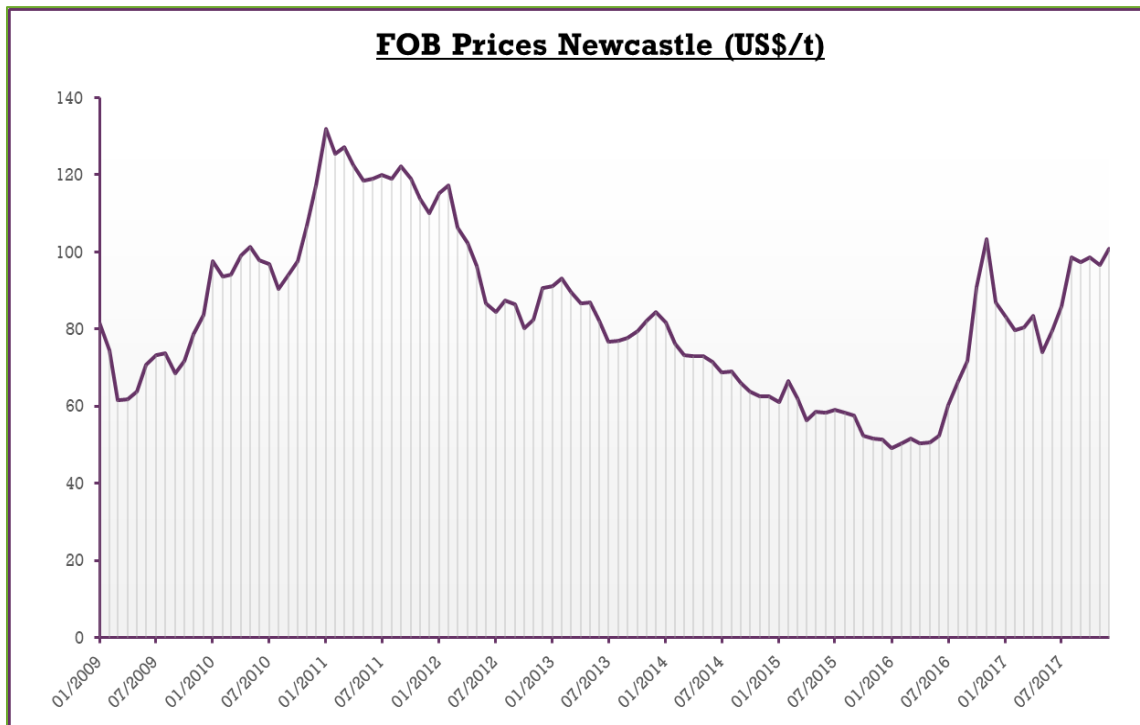
While there is no benchmark specification for SSCC, the Project's coal properties generally fall within the range of traded SSCC through Newcastle. The Project's SSCC has; however, a lower than average volatile matter% and a lower ash content, both of which will be viewed favourably by customers. Overall, Central Queensland Coal is of the view that the Project's SSCC will be priced in line with Newcastle SSCC.

### **Thermal Coal – Historic Pricing Dynamics**

Like hard coking coal, seaborne thermal coal was historically priced on an annual contract basis, agreed to between Japanese power utilities and Australian coal producers for each Japanese financial year (April – March). However, the larger size of the seaborne thermal coal market (approximately three times the hard coking coal seaborne market) and the rapid rise of China and India as major importers has resulted in a significant volume of thermal coal being traded on a spot or index basis.

In 2009, the combined market share of China and India jumped sharply to around 20%, up from 10% in 2008, and it has stayed well above 20% ever since. As well as the volume impact, this had a significant impact on how thermal coal was traded, with the traditional Japanese annual contract structure becoming less important, while India and China purchased large volumes of imports that were priced on an index or spot basis.

Average monthly prices of Newcastle benchmark thermal coal (6,000 kcal/kg NAR basis) since 2009 are presented at Figure 19-15.



**Figure 19-15 Average monthly prices of Newcastle benchmark thermal coal US\$/t**

For the purposes of the SEIS forecast, historical monthly average prices have been used for analysis, as they are highly transparent and cover the analysis period.

The average price over this nine-year period was US\$83.49/t. For reference, the average price over an eight-year period to December 2017 was \$US84.80, and the average price over a 10-year period to December 2017 was US\$87.98.

### ***Thermal Coal Price Forecast***

The price forecast for Newcastle benchmark thermal coal (6,000 kcal/kg NAR basis) for 2018-43 is shown at Table 19-45. Our forecast is based on our understanding of market supply and demand fundamentals out to 2022, after which the price is indexed for inflation.

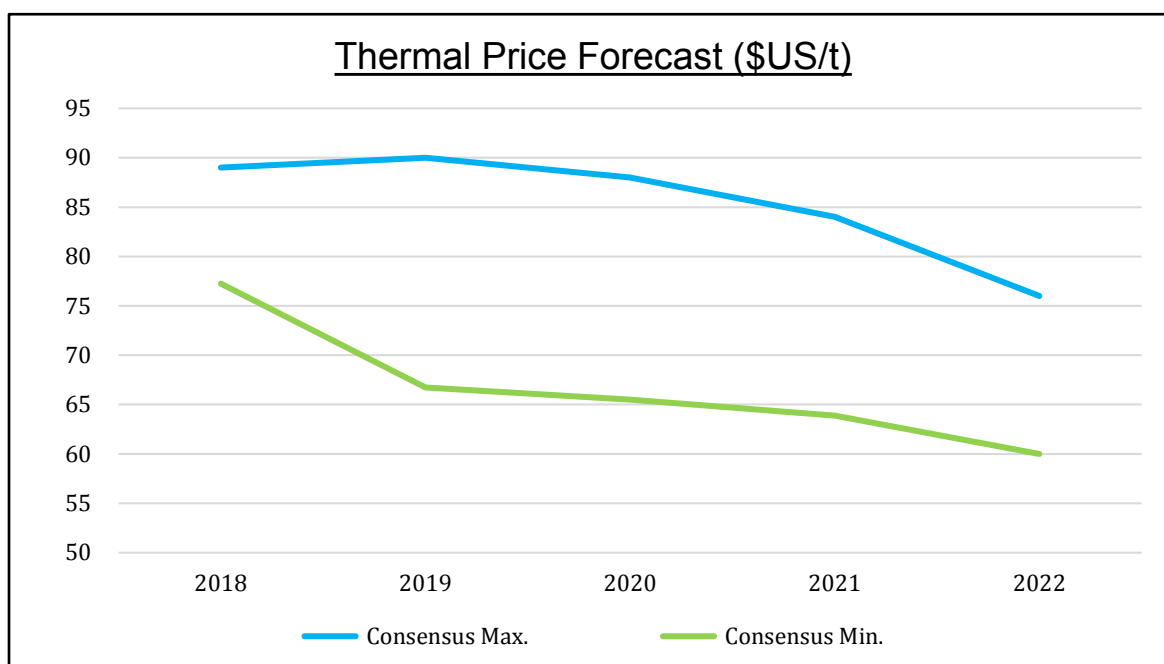
The actual average Newcastle benchmark thermal coal price for 2017 was US\$88.20/t. Reported prices in January 2018 were all above US\$100/t although the monthly average was not available at time of this report.

**Table 19-45 Price forecast for Newcastle benchmark thermal coal (US\$/t)**

<b>Year</b>	<b>Thermal Coal Price Forecast (US\$/t)</b>
2018	87
2019	87
2020	84
2021	80
2022	76
2023	78
2024	80
2025	82
2026	84
2027	86
2028	88

Year	Thermal Coal Price Forecast (US\$/t)
2029	90
2030	92
2031	94
2032	96
2033	99
2034	101
2035	103
2036	106
2037	108
2038	111
2039	114
2040	116
2041	119
2042	122
2043	125

The forecast is based on the collation of broker and bank forecasts of thermal coal prices. The range of these price forecasts (as at January 2018) is presented at Figure 19-16.



**Figure 19-16 Average monthly prices of Newcastle benchmark thermal coal US\$/t**

The consensus view changes regularly as banks and brokers update their forecasts. Often, the forecasts follow market movements and therefore there is a lag effect. For example, thermal coal prices rose strongly in the back half of 2016 and have stayed elevated since and the consensus average price for 2019 has risen US\$13/t from January 2017 to January 2018 (US\$65/t to US\$78/t), and the consensus average price for 2020 has risen US\$8/t over the same period (US\$66/t to US\$74/t).

A chart of the range of consensus views along with the SEIS thermal coal price forecast is presented at Figure 19-17. Note that beyond 2022, the forecast is increased by inflation each year (assumed to be 2.4%).

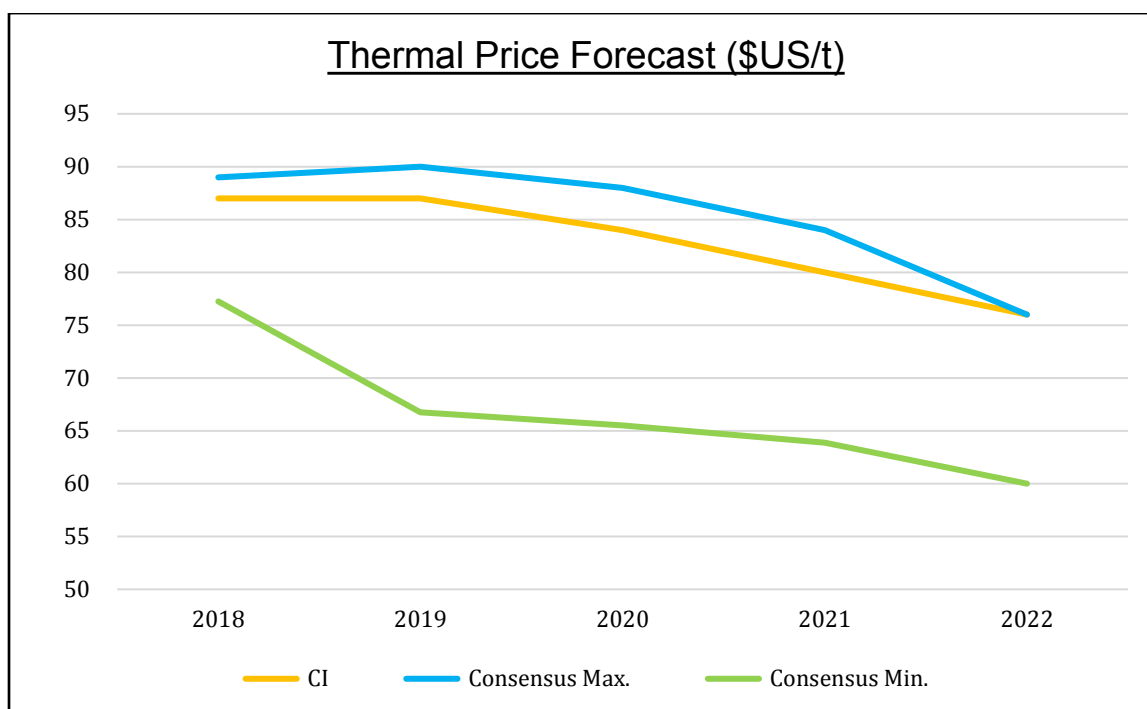


Figure 19-17 Thermal coal price forecast US\$/t (including SEIS forecast)

### Central Queensland Thermal Coal

To accurately assess the potential price for the Project's thermal coal, it is necessary to understand the relative coal quality of the Project compared to established benchmarks. Based on a range of coal quality parameters shown at Table 19-46 (based on a December 2011 coal quality report by Salva Resources), it is considered that the Project's thermal coal could be classified as a Newcastle-type thermal coal and therefore its pricing could be linked to Newcastle thermal coal. As can be seen from the coal quality data shown at Table 19-46, the Project's thermal coal quality is consistently within the range of traded Newcastle thermal coals.

Table 19-46 Relative coal quality thermal coal

Coal	Calorific Value (Net as Received)	Ash (%)	Volatile Matter (%)	Total Moisture (%)	Sulphur (%)
Newcastle thermal: min.	5,850	n/a	27.0	n/a	n/a
Newcastle thermal: max.	n/a	14.0	35.0	15.0	0.75%
Central Queensland Thermal	6,473 (Gross as Received)	9.3	28.6	10.0	0.51%

The Project's thermal coal has low ash levels and high energy content, the latter around 5% above the standard Newcastle specification. Both characteristics will be viewed favourably by customers. The Project's thermal coal also has a moderate sulphur content, while its moisture content and volatile matter are well within acceptable ranges for Newcastle-specification thermal coal.

Based on the coal quality data, it is expected that the Project's thermal coal would be priced in line with Newcastle thermal coal. It is possible; however, that the Project's thermal coal may receive a small premium to Newcastle benchmark pricing due to its favourable ash and energy levels. The Commodity Insights price forecast for thermal coal and SSCC which has been used to inform the alternative export value and Queensland Government royalties' scenario are presented in Table 19-47.

**Table 19-47 Thermal coal and semi-soft coking coal price forecast, 2018-2037**

Year	USD/t		AUD/t	
	TC	SSCC	TC	SSCC
2018	\$87	\$146	\$114	\$192
2019	\$87	\$127	\$114	\$167
2020	\$84	\$109	\$111	\$143
2021	\$80	\$102	\$105	\$134
2022	\$76	\$102	\$100	\$134
2023	\$78	\$104	\$103	\$137
2024	\$80	\$107	\$105	\$141
2025	\$82	\$109	\$108	\$143
2026	\$84	\$112	\$111	\$147
2027	\$86	\$115	\$113	\$151
2028	\$88	\$118	\$116	\$155
2029	\$90	\$120	\$118	\$158
2030	\$92	\$123	\$121	\$162
2031	\$94	\$126	\$124	\$166
2032	\$96	\$129	\$126	\$170
2033	\$99	\$132	\$130	\$174
2034	\$101	\$135	\$133	\$178
2035	\$103	\$139	\$136	\$183
2036	\$106	\$142	\$139	\$187
2037	\$108	\$145	\$142	\$191

Source: Commodity Insights (2018a) and (2018b)

Note: TC - Thermal Coal, SSCC - Semi-soft coking coal

The annual coal price forecast for thermal coal and SSCC was used to inform calculations of the export value of the Project's operations and the subsequent Queensland Government royalties expected to be generated. The results of analysis are reported in Table 19-48. Using the coal price forecasts, the anticipated export prices are significantly lower between 2018 and 2030, though become higher between 2031 and 2037, relative to the Central Queensland Coal forecasts.

This necessarily results in a total export value over the life of the Project that is approximately \$447.6 million (AUD) lower than under the original assumptions. Similarly, the expected Queensland Government royalties that will be generated under the Commodity Insights coal price forecast are significantly lower than in the original case, amounting to approximately \$62.7 million (AUD).

The alternative coal forecast can be used to provide a range of estimates of the total export value of the Central Queensland Coal Project production and the expected Queensland Government royalties to be generated from these exports.

The two price outlook scenarios suggest that the total value of Central Queensland Coal Project exports will be in the order of \$7,781.4 million (AUD) to \$8,229.0 million (AUD) and the resulting Queensland Government royalties generated will be between \$703.3 million (AUD) and \$766.0 million (AUD) over the life of the Project.

**Table 19-48 Production, export value and Queensland government coal mining royalties, commodity insights coal price forecast**

Year	Production of Saleable Coal (Tonnes)		Export Price (AUD/t)		Export Value (\$m AUD)			Royalties (\$m)
	HGTC	SSCC	HGTC	SSCC	HGTC	SSCC	Total	Total
2019	-	776,547	\$114	\$167	\$0.0	\$129.8	\$129.8	\$12.3
2020	-	1,557,629	\$111	\$143	\$0.0	\$223.4	\$223.4	\$19.4
2021	-	1,585,876	\$105	\$134	\$0.0	\$212.8	\$212.8	\$17.9
2022	-	1,550,328	\$100	\$134	\$0.0	\$208.1	\$208.1	\$17.5
2023	-	3,103,832	\$103	\$137	\$0.0	\$424.7	\$424.7	\$36.0
2024	-	3,088,214	\$105	\$141	\$0.0	\$434.8	\$434.8	\$37.4
2025	-	3,101,055	\$108	\$143	\$0.0	\$444.8	\$444.8	\$38.5
2026	-	3,064,975	\$111	\$147	\$0.0	\$451.7	\$451.7	\$39.6
2027	-	3,124,445	\$113	\$151	\$0.0	\$472.8	\$472.8	\$42.0
2028	-	3,180,912	\$116	\$155	\$0.0	\$493.9	\$493.9	\$44.7
2029	950,000	4,715,467	\$118	\$158	\$112.5	\$744.5	\$857.0	\$76.9
2030	3,800,000	4,582,679	\$121	\$162	\$460.0	\$741.7	\$1,201.7	\$105.5
2031	-	3,177,845	\$124	\$166	\$0.0	\$526.9	\$526.9	\$49.6
2032	-	3,144,760	\$126	\$170	\$0.0	\$533.8	\$533.8	\$51.0
2033	-	1,538,000	\$130	\$174	\$0.0	\$267.1	\$267.1	\$25.8
2034	-	1,542,739	\$133	\$178	\$0.0	\$274.0	\$274.0	\$26.8
2035	-	1,553,762	\$136	\$183	\$0.0	\$284.2	\$284.2	\$28.3
2036	-	1,573,366	\$139	\$187	\$0.0	\$294.0	\$294.0	\$29.5
2037	-	241,226	\$142	\$191	\$0.0	\$46.0	\$46.0	\$4.7
2038	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4,750,000</b>	<b>46,203,657</b>	<b>-</b>	<b>-</b>	<b>\$572.5</b>	<b>\$7,208.9</b>	<b>\$7,781.4</b>	<b>\$703.3</b>

Source: Central Queensland Coal

### 19.6.5 Opportunity Cost of the Project

The opportunity cost of any given Project is generally defined as the next best alternative use of the resources that will be foregone because of the Project. Thus, in the Central Queensland region, the most common economic use of the land is for cattle grazing.

The production parameters for cattle grazing in the Central Queensland region are typically:

- Average production cycle: ~3 years;
- Slaughter value: ~\$1,500 per head;
- Stocking rate: ~2 head per hectare; and
- Gross margin: ~15%.

The Project is estimated to have a total mine lease area of approximately 3,027.74 hectares. Hence, the opportunity cost of the Project is the value of the lost production of cattle grazing from the impacted area. Therefore, the opportunity cost of the Project in terms of annual output foregone and annual gross margin foregone were the land utilised for cattle grazing is estimated to be approximately \$3.03 million and \$0.45 million respectively. This analysis conservatively assumes that cattle could have been grazed over the entire mine lease area.



## 19.6.6 Ecosystem Services Foregone

The Project is likely to disrupt and adversely impact a regional ecosystem which provides a habitat for several species, ranging from Least Concern to Of Concern. The total regional ecosystem impacted by the Project is estimated to be 108.22 hectares, consisting of:

- Least concern: 24.87 hectares; and
- Of Concern: 83.35 hectares.

There will also be 1,016.58 hectares of non-remnant vegetation disturbed by the Project.

Details on the regional ecosystem impacted by the Project is provided in Table 19-49.

**Table 19-49 Extent of regional ecosystem impact**

RE Code	VM Act Status	Description	Impacted area (ha)
11.3.4	Of Concern	<i>Eucalyptus tereticornis</i> woodland to open forest. Other tree species that may be present and locally dominant include <i>E. camaldulensis</i> , <i>Corymbia tessellaris</i> , <i>E. coolabah</i> , <i>C. clarksoniana</i> , <i>E. populnea</i> or <i>E. brownii</i> , <i>E. melanophloia</i> , <i>E. platyphylla</i> or <i>Angophora floribunda</i> . <i>E. crebra</i> and <i>Lophostemon suaveolens</i> may be locally dominant. Suitable primary feed for koalas - known to occur nearby.	0.6
11.3.25	Least Concern	<i>Eucalyptus camaldulensis</i> or <i>E. tereticornis</i> open forest to woodland. Other tree species such as <i>Casuarina cunninghamiana</i> , <i>E. coolabah</i> , <i>Melaleuca bracteata</i> , <i>Melaleuca viminalis</i> , <i>Livistona</i> spp. (in north), <i>Melaleuca</i> spp. and <i>Angophora floribunda</i> are commonly present and may be locally dominant. Suitable primary feed for koalas - known to occur nearby.	21.27
11.3.27b	Least Concern	Lacustrine wetland	2.2
11.3.35	Least Concern	<i>Eucalyptus platyphylla</i> , <i>Corymbia clarksoniana</i> woodland on alluvial plains	1.4
11.4.2	Of Concern	<i>Eucalyptus populnea/brownii</i> or <i>E. melanophloia</i> +/- <i>Corymbia dallachiana</i> +/- <i>C. tessellaris</i> +/- <i>E. crebra</i> +/- <i>E. platyphylla</i> woodland. Squatter Pigeons species may forage in this habitat.	82.75
		Non-Remnant Vegetation	1,016.58
		<b>Total</b>	<b>1,124.80</b>

The loss of habitat areas can be categorised as a non-market disbenefit. Guidelines prepared by the Queensland Government set out a range of tools for estimating the value of such non-market benefits as follows:

- Methods based on market prices, for example taking the value of an externality (such as the loss of habitat areas) as equal to the cost of its prevention, its effect on economic production or its effect on loss of individual income via negative health impacts or the costs of activities necessary to avert a negative impact;
- Surrogate or proxy market methods, for example, valuing noise impacts by reference to variations in house prices (hedonic pricing), or valuing a wilderness area by inference from the costs individuals incur in travelling to it; and

- Survey-based methods which seek to obtain individuals' valuations of impacts using question and answer and related data modelling techniques. Examples include contingent valuation and choice modelling.

Each of these methods has advantages and disadvantages in terms of simplicity, reliability, cost and certainty. Contingent valuation for example is adaptable to a range of impact scenarios in terms of type and extent, but the process is expensive, and the results can be subject to conjecture if respondents are unable to comprehend the impact under investigation or the nature of the questioning. Similarly, proxy methods can be expensive and may be constrained by the explanatory power of the available data (such as data reflecting variations in house prices according to environmental attributes). At the other end of the spectrum, some of the methods based on market prices are simple and inexpensive and may be appropriate where the range of potential mitigation strategies are limited or the necessity to avoid a negative impact is not in dispute.

This study uses the 'benefit transfer' technique, in which valuations obtained from primary research conducted for other projects is applied to the project in question.

Environmental values for habitats affected by development can be categorised as being either:

- Use values, being those values derived from physical use of the environmental resources, including commercial activities, such as commercial fishing or tourism, and non-commercial activities, such as recreation;
- Non-use values, which refer to:
  - Ecological function values: the value of the ecological services or functions provided by an environmental resource, such as provision of fish habitats and biodiversity
  - Option values: the benefit derived from maintaining the right to use the resources without necessarily doing so
  - Quasi-option values: the benefit derived from delaying a decision to develop an environmental resource to obtain better information regarding the impacts of that development on the resource
  - Vicarious use values: the value derived by individuals in knowing that others are using the environmental resource
  - Bequest values: the value of maintaining environmental values for the benefit of future generations
  - Existence values: the value derived by members of the community from the knowledge that areas of environmental value exist.

This study adopts the benefit transfer approach utilising values identified in Costanza et al (1997), which estimates the ecosystem services value of forest communities at approximately \$2,400 per hectare per year and of grasslands or rangelands at approximately \$600 per hectare per year (adjusted to 2017 Australia dollars, rounded to the nearest \$100).

Based on a total impacted area of 1,016.58 hectares of directly impacted grassland and 108.22 hectares of directly impacted forestry habitat, the Project is anticipated to have an adverse ecosystem service impact of \$0.87 million per annum, which would have a capitalised value of between \$14.49 million per annum and \$21.74 million per annum based on test discount rates of 6% and 4%, respectively.

## 19.7 Mitigation Measures

The Project is anticipated to result in a range of adverse economic impacts, which will largely be offset by opportunities created by the Project. These adverse economic impacts will likely only be experienced during the life of the Project which is expected to be 20 years. Nonetheless, management of these risks are required to mitigate any potential negative economic consequences. These consequences could potentially entail:

- The opportunity cost of the Project in terms of lost cattle grazing opportunities (although these will largely be offset by the improvement of the economic conditions and opportunities);
- Tightening of the local and regional labour market resulting in increased labour costs unless other skilled labour is promoted in the area through traineeships etc.;
- Potential short-term worsening of skills shortages in the construction sector during the construction phase (although not directly linked to the Project, the issue will generally be apparent across the region);
- Potential localised inflation in residential, commercial and industrial property markets; and
- Increased burden on local and regional infrastructure, particularly during the construction phase.

The potential adverse impacts requiring mitigation are discussed in the following sections.

### 19.7.1 Potential Localised Inflation

The Project has some potential to result in increased housing costs within its host region, particularly during the construction phase. A range of measures to address this issue will be developed through the Project's social impact management strategies.

The Project will utilise a local workforce to the extent possible. Accommodation for the non-local commute workforce will be at new facilities being developed at the Marlborough Caravan Park. The development of the overflow accommodation as an expansion of the existing facilities will mitigate to some degree the potential for inflationary pressures in the housing market.

### 19.7.2 Increased Labour Costs

The Project has the potential to increase labour costs within the region, particularly during the construction phase. To mitigate this potential impact the following actions will be considered:

- Work with Queensland government agencies, Queensland Resource Council, local government and other proponents to develop programs that assist local businesses retain workers and back fill any vacancies that may be created because of the Project. Principally, these programs would seek to encourage locals to re-enter the workforce, upskill the unemployed or underemployed and assist local businesses to retain staff;
- Engagement with Construction Skills Queensland to identify potential measures to increase the capacity of local job seekers to develop relevant skills for construction and mining; and
- Identification of potential funding opportunities and training programs that local training providers can access to increase the available pool of skilled labour in the region.

### 19.7.3 Local and Regional Infrastructure

The Project will be providing water treatment (potable and contaminated sources), stormwater infrastructure, most of its own electricity, and immediate site access road. The Project will likely contribute to minor increases in traffic volumes on the road network, as well as increased utilisation of the North Coast Railway Line for the haulage of coal to Dalrymple Bay Coal Terminal.

## 19.8 Dispute Resolution

Central Queensland Coal is committed to working with anyone impacted by the Project making a complaint or raising a grievance in a timely, respectful and competent manner.

A company representative will be responsible for community liaison in this regard and will:

- Assist Central Queensland Coal in managing the interface between the Project, stakeholders and the community; and
- Be the first point of contact for managing complaints, enquiries and / or comments in relation to the Project.

The Central Queensland Coal representative will be responsible for:

- Coordinating a response to any complaints, enquiries and / or comments received; and
- Monitoring monthly the frequency and number of complaints received.

Central Queensland Coal will develop a complaints and grievance procedure for receiving, managing, investigating and responding to community or stakeholder grievances.

Complaints and grievances about the Project will be able to be lodged:

- In writing or in person to identified staff members;
- By e-mail; and
- By phone.

Any employee or contractors receiving a complaint will record the details on a Complaint Form. The Complaint Form will include sections for:

- Name, address and contact telephone number for the complaint;
- Nature and details of the complaint; and
- Date and time the complaint was received.

The completed Complaint Form will be forwarded to the company representative in a timely manner. The person taking the complaint is to inform the complainant in a timely manner after receiving the initial complaint that (initial response):

- The complaint has been recorded;
- Status of the complaint; and
- When a formal reply is expected to be provided.

The following processes will apply to the investigation, resolution and reporting of complaints received:

- Upon receiving the Complaint Form, an appointed company officer shall investigate the cause of the complaint and liaise with management in developing an appropriate response;
- An initial response to the complainant acknowledging the receipt of the complaint and advising the complainant of the status of the investigation is to be provided as soon as possible upon receiving the complaint;
- The appointed Central Queensland Coal representative shall address the complaint and communicate a full response to the complainant in an appropriate medium within the timeframe in the initial response;
- The full complaint response and any identified action will be recorded in the Complaints Register to be developed for the Project;
- The action plan to correct any valid issues which lead to the complaint will be implemented as soon as practicable.
- Action(s) will be monitored by the appointed Central Queensland Coal representative to ensure they are implemented satisfactorily.

Once the Central Queensland Coal representative is satisfied the action(s) have been completed, they will record this on the Complaints Form and the Complaints Register.

## 19.9 Cumulative Impact Assessment

This section examines the potential implications and impacts of a number of major projects being developed within the study area at the same or similar time as the Project which added to current projects may increase the strain in the region (refer to Table 19-12). Given the limited information available regarding many of the proposed projects and uncertainty regarding which projects may ultimately be developed, this section does not attempt to quantify these impacts. Instead, the cumulative impact assessment provides a qualitative discussion of the types of beneficial and adverse impacts that would be expected if several major projects were to be developed simultaneously.

### 19.9.1 Beneficial Cumulative Impacts

Simultaneous projects in the study area can lead to beneficial cumulative impacts to the region. These can include:

- A significant overall lift in economic activity in the study area through construction and operation of major projects, including significant growth in labour demand (jobs growth) as well as a lift in Gross Regional Product. This increase would be above that generated by the Project in isolation;
- Flow-on impacts from construction and operation of many large projects would also be higher than for the Project in isolation;
- Business, consumer and investor confidence is influenced by economic conditions including economic growth, investment and spending patterns. Development of several major projects would represent significant investment and expenditure within the local economy, and would provide a lift in confidence for business, consumers and investors alike, supporting flow-on

stimulus for further investment and consumption expenditure and, subsequently, economic growth;

- Development of additional projects would result in additional government revenues through a range of taxes. Many of the projects would also deliver considerable increases to government revenue through royalty payments for extraction of resources;
- Some of the projects from this cumulative impact assessment, if developed, may provide major infrastructure upgrades to the region to facilitate long-term economic growth;
- Many of the projects from this cumulative impact assessment are primarily export oriented developments. Development of these projects would contribute to a considerable increase in Australian exports, and thereby support the Australian dollar;
- Sustained population supporting existing services and facilities;
- Increased employment opportunities for people in the mining industry;
- Sustained and increased economic activity, employment and incomes; and
- Direct benefits for support industries (such as maintenance) and flow on industries (such as retail and accommodation).

### 19.9.2 Adverse Cumulative Impacts

Simultaneous projects in the study area can also lead to adverse cumulative impacts for the local, state and national economy. These can include:

- Development of several projects concurrently will increase demand for a range of skilled labour. Key outcomes may include:
  - Increased upward pressure on wage rates, particularly in the construction and resources sectors. Other industries would also experience upward pressure as wage differentials result in the movement of staff between industries;
  - Exacerbating the “draw-down” effect on business because of labour movement and difficulties in back-filling vacated positions. Rising labour costs would increase difficulties in sourcing local labour and attracting and retaining skilled labour. Lower income paying industries, and industries and businesses with lower profit margins would be most affected as these businesses and industries have a lower capacity to increase expenditure on staff incomes to attract and retain labour;
  - Higher start-up and operating costs would likely result in “crowding out” of some businesses due to reduced business profitability. Those businesses and industries operating at or near the margin would likely be the worst affected;
- Development of several export orientated projects could affect exchange rates. Whilst this can benefit importers, a high exchange rate makes Australia’s goods and services more expensive for foreign buyers. This can adversely impact demand for goods and services produced by trade exposed businesses and industries because of reduced overseas demand for these products and a transfer of domestic expenditure towards imports and foreign investments;
- Development of many projects would increase labour demand, this may require sourcing a considerable proportion of labour from outside the study area. The subsequent influx of

workers has the capacity to significantly increase demand for housing and accommodation in the region;

- Industrial and commercial property values may also rise because of concurrent development of many projects. Flow-on impacts in terms of supply chain development and other support services will increase demand for this type of property, and if demand were to outpace development of new supply, this would likely raise sales and rental prices for this type of property in the short term;
- Development of the projects from the cumulative impact assessment could generate some infrastructure capacity constraints because of increased demand for transport, utilities and other types of enabling infrastructure;
- Population growth placing demand on social infrastructure such as child care, education, emergency services and health; and
- Impacts on agricultural production from land disruption.

## 19.10 Qualitative Risk Assessment

A qualitative risk assessment process has been undertaken for the economic impacts of the Project. The assessment of impacts utilises a risk-based assessment framework based on the anticipated interaction of probability and consequence of impacts occurring. The descriptors of the likelihood of a particular event occurring and the descriptors of the consequence of the impact occurring are at Table 19-50 and Table 19-51.

**Table 19-50 Qualitative measure of likelihood**

Descriptor	Description
Almost certain	It is expected to occur in most circumstances
Likely	It will probably occur in most circumstances
Possible	Might occur at some time
Unlikely	Could occur but not expected
Rare	May only occur in very exceptional circumstances
Remote	Has not previously manifested but is not inconceivable

**Table 19-51 Qualitative measures of consequence**

Descriptor	Description of Beneficial Impacts	Description of Adverse Impacts
Negligible	Very insignificant impacts, which would be unlikely to be measurable against benchmarks.	Very insignificant impacts, which would be unlikely to be measurable against benchmarks.
Minor	Impacts may be detectable but result in only minimal changes to the established environment with the magnitude of impact being small relative to the broader context of the population / area being impacted. Benefits maintained over the short term without extended management and/or works.	Impacts may be detectable but result in only minimal changes to the established environment with the magnitude of impact being small relative to the broader context of the population / area being impacted. Return to pre-impact levels achievable and expected to occur over the short term once management initiatives are implemented.
Moderate	Detectable impacts, resulting in significant changes to the environment. The benefit is maintained over the medium term with minimal management and/or works.	Detectable impacts, resulting in significant changes to the environment. Management initiatives can result in recovery in the medium term.
Major	Broader and longer term impacts likely to result in a highly changed environment. The benefit is maintained over the longer term with minimal management and/or works.	Broader and longer term impacts likely to result in a highly changed environment. Long term and sustained effort required to affect a recovery.



Descriptor	Description of Beneficial Impacts	Description of Adverse Impacts
Extraordinary	Broader and longer term impacts likely to result in a highly changed environment. The benefit is maintained over the longer term without management and/or works.	Broader and longer term impacts likely to result in a highly changed environment. Recovery to pre-impact levels unlikely to occur despite mitigation and intervention.

The interaction of likelihood and consequence determine the extent of impact. Table 19-52 outlines the matrix of interactions between different likelihoods and levels of consequence, which determine the level of impact (i.e. very low, low, medium, high, very high).

**Table 19-52 Qualitative impact assessment matrix**

Likelihood	Consequence				
	Negligible	Minor	Moderate	Major	Extraordinary
Remote	Very Low	Very Low	Very Low	Low	Medium
Rare	Very Low	Very Low	Low	Medium	Medium
Unlikely	Very Low	Low	Low	Medium	High
Possible	Very Low	Low	Medium	High	High
Likely	Low	Medium	Medium	High	Very High
Almost certain	Low	Medium	High	Very High	Very High

### 19.10.1.1 Beneficial Impacts

The Project is anticipated to result in a range of beneficial impacts including:

- Economic stimulus to the regional, state and national economies during the construction and operational phases of the Project;
- Export revenues from coal produced across the life of the mine is estimated to be in the order of \$7.78 billion to \$8.23 billion, which assuming royalty rates remain unchanged would yield royalties of approximately \$703.3 million to \$766.0 million over the life of the mine;
- Increased employment opportunities within Central Queensland which would help to reverse the trend of increasing unemployment within the region; and
- Opportunities for suppliers in the Central Queensland region to support the construction and operation of the Project.

An assessment of the anticipated positive economic impacts resulting from the Project is at Table 19-53.

**Table 19-53 Assessment of positive economic impacts**

Description of Impact	Likelihood	Consequence	Impact
<p><b>Economic stimulus to the regional economy during construction and operation</b></p> <ul style="list-style-type: none"> <li>• Regionally based Project expenditures during the construction phase are estimated to make contributions to GRP at an average of \$6.2 million per year over 2019 to 2033, including \$2.7 million of direct value added (Table 19-25); and</li> <li>• Regionally based Project expenditures during the operation phase are estimated to make contributions to GRP at an average of \$142.5 million per year over the life of the Project, including \$76.1 million of direct value added (Table 19-37).</li> </ul>	Almost Certain	Moderate	High (+ve)



Description of Impact	Likelihood	Consequence	Impact
<p><b>Economic stimulus to the state economy during construction and operation</b></p> <ul style="list-style-type: none"> <li>State based Project expenditures during the construction phase are estimated to make contributions to GRP at an average of \$2.5 million per year over 2019 to 2033, including \$1.3 million of direct value added (Table 19-26); and</li> <li>State based Project expenditures during the operation phase are estimated to make contributions to GRP at an average of \$32.1 million per year over the life of the Project, including \$19.0 million of direct value added (Table 19-37).</li> </ul>	Almost Certain	Minor	Low (+ve)
<p><b>Economic stimulus to the national economy during construction and operation</b></p> <ul style="list-style-type: none"> <li>Project expenditures incurred interstate during the construction phase are estimated to make contributions to GDP at an average of \$2.4 million per year over 2019 to 2033, including \$1.1 million of direct value added (Table 19-39); and</li> <li>Project expenditures incurred interstate during the operation phase are estimated to make contributions to GDP of \$34.6 million over the life of the Project, including \$19.0 million of direct value added (Table 19-39).</li> </ul>	Almost Certain	Minor	Low (+ve)
<p><b>Increased regional supply chain and employment opportunities throughout construction and operation</b></p> <p>The Project is anticipated to generate additional regional supply chain activity. The volume of this activity is represented by the output measure. During the operational phase of the mine, total output impacts, pertaining to the Central Queensland region, are estimated at an average of \$343.3 million per annum, including \$169.3 million in direct impacts (Table 19-28).</p> <p>The employment support generated by the local supply chain activity is estimated at an average of 863 FTEs per annum, including 507 direct FTEs per annum (Table 19-34).</p> <p>Operational employment on-site is estimated by Central Queensland Coal to be between 100 (2019) to 500 workers at full production (2030).</p>	Almost Certain	Moderate	High (+ve)

### 19.10.1.2 Adverse Impacts

Theoretically, the Project could result in a range of adverse impacts including:

- Opportunity cost of the Project in terms of foregone output from cattle grazing in the order of \$3.03 million per annum which represents \$0.45 million in gross annual margin foregone;
- Loss of ecosystem services within areas directly impacted by the mine's operation with a value estimated at \$0.87 million per annum, which would have a capitalised value in the order of \$14.49 million per annum to \$21.74 million per annum, based on directly impacted grassland and forestry habitats of 1,124.8 hectares;
- Tightening of the local and regional labour market potentially resulting in increased labour costs;
- Potential for skills shortages;
- Potential for inflationary pressure in the Central Queensland housing market;

- Potential for inflationary pressure in the Central Queensland commercial and industrial property markets; and
- Increased burden on Central Queensland infrastructure.

An assessment of the anticipated positive economic impacts resulting from the Project is at Table 19-54.

**Table 19-54 Qualitative risk assessment of negative economic impacts**

Issue and associated Project phase	Potential impacts	Likelihood	Consequence	Impact	Mitigation measures	Residual risk
<b>Adverse Impacts</b>						
<b>Opportunity cost of the Project</b>	<ul style="list-style-type: none"> <li>The opportunity cost of the Project in terms of alternative economic uses (i.e. beef cattle) estimated in terms of forgone output is estimated to be approximately \$3.03 million, which represents an average annual gross margin of approximately \$0.45 million respectively.</li> </ul>	Almost Certain	Minor	Medium	<ul style="list-style-type: none"> <li>This potential impact is likely to be substituted by the economic benefits of the Project.</li> </ul>	Low
<b>Loss of ecosystem services</b>	<ul style="list-style-type: none"> <li>Based on a total area of 1,124.80 hectares of directly impacted woodland and grassland habitat, the Project is anticipated to have adverse ecosystem service impacts of \$0.87 million per annum, which would have a capitalised value in the order of \$14.49 million and \$21.74 million per annum based on test discount rates of 6% and 4% respectively.</li> </ul>	Almost Certain	Minor	Medium	<p>To ensure the Project does not result in additional unforeseen direct impacts to remnant vegetation, the following measures are proposed:</p> <ul style="list-style-type: none"> <li>Prior to construction, Project design may be further altered to avoid clearing areas of threatened vegetation communities and habitat for threatened species where possible;</li> <li>Vegetation located adjacent to the Project construction works will be appropriately marked to avoid unnecessary clearing / vegetation damage;</li> <li>The open cut pit areas will be backfilled and rehabilitated as the mine progresses;</li> <li>Monitoring of vegetation health in remnant vegetation adjacent to the mining activities to identify whether indirect impacts are occurring because of dust and mine run off contamination; and</li> <li>Where impacts are identified, an adaptive management program will be in place to actively respond and develop remediation strategies according to the identified source of impacts.</li> </ul> <p>Please see Chapter 14 – Terrestrial Ecology for further information.</p>	Low

Issue and associated Project phase	Potential impacts	Likelihood	Consequence	Impact	Mitigation measures	Residual risk
<b>Increased inflationary pressure in regional labour markets</b>	<ul style="list-style-type: none"> <li>The project is anticipated to generate a significant amount of employment demand throughout its construction and operational phases. If the regional economy was facing an employment constraint this additional employment would have the potential to create inflationary pressure in the labour market. However, labour market conditions have been deteriorating at both the regional and state levels. As such, the potential for the Project to materially add to wage inflation at a regional or state level is considered low.</li> </ul>	Unlikely	Minor	Low	<ul style="list-style-type: none"> <li>A range of measures to address this issue will be addressed in the Project's social impact management strategies; and</li> <li>The Project will include accommodation facilities if required, thus the potential for inflationary pressures in the housing market will be mitigated to some degree.</li> </ul>	Low
<b>Potential for inflationary pressure in local housing, commercial and industrial property markets</b>	<ul style="list-style-type: none"> <li>Projects that generate significant employment and supply chain demand can have impacts on local and regional property markets in the form of inflationary pressure.</li> <li>It is considered that the potential impact of the Project to cause significant inflationary pressure in the local property market is low.</li> </ul>	Rare	Minor	Very Low	<ul style="list-style-type: none"> <li>To mitigate this potential impact, the Project will implement a Housing and Accommodation Strategy and Local Business and Industry Content Strategy.</li> </ul>	Very Low

## 19.11 Conclusion

The Project has the potential to generate economic benefits for the region, state and nation. Key benefits of the Project identified in the economic assessment include:

- Economic stimulus to the regional, state and national economy during construction and operation;
- Export revenue associated with the sale of coal, which in turn will result in the payment of royalties of approximately \$703.3 million to \$766.0 million over the life of the Project; and
- Increased regional supply chain and employment opportunities throughout construction and operation.

Whilst the Project will provide economic benefits, the Project will also likely result in adverse impacts, including:

- Opportunity cost of the Project in terms of alternative economic uses such as beef cattle grazing;
- Loss of ecosystem services;
- Increased inflationary pressure in regional labour markets; and
- Potential for inflationary pressure in local housing, commercial and industrial property markets.

The adverse impacts will be mitigated by sourcing goods and services locally, where possible.

## 19.12 Commitments

In relation to economic impacts, Central Queensland Coal's commitments are provided in Table 19-55.

**Table 19-55 Commitments –economics**

Commitments
Prepare and implement local business and industry content strategies, inclusive of: <ul style="list-style-type: none"> <li>▪ How Central Queensland Coal will engage with industry and promote procurement opportunities and capability in the LSC and RRC areas;</li> <li>▪ Identify capable industries within the LSC and RRC areas to support the Project; and</li> <li>▪ Engage with contractors based on the most competitive tender proposal that shall include consideration of direct and indirect cost factors, past performance, reliability, maintainability, innovation, whole of life costs, value, safety, compliance, environmental sustainability performance, financial capability and supply chain reliability.</li> </ul>
Support businesses in the LSC and RRC areas to encourage the ongoing development of these regions.
Promote and implement fair and equitable access to businesses in the LSC and RRC areas to supply chain opportunities associated with the Project.

## 19.13 ToR Cross-reference Table

**Table 19-56 ToR cross-reference**

Terms of Reference	Section of the EIS
<b>8.15 Economic</b>	
Assess the potential adverse and beneficial economic impacts of the project.	Sections 19.6, 19.9 and 19.10
Separately address the major stages of the project (e.g. construction, operation, decommissioning).	Sections 19.5 and 19.6
Quantify economic impacts where suitable data and methodology can be applied; otherwise, qualitatively assess the impacts.	Section 19.10
The ES should at least address: <ul style="list-style-type: none"> <li>labour demand, including the ability for labour to be drawn from the existing local workforce; and the potential effects this may have on local businesses; and</li> <li>relevant prices, which might include wages, input costs and/or household goods and services</li> </ul>	Sections 19.4.2.3, 19.6, 19.9 and 19.10