



**NEW HOPE**  
GROUP

## 17. Economics



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# 17 Economics

## 17.1 Introduction

This Chapter provides an assessment of the economic impacts of the revised Project, including during construction, operation and decommissioning phases. Strategies to maximise benefits and minimise impacts on local and regional communities are also discussed.

### 17.1.1 Methodology

The economic assessment addresses **Section 7** of the ToR for the revised Project, describing existing economic conditions for economies materially impacted by the revised Project, as well as outlining the type and extent of impacts.

The existing economy (**Section 17.2** of this Chapter) has been described in terms of economic production, employment and labour force characteristics, key industries and future economic development. An overview of household characteristics including the housing market is also provided. **Chapter 16** of the EIS 'Social values and management of impacts' provides an overview of the education and training and health care and social assistance industries in the region.

**Section 17.3** of this Chapter provides an assessment of economic impacts which may occur throughout the revised Project's construction, operation and decommissioning. These impacts may include increased value of production, increased wages and salaries, impacts on labour markets and employment as well as opportunity costs of alternative land uses (agricultural production). Impacts are discussed both quantitatively and qualitatively including:

- Input-Output (IO) modelling to estimate the revised Project's contribution to economic output, value added, employment and household income. The modelling provides estimated contributions to the regional Study area (see **Section 17.3.1** of this Chapter), Queensland as a whole and the total for Australia;
- Discussion on affected industries, including any implications on future development as a direct result of the revised Project;
- Assessment of changes to property management;
- Quantitative estimates of the revised Project's opportunity cost of alternative land uses (agriculture) including output and employment impacts; and
- Identification of economic risks and mitigation strategies, including strategies for enhancing local participation

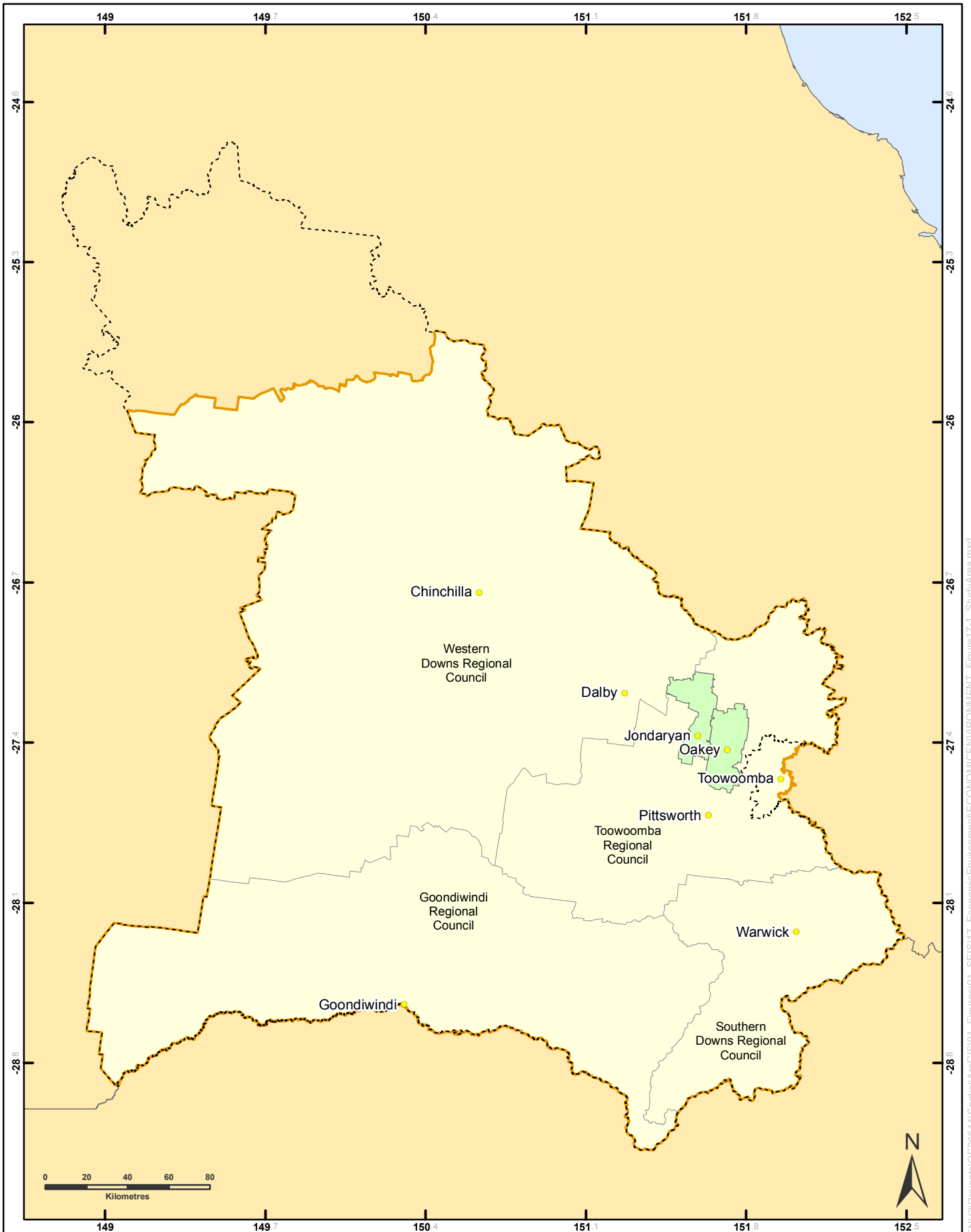
Data sources which have informed this assessment include the Australian Bureau of Statistics (ABS) and the Queensland Treasury's Office of Economic and Statistical Research (OESR). Data is generally disaggregated for the local and regional study areas compared to observed averages in the whole of Queensland (where relevant).

### 17.1.2 Study area

The local Study area for this assessment is Australian Bureau of Statistics (ABS) defined Postal Areas of 4401 and 4403, which consists of the Acland locality and surrounding rural townships including Jondaryan and Oakey. A significant portion of economic impacts are expected to extend beyond local Study area due to fixed labour and materials supply within a smaller local economy, and industry linkages which exist across regional boundaries. Therefore, a broader perspective has been allowed which provides a regional overview of economic activity, including other major developments. The regional Study area for this assessment is therefore defined as the following local government areas (in their entirety):

- Toowoomba Regional Council (the local Study area is located within this council);
- Goondiwindi Regional Council;
- Southern Downs Regional Council; and
- Western Downs Regional Council.

The local and regional study areas are depicted in **Figure 17-1**.



**LEGEND**

- Towns and Localities
- Darling Downs Statistical Division (ABS 2006)
- Regional Study Area
- Local Government Area
- Local Study Area
- Mainland



**NEW ACLAND COAL MINE  
STAGE 3 PROJECT**

**Figure 17-1 - Study Area for  
Economics Assessment**

Scale 1:2,450,000 on A4

Projection: Australian Geodetic Datum – Zone 56 (AGD84)

## 17.2 Existing environment

### 17.2.1 Population

**Table 17-1** provides the recorded census population (2011) in the local and regional study areas compared to Queensland. The total population of the local Study area was 6,240 persons, and comprised approximately 3 per cent of the regional study area. The regional study area's contribution to Queensland population was approximately 5 per cent of the total recorded population.

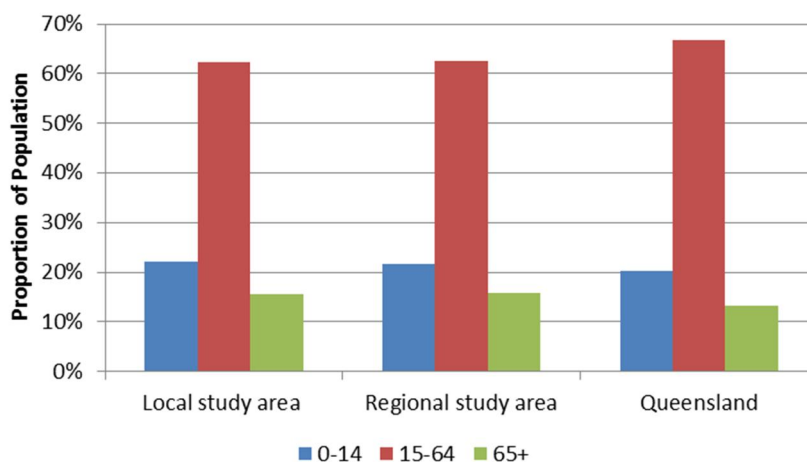
**Table 17-1 Total recorded census population (2011)**

Locality	Local Study area	Regional study area	Queensland
Persons	6,240	227,282	4,332,737

Source: ABS, 2012

Within any given region, population growth and the age profile of the region are both important drivers of economic growth. The age profile in particular serves as an indicator of the proportion of the population of working age. **Figure 17-2** provides the age profile of the local and regional study areas compared to Queensland as a whole. The data shows that the age profile in the local and regional study areas are identical and are similar to the Queensland average, although Queensland overall has a slightly higher proportion of the population between working ages. Overall, there were 3,894 persons of working age in the local Study area and 141,939 total in the regional study area.

Between 2010 and 2011, the population growth in the regional Study area was modest compared to the Queensland average, at 0.3 per cent compared to 1.1 per cent. Within the regional study area, the largest increase in the population occurred in the Western Downs Regional Council, with an annual change of 671 persons. Toowoomba Regional Council had the largest natural increase in population (1,171 persons); however net migration out of the region was almost equal to this natural increase, at 1,159 persons. The resulting annual population change was only 12 persons.



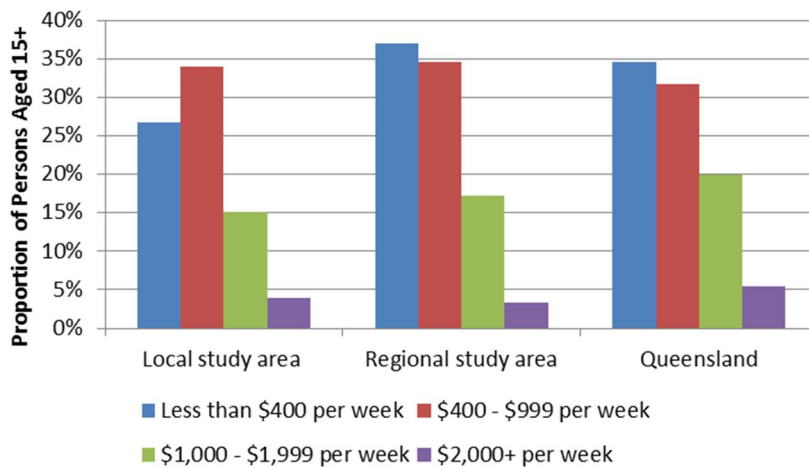
**Figure 17-2 Age Profile**

Source: ABS, 2012

## 17.2.2 Community profile

### Income

**Figure 17-3** provides weekly personal income categories as a proportion of total population. The data indicates that personal income in the local Study area is generally lower than the regional Study area and the Queensland average. This is reflected in the median total weekly personal income in Oakey and Jondaryan (the local study area) which was \$510 and \$466 respectively, compared to \$587 in Queensland.



**Figure 17-3 Total weekly personal income**

Source: OESR, 2013 and ABS, 2012

### Household characteristics and housing market

**Table 17-2** outlines dwelling types in the local and regional study areas compared to the whole of Queensland. In all regions, the majority of dwellings types are separate houses. The data also indicates that within the regional Study area there is a significant number of unoccupied dwellings (10,459 dwellings). While in terms of the overall proportion of dwellings, unoccupied dwellings in the regional Study area are generally consistent with the Queensland average, the total number indicates potential for the revised Project workforce to find accommodation in the regional study area. The average household size in the local Study area (and in Queensland overall) was 2.6 persons compared to 2.5 persons in the regional study area.

**Table 17-2 Dwelling Types**

Dwelling Type	Local study area		Regional study area		Queensland	
	No.	% of total	No.	% of total	No.	% of total
Separate House	2,015	84%	72,689	78%	1,215,303	70%
Semi-Detached	13	1%	2,680	3%	129,430	8%
Flat, Unit, Apt	84	3%	6,694	7%	181,716	11%
Unoccupied	273	11%	10,549	11%	177,911	10%
Total	2,412	100%	93,381	100%	1,725,214	100%

Source: ABS, 2012

**Table 17-3** provides the median rental payment and mortgage repayment in the local and regional study areas compared to the Queensland average.

**Table 17-3 Median rent and mortgage repayments**

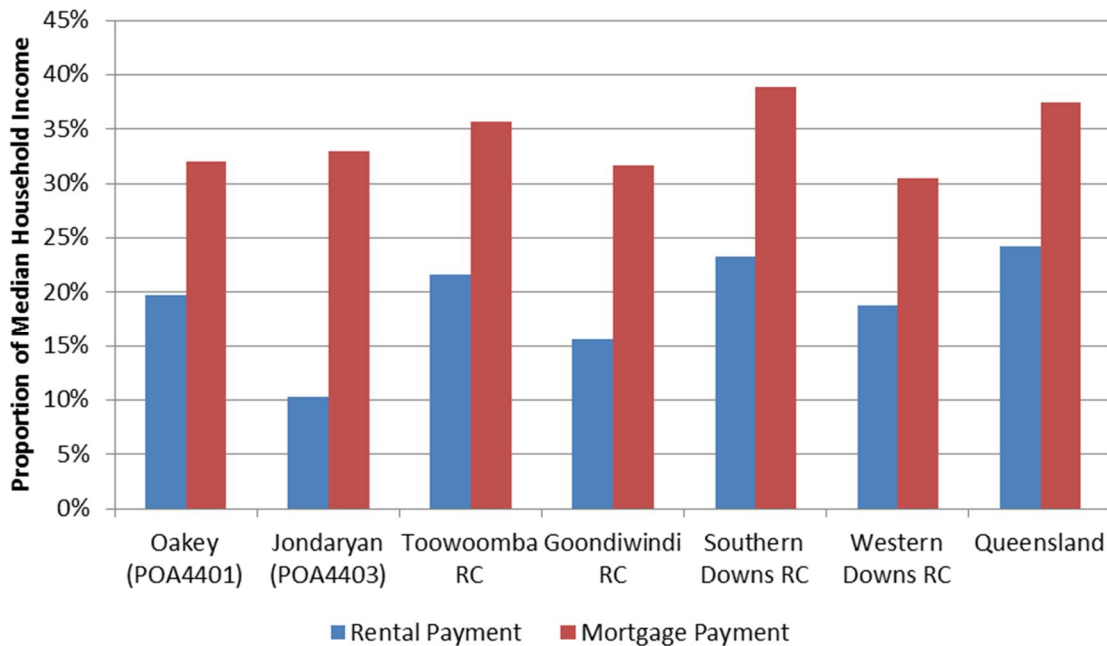
Locality/ Payment Type		Median Rent Payment (weekly)	Median Mortgage Repayment (weekly)
Local study area	Oakey (POA4401)	\$200	\$325
	Jondaryan (POA4403)	\$86	\$275
Regional study area	Toowoomba (RC)	\$230	\$379
	Goondiwindi (RC)	\$160	\$325
	Southern Downs (RC)	\$195	\$325
	Western Downs (RC)	\$200	\$325
Queensland		\$300	\$463

Source: ABS, 2012

Based on the 2011 census, the cost of housing in the local and regional study areas is lower than the Queensland average in nominal terms. Within the local study area, housing costs are particularly low, with median rental payments of \$86 per week and mortgage repayments of \$275 per week.

Overall affordability of housing is measured by the cost of housing as a proportion of weekly household income and households spending more than 30 per cent of their weekly income may be experiencing housing stress (Australian Housing and Urban Research Institute 2013). An analysis of housing costs as a proportion of household income (**Figure 17-4**) indicates that renting is more affordable in the local and regional study areas compared to the Queensland average, and that most renters are most likely not experiencing housing stress. Mortgage repayments across all localities (including the Queensland average) are greater than 30 per cent of the median weekly household income, indicating that home owners are likely experiencing housing stress. Home ownership is particularly expensive in the Southern Downs Regional Council and the Toowoomba Regional Council with median repayments at almost 39 per cent and 36 per cent of median weekly household income respectively. Renting is also more expensive in Southern Downs and Toowoomba Regional Councils compared to other localities examined within the regional study area.





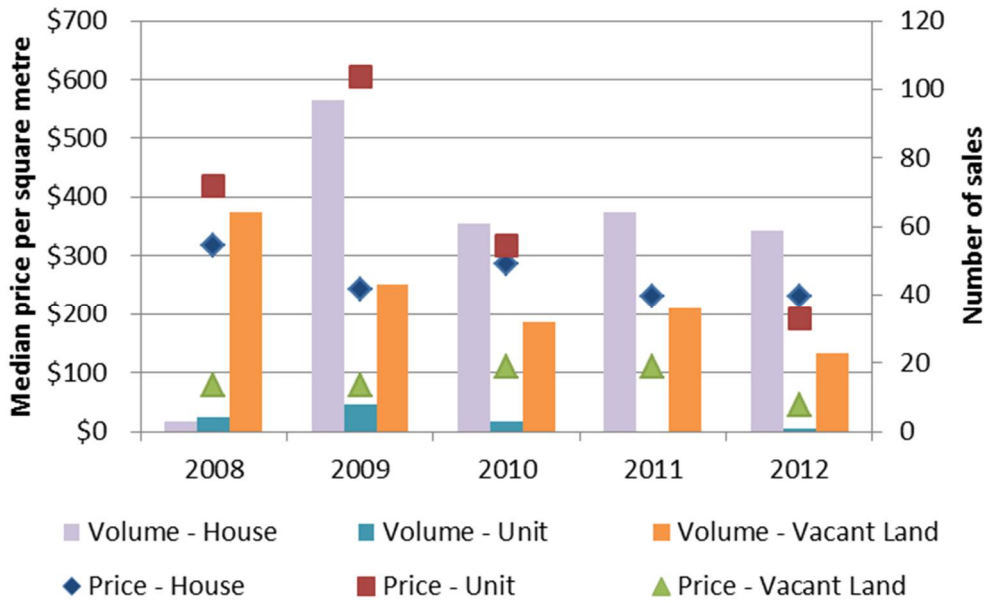
**Figure 17-4 Housing affordability**

Source: ABS, 2012

**Figure 17-5** shows the median sales price per square metre and volumes of sales for houses, units and vacant land in Oakey (POA4401) between 2008 and 2012 inclusive. **Figure 17-6** shows the median sales price per square metre and volumes of sales for houses and vacant land in Jondaryan (POA4403) over the same period.

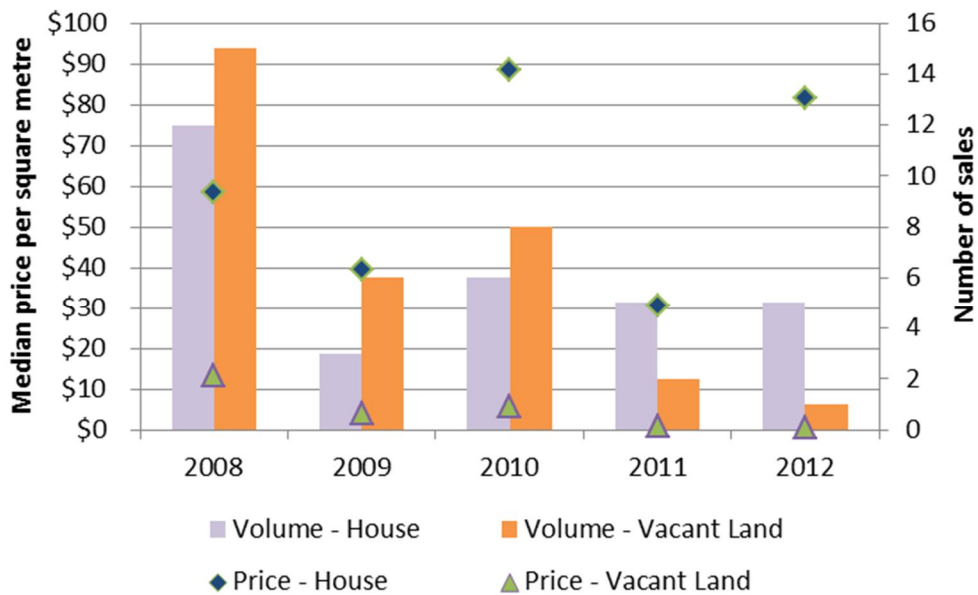
The data shows that the volume per year of house and vacant land sales has been reasonably steady in Oakey, after declining between 2008 and 2009. Unit sales are much lower in Oakey, with zero sold in 2011 and only one in 2012. In terms of sales prices, houses, units and vacant land have been trending downwards after recovering from downturn between 2009 and 2010. The observed sharp drop in unit prices reflects zero or very low sales from 2011 onwards.

In Jondaryan (POA4403) volume of sales has been lower than in Oakey and is reflected in much lower sales prices per square metre. Overall, sales prices have been erratic and do not appear to be reflective of the volume of sales, but may be due to decreased housing stock in certain periods, increasing purchasers' willingness to pay. In addition, it is noted that during property acquisition for the revised Project some landowners have delayed sales in an attempt to increase the final selling price.



**Figure 17-5 Housing characteristics - median sales price per square metre and volume of sales (POA4401)**

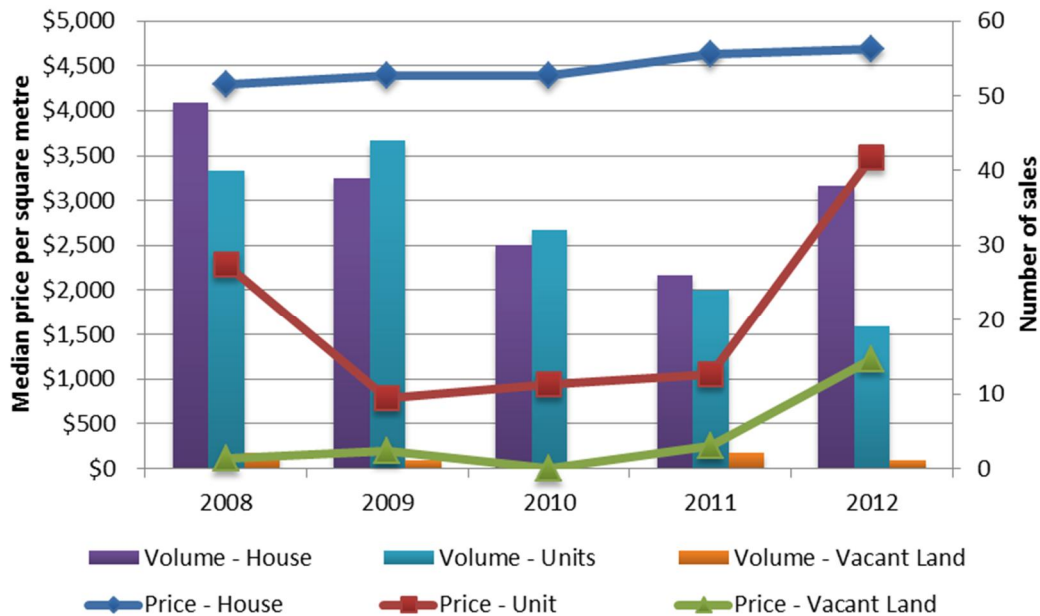
Source: PriceFinder, 2013



**Figure 17-6 Housing characteristics - median sales price per square metre and sales volume of sales (POA4403)**

Source: PriceFinder, 2013

**Figure 17-7** shows the median sales price per square metre and volumes of sales for houses, units and vacant land in Toowoomba City (the closest regional centre to the revised Project site).



**Figure 17-7 Housing characteristics - median sales price per square metre and volume of sales (Toowoomba City)**

Source: PriceFinder, 2013

Data is presented for the five year period between 2008 and 2012 inclusive and shows a substantial increase in the price per square metre for vacant land and units between 2011 and 2012. However, it should be noted that a portion of the increase in unit prices appears to be market recovery from the collapse in sales prices noted between 2008 and 2009. Conversely, the price of vacant land, while historically being lower is now showing significant growth, increasing 381 per cent between 2011 and 2012. Sales prices in Toowoomba City are significantly higher than in Oakey and Jondaryan, which reflects the rural nature of the localities compared to Toowoomba City.

### 17.2.3 Employment

Selected statistics outlining the labour force status for the local and regional study areas are provided in **Table 17-4**, based on 2011 census recorded information. The data shows that in 2011, the unemployment rate in both the local and regional study areas was lower than the Queensland average, at 4.8 per cent and 4.6 per cent respectively compared to 6.1 per cent. The New Acland Mine currently employs 300 full time workers within the regional study area, of which approximately 35 per cent reside within the local study. This equates to 105 workers out of 1,887 employed persons in the local study area.

**Table 17-4 Labour force statistics (2011)**

Labour force statistic	Local study area	Regional study area	Queensland
Total labour force	2,883	107,658	2,171,076
Employed full time	1,887	65,474	1,302,956
Employed part time	675	30,867	611,297
Unemployed, looking for work	138	4,900	131,797
Unemployment rate	4.8%	4.6%	6.1%

Source: ABS, 2012

**Table 17-5** provides recorded occupations for the local and regional study areas in 2011, and shows that in the local study area, residents are typically employed as labourers (22 per cent), managers (17 per cent) and technicians and trade workers (15 per cent). In the regional study area, the top three occupations are professionals (16 per cent), followed by managers and technicians and trade workers (both 15 per cent). Occupational composition in the local and regional study areas only differs slightly to the Queensland average, where the top three occupations are professionals, technicians and trade workers and clerical and administrative workers.

**Table 17-5 Occupation (2011)**

Occupation	Local study area	Regional study area	Queensland
Managers	461	15280	245,605
Professionals	230	16016	385,583
Technicians & trades workers	423	15269	304,564
Community & personal service workers	223	9733	202,979
Clerical & administrative workers	269	13316	299,326
Sales workers	185	9215	199,633
Machinery operators & drivers	301	8391	149,322
Labourers	613	13930	215,236

Source: ABS, 2012 and OESR, 2013

**Table 17-6** provides industry of employment as a proportion of total employed residents in the local and regional study areas compared to Queensland. At the time of the 2011 census, the top three employing industries in the local Study area were manufacturing (20 per cent), agriculture forestry and fishing (14 per cent) and health care and social assistance (8 per cent). Notable key employers (businesses) in the local Study area include agricultural operations, the NAC mine, the Oakey Army Aviation Training Centre and the Oakey Abattoir (Beef City).

Employment by industry in the local Study area was somewhat reflective of the regional study area, where the top three employing industries were health care and social assistance (12 per cent), retail trade (11 per cent) and agriculture, forestry and fishing (10 per cent). Industry contribution to employment in both the local and regional study areas does not differ significantly to the Queensland average, except for the agriculture, forestry and fishing industry and the manufacturing industry which have a much higher concentration in the local study area. The agriculture, forestry and fishing industry is also more concentrated in the regional Study area compared to the Queensland average.

**Table 17-6 Industry of employment**

Industry of employment	Local study area	Regional study area	Queensland
Agriculture, Forestry and Fishing	372	10,337	55,416
Mining	68	2,280	52,955
Manufacturing	558	8,855	171,669
Electricity, Gas, Water and Waste Services	33	1,275	24,828
Construction	139	8,212	183,780
Wholesale Trade	116	3,577	74,288
Retail Trade	226	11,373	217,610
Accommodation and Food Services	113	6,153	141,855
Transport, Postal and Warehousing	191	4,955	107,072
Information Media and Telecommunications	4	862	25,358
Financial and Insurance Services	29	2,383	54,153
Rental, Hiring and Real Estate Services	15	1,216	37,007
Professional, Scientific and Technical Services	88	4,062	132,754
Administrative and Support Services	45	2,079	65,015
Public Administration and Safety	211	6,289	136,818
Education and Training	143	9,382	160,921
Health Care and Social Assistance	230	12,488	242,559
Arts and Recreation Services	14	818	28,444
Other Services	90	3,904	78,713

Source: ABS, 2012 and OESR, 2013

While the contribution to total employment in a region is a good indicator of the industry's contribution to the overall economy, an analysis of specialisation ratios (compared to Queensland) also provides an important indicator of the relative importance of an industry. Specialisation ratios measure the extent to which observations in the Study area are reflective of the Queensland average. In this instance, employment specialisation ratios are calculated as the ratio of the proportion of employment by industry in the Study area compared to the proportion by industry in Queensland, with a specialisation ratio greater than 1 indicating importance in the Study area in terms of overall contribution to employment. As already noted, the agriculture, forestry and fishing industry is more concentrated in the local and regional study areas compared to Queensland, and this is reflected in a specialisation ratio of 5.0 in the local Study area and 3.7 in the regional study area. This means that the proportion of employed persons in the agriculture, forestry and fishing industry is 5 times greater in the local Study area than in Queensland overall. The specialisation ratio for the manufacturing industry in the local Study area is 2.4.

#### 17.2.4 Regional economic income

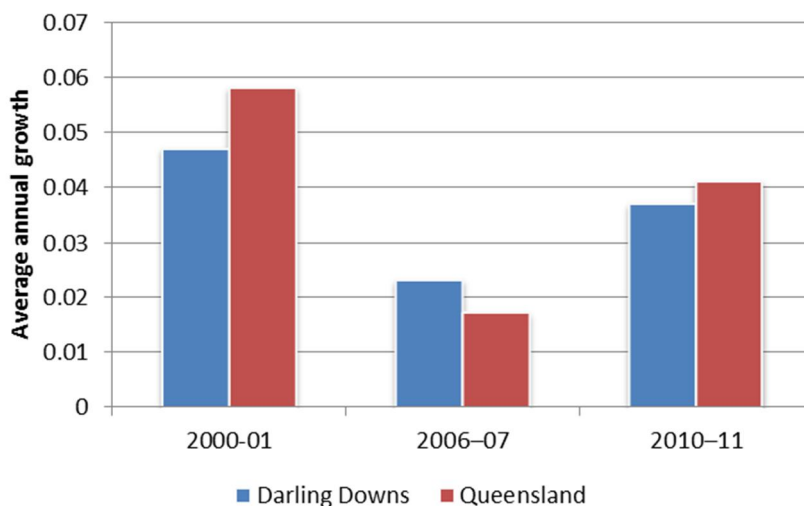
**Table 17-7** provides estimates of real gross regional product in 2010-11 dollars for the greater Darling Downs Statistical Division and Queensland for the periods 2000-01, 2006-07 and 2010-11. The Darling Downs Statistical Division is based on 2006 ABS boundaries.

**Table 17-7 Real gross regional product**

Region/ Period	Gross Regional Product (\$2010-11, millions)		Darling Downs contribution to the Queensland Economy
	Darling Downs	Total Queensland	
2000-01	8,395	180,444	5%
2006-07	11,068	252,650	6%
2010-11	12,126	269,868	7%

Source: Queensland Treasury and Trade, Experimental Estimates of Gross Regional Product 2000-01, 2006-07 and 2010-11

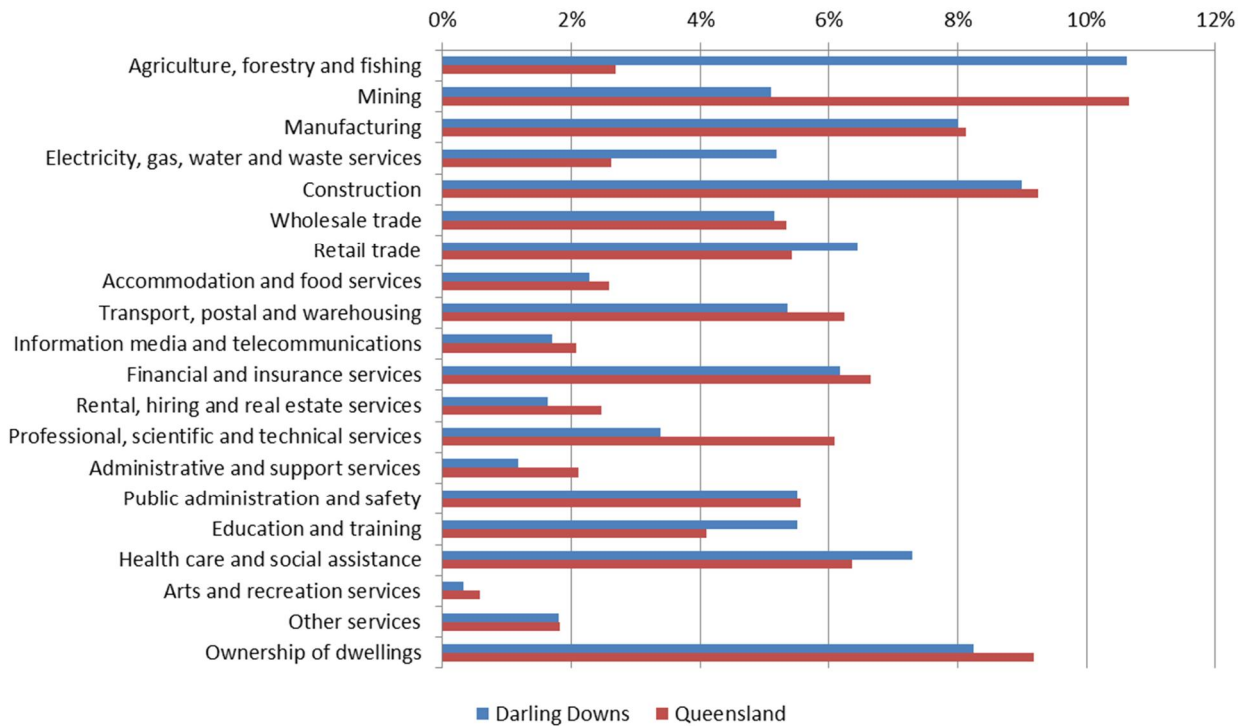
Over time, Darling Downs' contribution to the Queensland economy is increasing, rising from 5 per cent of total gross regional product in 2000-01 to 7 per cent in 2010-11. However, average annual growth has been consistently lower than the state average over the same time (see **Figure 17-8**). For both Darling Downs and the Queensland economy as a whole, gross regional product was growing more rapidly between 2000-01 then between 2006-07 and 2010-11. This indicates that while the Darling Downs regional economy is growing, other regions are contributing more to economic growth in Queensland.



**Figure 17-8 Average annual growth in real gross regional product**

### Key industries

In terms of industry contribution to regional income in 2010-11, **Figure 17-9** shows that in the former Darling Downs Statistical Division (Darling Downs), the agriculture, forestry and fishing industry was the most significant, at almost 11 per cent of total gross value added. In real terms, the agriculture, forestry and fishing industry was worth approximately \$1.2 billion in Darling Downs and \$6.8 billion for the whole of Queensland, representing almost 18 per cent of total Queensland output. Conversely, in the Queensland economy as a whole, mining was the most significant contributor to economic output. The mining industry is worth approximately \$578 million in Darling Downs, out of a total of approximately \$27 billion in Queensland.



**Figure 17-9 Industry contribution to real gross value added, 2010–11: Chain Volume measures (\$m, 2010–11)**

An analysis of specialisation ratios of industry contribution to regional income indicates that the agriculture, forestry and fishing industry in the Darling Downs region contributes 4 times more (as a proportion of overall industry output) than it does in the remainder of Queensland. The Darling Downs also has a greater specialisation compared with Queensland in other industries including electricity, gas, water and waste services, education and training, retail trade and health care and social assistance. In terms of the value of contribution to total regional output, the construction industry is also important in Darling Downs valued at approximately \$1 billion in 2010-11.

Further information on key industries in the Darling Downs region which are relevant to the revised Project is provided below. Overviews of the education, training, health care and social assistance industries are provided in **Chapter 16** of the EIS ‘Social values and management of impacts’.

### **Agriculture, forestry and fishing**

Real gross value added in the agriculture, forestry and fishing industry grew by almost 9 per cent in Darling Downs between 2006-07 and 2010-11, the same level of growth seen for Queensland as a whole. The region is well known for its horticulture, cereal grains, irrigation and grazing industries (including sheep, dairy and cattle). In 2010-11, the total area of agricultural holdings was approximately 6.4 million hectares. Agricultural holdings were primarily used for grazing (70 per cent), with crop production accounting for 22 per cent of the land holdings. The remaining 6 per cent comprised a mixture of conservation uses, forestry plantation, other agricultural purposes and land not used for agricultural production.

### **Construction services and building inputs market**

The construction industry in Darling Downs is another key generator of economic output. While the industry experienced growth between 2006-07 and 2010-11 which was below the state average (3 per cent compared to almost 5 per cent), with gross value added estimated at \$1 billion, construction was the second largest contributor to economic output in the region. Employees in the construction industry within the Study area are typically technicians and trade workers, labourers and machinery operators and drivers.

### **Resources extraction (mining)**

The mining industry in Darling Downs experienced the most significant growth between 2006-07 and 2010-11, approximately 19 per cent in real terms. Conversely, in Queensland as a whole, the mining industry retracted by half a per cent.

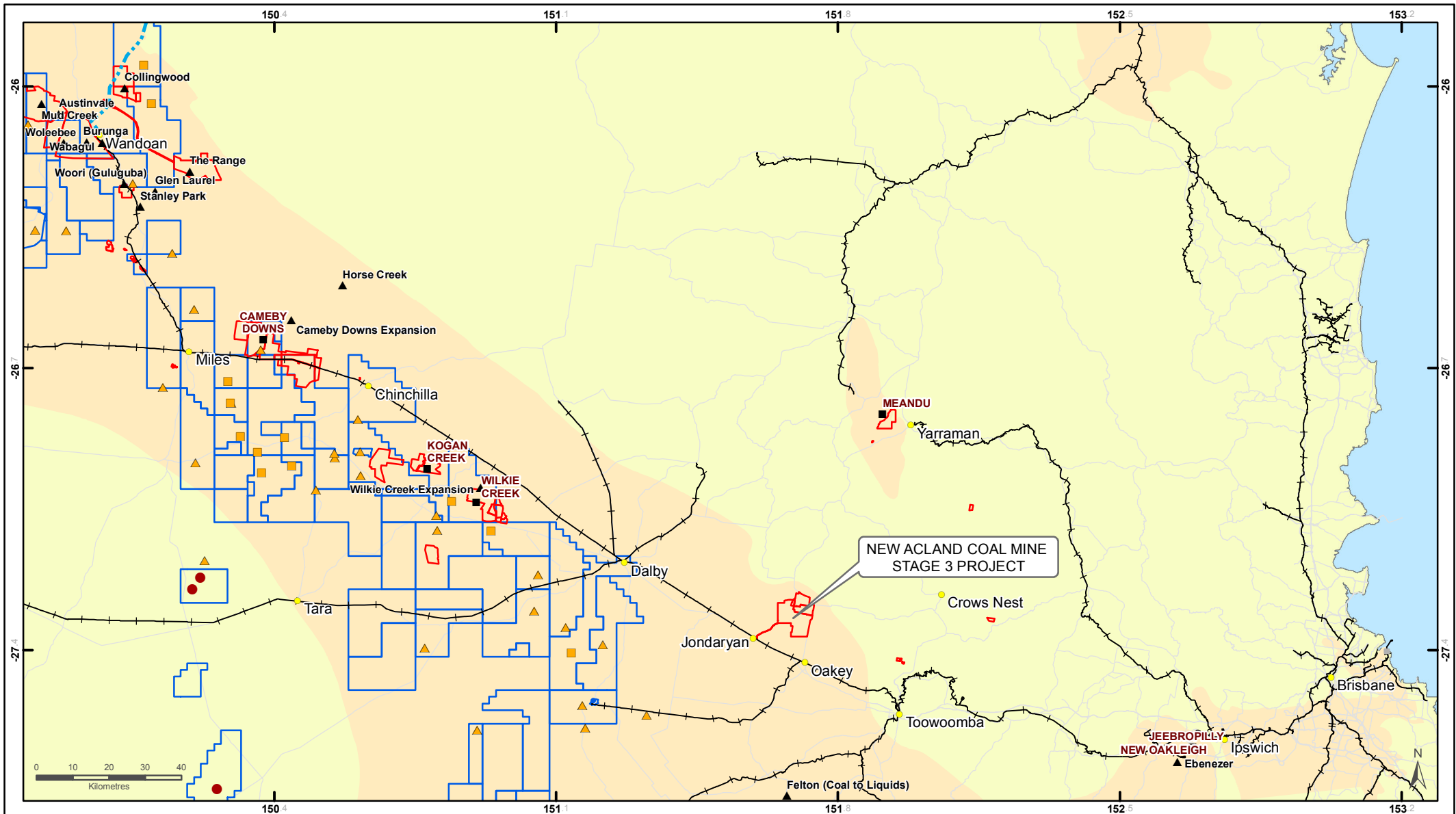
During 2011/12 (Lawrence Consulting 2012) the resources sector in Darling Downs is expected to have directly contributed to economic development through:

- 2,943 full time equivalent jobs (the mining industry in the Study area employs mostly machinery operators and drivers and technicians and trade workers (ABS Census of Population and Housing))
- \$367.9 million in salaries
- \$730.8 million in business purchases and voluntary community contributions

By commodity type, coal seam gas followed by coal had the largest impact in terms of direct contribution. Overall, the resources sector in Darling Downs contributed an estimated \$2.23 billion to economic output (direct and indirect) in 2011/12 (Lawrence Consulting 2012).

**Figure 17-10** depicts resource developments including coal, CSG and petroleum near the revised Project.





**LEGEND**

- Towns and Localities
- Operation Coal Mine
- ▲ Coal Development
- CSG Operation
- ▲ CSG Development
- Petroleum Operations
- Major Road
- Rail Line
- Proposed Surat Railway
- ▭ Mining Leases
- ▭ Petroleum Leases
- ▭ Coal Measures



**NEW ACLAND COAL MINE STAGE 3 PROJECT**

**Figure 17-10 - Resource developments (coal, CSG and petroleum) near the revised Project**

Scale 1:1,430,000 on A4  
 Projection: Australian Geodetic Datum – Zone 56 (AGD84)

### **Future economic development**

Economic development located either in whole or partially within the regional Study area is expected to be further enhanced by a number of coordinated projects which are being progressed through the EIS process or have recently been approved by the Queensland Government. Current Projects which are located within the region are outlined below. These projects represent a combined investment of more than \$81 billion.

Seeking environmental approvals:

- Bundi Coal Project
- Cameby Downs Expansion Project
- Elimatta Project
- Ironbark Project
- Nathan Dam and Pipelines (SunWater Ltd)
- North Surat – Collingwood Coal Project (Cockatoo Coal Limited)
- North Surat – Taroom Coal Project (Cockatoo Coal Limited)
- Norwood Coal Project
- Santos GLNG Gas Field Development Project (Santos GLNG)
- Surat Gas Project

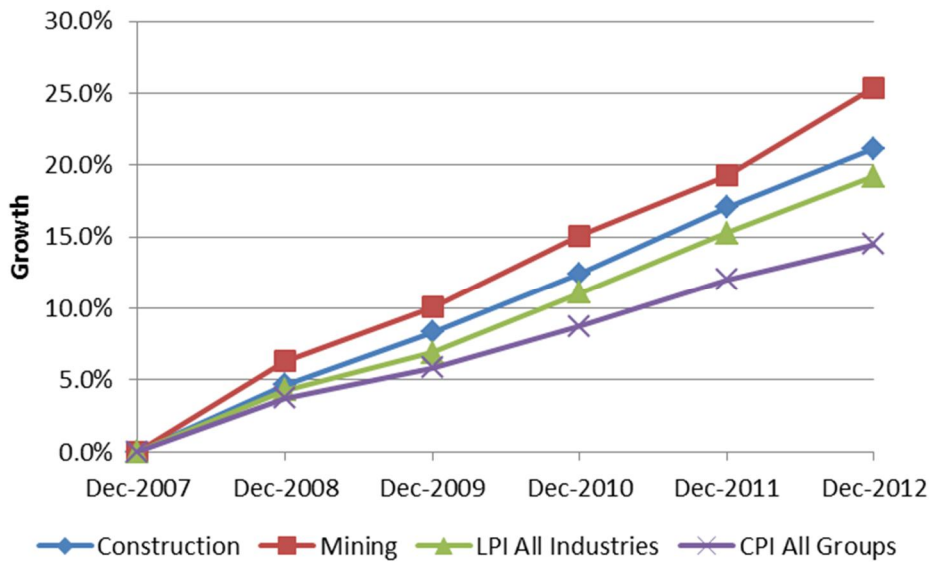
Approved projects:

- Australia Pacific LNG Project (Origin Energy and ConocoPhillips)
- Gladstone Liquefied Natural Gas Project (Santos Ltd and Petronas)
- Queensland Curtis Liquefied Natural Gas Project (Queensland Gas Company)
- Surat Basin Rail (Surat Basin Rail Pty Ltd)
- The Range Project

For more detail on the projects above refer to **Appendix G.9.1**.

### **Factor prices - key employment industries for the revised Project**

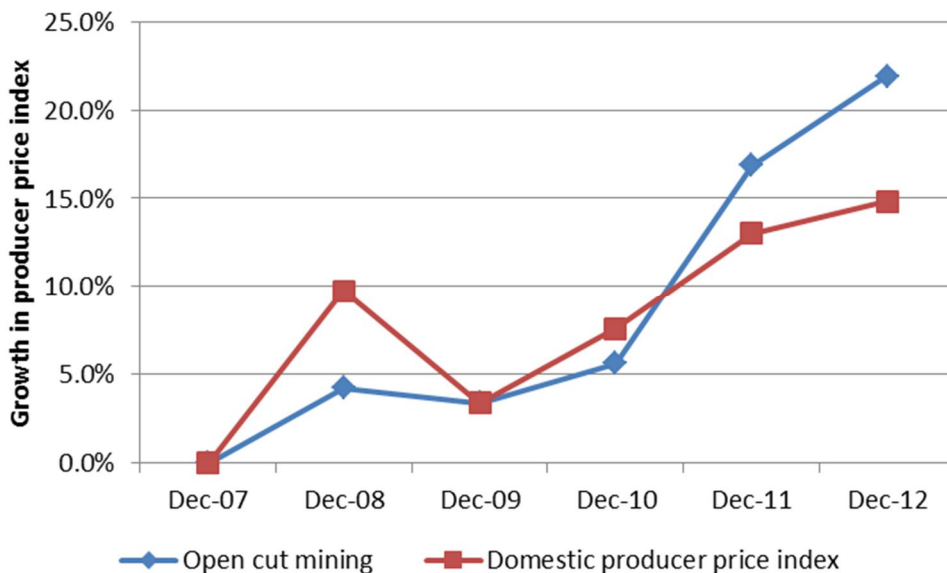
The growth in the labour price index (LPI) for the Australian mining and construction markets, compared to the average for all industries between 2007 and 2012 is presented in **Figure 17-1**. The data indicates that labour costs for both the construction and mining industries are growing at a higher rate than the average for all industries, with mining growing at a higher rate than construction. The data also indicates that growth in labour costs exceeds overall inflation in the Australian economy (measured by the consumer price index (CPI) for all groups).



**Figure 17-11 Labour price index**

Source: ABS, 2013

The producer price index (PPI) for open cut mining compared to the domestic producer price index is presented in **Figure 17-12**. The data shows that since December 2011, the cost of mining is increasing at a greater rate than the national average for all industries. Note that the ABS does not publish wage price indexes or producer price indexes for the Agricultural industry, or the producer price index for non-building construction.



**Figure 17-12 Producer price index, open cut mining**

Source: OESR, 2013

## 17.3 Impact assessment

### 17.3.1 Input-Output Modelling

Quantitative economic impacts as a result of the project have been assessed utilising SKM's in house regional IO model, and are reported for the regional study area, the total for Queensland and the total for Australia.

IO modelling provides an estimate of the economic impact of project expenditure on the domestic economy, including direct, indirect and induced effects (the sum of which comprises the total economic impact). Impacts are reported for economic output, employment and household income. SKM's methodology for development of the regional IO model is provided in **Appendix G.9.2**.

Direct output impacts are defined as the actual project expenditure required for construction and operation of the project. This expenditure contributes to increased output in relevant industries due to increased demand for goods and services from that industry. In addition, project expenditure provides economic benefits through contribution to employment and household income.

Increased demand for goods and services of directly impacted industries also has a flow-on effect which creates additional economic output – referred to as indirect impacts. These indirect impacts occur through industry linkages which result in increased demand for goods and services from supporting industries. Like direct impacts, indirect impacts also have an output, employment and household income effect.

Induced impacts refer to increased economic output, employment and household income which occur from increased household consumption expenditure. This increase in consumption expenditure occurs as a result of the increased income from wages/salaries and investments, which are earned as part of the direct and indirect impacts.

The total economic impact of the project has therefore been assessed through an analysis of projected expenditure for construction and operation of the project, and the flow on effects associated.

#### Limitations

The basis of this report has been prepared under the assumption that the IO modelling provides an estimate of *supported* output, value added, employment and household income from the revised Project's construction and operation. Estimates derived from the IO model do not necessarily constitute generated/induced economic impacts, since IO modelling and derived multipliers reflect static impacts from observed industry linkages, and do not account for a fixed supply of labour and capital in the domestic economy. Therefore it is not known whether (for example) employment impacts from the revised Project constitute generated employment, or supported employment (employment transferred from other industries / developments). This applies not only to employment, but to estimates of output, value added and household income impacts.

It should also be noted that the Queensland and regional Study area IO model have been developed based on direct requirement aggregates from the national totals. Therefore there is potential that

where a smaller sample area is assessed, results may not be aligned with an observed normal distribution and magnitude of impacts and impacts may be overstated.

### Project expenditure

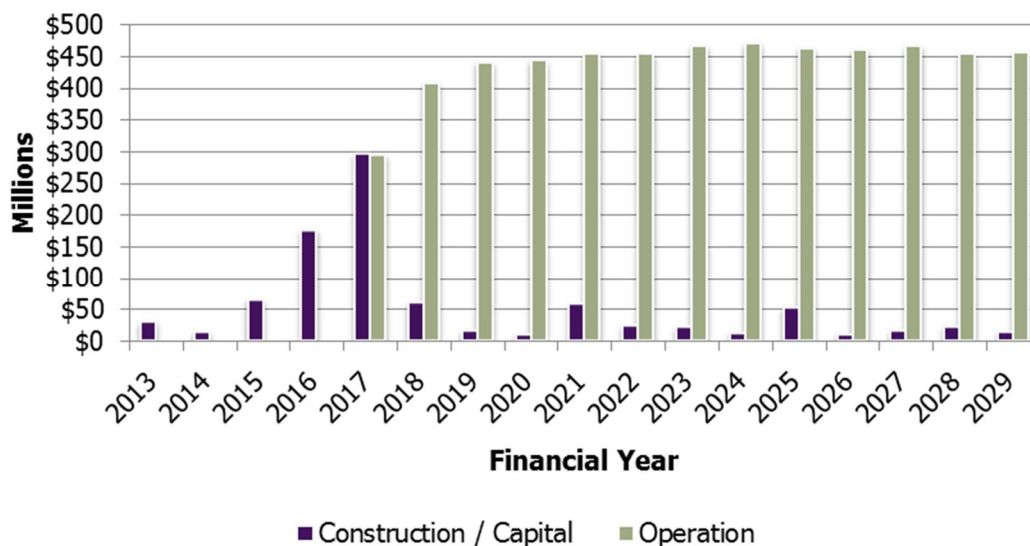
Estimates of domestic construction / capital expenditure and operational expenditure have been provided by NAC. For the purpose of the economic impact assessment, equipment salvage income has been excluded from the analysis since the IO model considers economic impacts of expenditure only. In addition, total values capture the expenditure required for the revised Project only (that is expenditure for on-going operation to 2017 is not included). Escalation is also excluded from the analysis. SKM's derived expenditure estimate based on these adjustments is provided in **Table 17-8**, and is estimated at over \$6.6 billion over the life of the revised Project.

**Table 17-8 Revised Project expenditure**

Expenditure type	Cost (\$M 2013)
Construction / Capital	896
Operating costs	5,743
Total expenditure	6,638

Source: Estimates provided by NAC and adjusted by SKM

**Figure 17-13** depicts the yearly expenditure profile for construction / capital expenditure and operational expenditure. Construction / capital expenditure post 2017 represents post commissioning support and on-going fleet capital expenses.



**Figure 17-13 Yearly expenditure profile**

Source: Estimates provided by NAC and adjusted by SKM

Project expenditure has been allocated to Australian industries based on the information provided by the proponent. These industries include:

#### Construction / capital

- Heavy and civil engineering construction
- Electricity Generation
- Electricity Transmission, Distribution, On Selling and Electricity Market Operation
- Motor Vehicles and Parts; Other Transport Equipment manufacturing

#### Operation

- Heavy and civil engineering construction;
- Coal mining
- Professional, Scientific and Technical Services
- Road transport
- Rail transport
- Water, pipeline and other transport
- Other repair and maintenance

In order to estimate economic impacts for the Study area compared to other regions, it is necessary to derive an estimate of where expenditure for the revised Project is likely to be outlaid. While it is too early in the planning stage to accurately define regional allocation of expenditure, at this stage NAC anticipates potential allocation of construction / capital and operating expenditure as follows. NAC's estimates have been derived based on previous outlay of expenditure for other projects and engineering estimates developed by consultants working on the revised Project.

**Table 17-9 Regional allocation of revised Project expenditure**

<b>Construction</b>	<b>Supplier spend</b>	<b>Salaries</b>
Regional study area	28%	20%
Remainder of Queensland	72%	80%
<b>Total Queensland</b>	<b>100%</b>	<b>100%</b>
Interstate	-	-
<b>Total Australia</b>	<b>100%</b>	<b>100%</b>
<b>Operation</b>	<b>Supplier spend</b>	<b>Salaries</b>
Study area	11%	95%
Remainder of Queensland	85%	5%
<b>Total Queensland</b>	<b>97%</b>	<b>100%</b>
Interstate	3%	-
<b>Total Australia</b>	<b>100%</b>	<b>100%</b>

Source: Estimates provided by NAC and adjusted by SKM based on the regional study area

Note that the proportion of expenditure during construction which comprises labour costs has not been provided by the proponent and all expenditure has therefore been allocated to proportion of supplier spend. Therefore output, value added and household income impacts for the regional Study area are potentially overstated. This is not expected to be significant however, since the difference between allocated supplier spend and salaries is not significant.

### Output impact

The direct output impact of the revised Project is equal to the estimated expenditure required for construction and operation. Forecast expenditure has been provided in **Table 17-8**, and is equal to over almost \$6.6 billion over the life of the revised Project (construction / capital and operational). The total indirect and induced output impacts are estimated at approximately \$12 billion for a total output impact of almost \$19 billion. Output impacts are disaggregated by type and region in **Table 17-10**.

**Table 17-10 Output impacts**

Region	Total Output Impact			
	Direct (\$M)	Indirect (\$M)	Induced (\$M)	Total (\$M)
Regional study area	1,506	1,756	614	3,876
Total Queensland	6,468	5,873	4,399	16,740
Total Australia	6,638	5,892	6,180	18,711

Source: SKM calculations

### Value added impact

**Table 17-11** provides the estimated contribution to value added by region from construction and operation of the revised Project. The revised project is estimated to directly contribute approximately \$274 million to value added during construction and nearly \$2.8 billion during operation across all regions. The total value added impact for all stages of the revised Project including indirect and induced impacts is estimated at over \$8.8 billion.

**Table 17-11 Value added impact**

Region	Total Value Added Impact			
	Direct (\$M)	Indirect (\$M)	Induced (\$M)	Total (\$M)
Regional study area	504	1,852	228	2,584
Total Queensland	2,194	2,505	1,947	6,646
Total Australia	3,065	2,545	3,258	8,868

Source: SKM calculations

### Revised Project employment

The construction workforce is expected to peak in 2016 at 260 FTEs, before trending downwards as construction works near completion. The operational workforce while slightly volatile in earlier years due to ramp up to full production stabilises by 2024 with 435 full time equivalent (FTE) workers per year. During construction, the workforce profile is distributed across 30 identified occupations. Of

particular importance (measured as the proportion of the total workforce) are plant operators as well as fiiters and turners. During operation, the workforce is mostly comprised of mining personnel, of which the majority of employees are pit operators.

NAC estimates that during construction, 80 per cent of the workforce will be comprised of remote workers (likely from Brisbane) with 20 per cent sourced from the regional study area. During operation, NAC anticipates that the majority of the workforce (95 per cent) will reside within the regional Study area (from localities such as Oakey, Jondaryan and Toowoomba), while an estimated 5 per cent will comprise remote or offsite workers (from Brisbane and other localities in Queensland). These estimates are derived by NAC based on prevailing labour market conditions and past experience with projects of a similar nature. NAC will endeavour to source workers from the local Study area depending on the specific skills required, the status of the labour market at the time, the trainability of the advertised position and the proposed timetable of employment required to meet the scheduled ramp up in production of up to 7.5 Mtpa. NAC currently employs 300 workers for existing operations and it is anticipated that some if not all of these workers would maintain employment for the revised Project's operations. The existing workforce is comprised of residents from Toowoomba (45 per cent), Jondaryan and Oakey (35 per cent) and approximately 20 per cent from Warwick, Goondiwindi, Kingaroy and surrounds. This supports estimates of 95 per cent of the workforce residing in the regional Study area for the revised Project. However, NAC will undertake additional analysis to determine regional labour availability for the additional 135 workers (approximately) required for the revised Project's operations.

**Table 17-12** provides the estimated contribution to employment across all regions from construction and operation of the revised Project, including direct, indirect and induced impacts. Employment impacts are measured as an average FTE per year, rather than the total over the revised Project's life. This allows for a clearer representation of potential contributions to employment. The revised Project's average contribution to employment (including direct, indirect and induced impacts) per year across all regions is estimated at 468 FTEs from construction / capital expenditure and 3,082 FTEs from operational expenditure. Note that employment results represent an average per year over the evaluation period and do not reflect peak workforce demand. Therefore direct employment estimates for the revised Project will be slightly lower than peak numbers presented in **Chapter 3** as they include ramp up (and down) of construction works and ramp up to full producing during operation.

**Table 17-12 Average employment impact per year**

Region	Construction / Capital				Operation			
	Direct (FTEs)	Indirect (FTEs)	Induced (FTEs)	Total (FTEs)	Direct (FTEs)	Indirect (FTEs)	Induced (FTEs)	Total (FTEs)
Regional study area	22	83	26	131	392	716	193	1,300
Total Queensland	109	185	114	408	412	1,144	990	2,546
Total Australia	109	189	171	468	412	1,144	1,526	3,082

Source: SKM calculations



### Household income impact

**Table 17-13** provides estimated household income impacts during construction and operation of the revised Project, including the regional allocation. Total household income impacts are estimated at approximately \$4.9 billion including direct, indirect and induced impacts over the life of the revised Project. This comprises approximately \$547 million from construction / capital expenditure and \$4.3 billion during operation. Household income impacts from the revised Project may potentially improve the median household income in the local and regional study areas, (which are currently lower than the Queensland average).

**Table 17-13 Household income impacts**

Region	Total Household Income Impact			
	Direct (\$M)	Indirect (\$M)	Induced (\$M)	Total (\$M)
Regional study area	816	317	114	1,247
Total Queensland	1,973	1,322	992	4,288
Total Australia	2,049	1,335	1,493	4,877

Source: SKM calculations

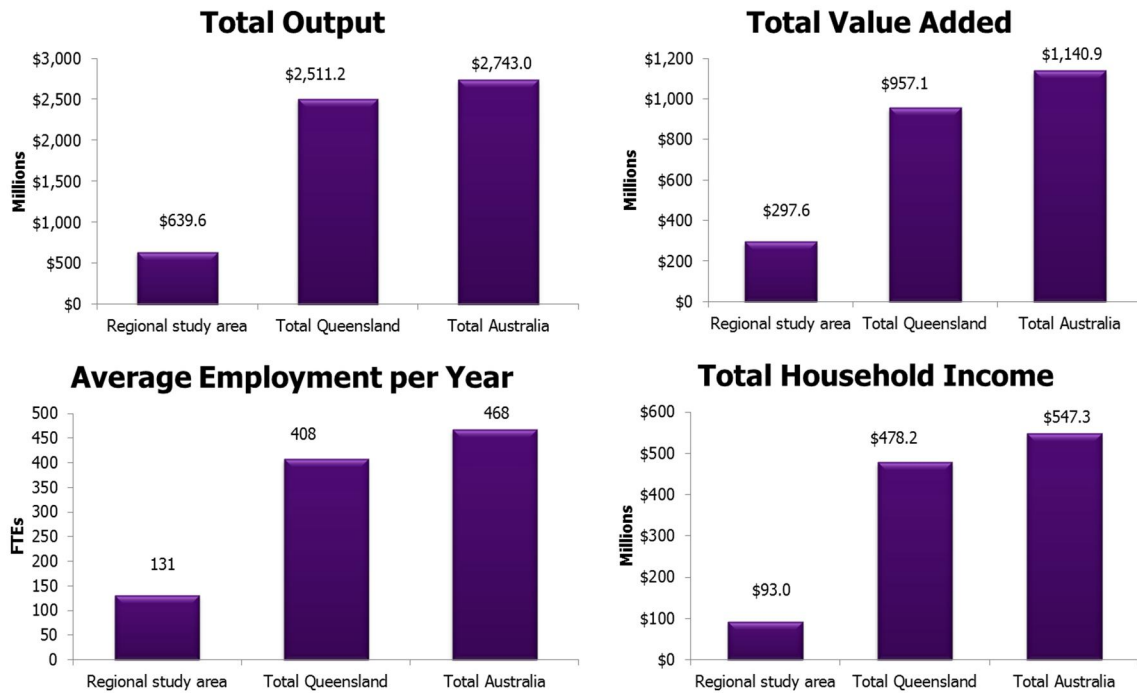
### 17.3.2 Distribution of impacts

#### Regional distribution of impacts

**Figure 17-14** depicts the regional distribution of the total economic impacts from construction / capital expenditure required for the revised Project. The regional distribution of impacts is reasonably consistent with the estimated allocation of revised Project expenditure, and this highlights the importance of outlaying expenditure in the Study area where possible in order to avoid leakage of economic benefits to other regions. Slight differences in the total distribution occur due to differences in multipliers across regions and leakage of impacts across regions which occur from industry linkages across regional boundaries.

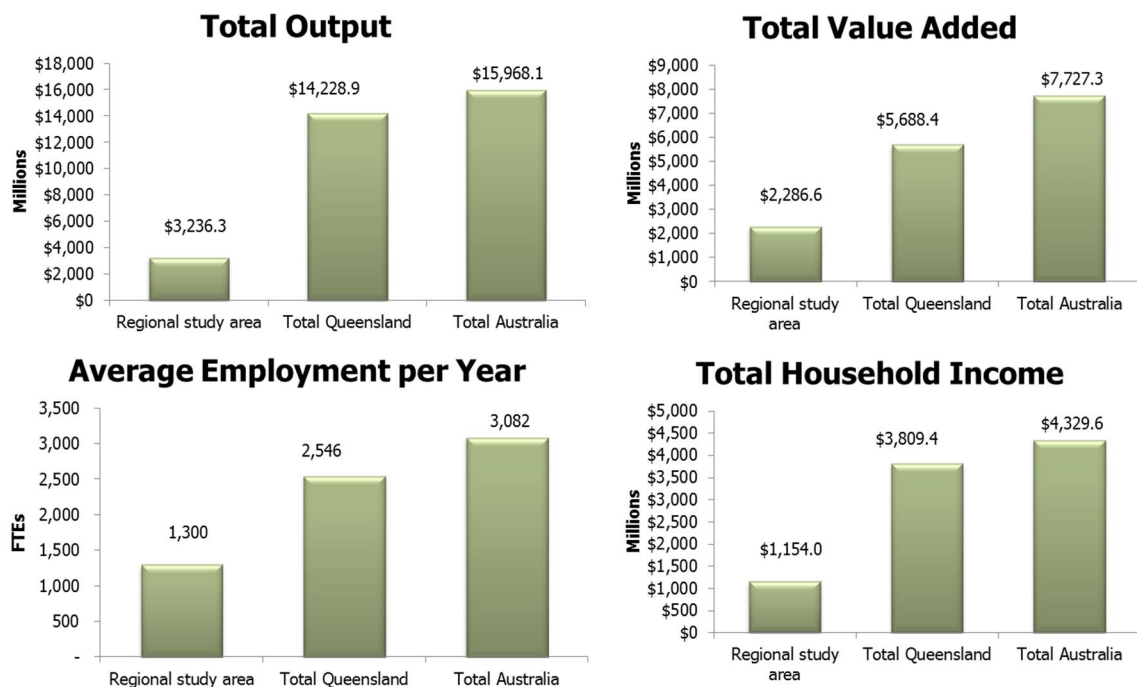
**Figure 17-15** depicts the regional distribution of the total economic impacts from the revised Project's operation. Like construction / capital impacts, the economic contribution from the revised Project is generally distributed across regions in similar proportions to expected outlay of expenditure. Again, this highlights the importance of sourcing labour and materials locally where possible.

The sum of impacts presented in **Figure 17-14** and **Figure 17-15** is equal to the total impacts provided previously in the report (i.e. output, value added, employment and household income impacts).



**Figure 17-14 Regional distribution of impacts from construction / capital expenditure**

Source: SKM calculations



**Figure 17-15 Regional distribution of impacts from operational expenditure**

Source: SKM calculations

**Table 17-14** outlines revised Project employment impacts (average per year) as a proportion of the total labour force in the local and regional study areas, and shows that during operation, workforce requirements may place some pressure on the local labour force. However, given a significant portion of the labour demand may be met by existing employees; this is not expected to be significant. Additionally, some workers are expected to be sourced from outside of the local Study area (for example – Toowoomba City).

**Table 17-14 Employment impacts as a proportion of the labour force (includes all regions)**

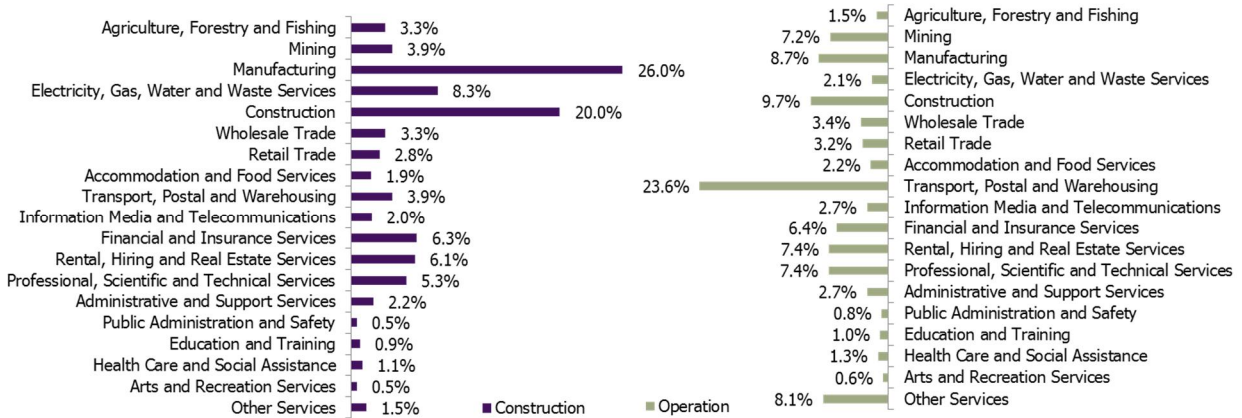
Impact	Proportion of labour force (local study area)	Proportion of labour force (regional study area)
<b>Direct revised Project employment (regional)</b>		
Construction	1%	<1%
Operation	14%	<1%
<b>Total Project Employment including direct, indirect and induced impacts (regional)</b>		
Construction	5%	<1%
Operation	45%	1%

**Table 17-15** outlines the revised Project's contribution to regional gross value added as a proportion of 2010-11 gross value added in the Darling Downs region. The contribution is measured over the life of the revised Project.

**Table 17-15 Contribution to regional value added**

Impact	% of Darling Downs	Revised Project Contribution (\$m)
<b>Direct contribution to regional gross value added</b>		
Construction	1%	\$165.40
Operation	3%	\$338.70
<b>Total contribution to regional gross value added (including, direct, indirect and induced impacts)</b>		
Construction	2%	\$297.60
Operation	19%	\$2,286.60

**Figure 17-15** shows the approximate industry distribution of revised Project impacts. The figure shows that the manufacturing and construction industries would be the main beneficiaries of construction and capital expenditure outlay. During the operation stage, the transport postal and warehouse industry is projected to receive the most significant proportion of benefits from the revised Project expenditure, followed by construction, manufacturing and mining.



**Figure 17-16 Approximate industry distribution of impacts (all regions)**

### 17.3.3 Direct impacts on property management in the local Study area

The Acland Pastoral Company is responsible for the sustainable management of the NHG’s Acland district landholdings, which generally involves the application of recognised agricultural practices outside the active mine areas. **Figure 3-3 in Chapter 3** of the EIS depicts the extent of current NHG land ownership for the Acland district. The APC currently owns 10,918 ha of land, of which 3,078 ha were acquired for the existing Stage 2 project. Total acquisitions for the revised Project are therefore equal to 7,840 ha.

The revised Project is unlikely to have an impact on housing values since workers are expected to be sourced predominantly from the regional Study area during operation. During construction, remote workers sourced from regions external to the regional Study area would be unlikely to relocate to the study area. Further, with an estimated construction workforce peaking at 260 workers demand would potentially be absorbed in the currently unoccupied dwellings in the regional Study area should workers seek housing in the region. There may be some pressure on housing availability (and property values) if construction workers seek housing in the local study area, however this is unlikely since the majority of the construction workforce are expected to be sourced remotely from the Brisbane area.

#### Economic impact on agricultural production

Economic impacts on agricultural production associated with acquisitions for the revised Project have been estimated based on information provided by the APC and outlined in **Table 17-16**. Of the total acquired land (7,840 ha) 6,376 ha represents land previously used for grazing, 1,361 ha represent cropping land (mapped as potential SCL) and 103 ha comprises woodland areas (remnant vegetation).

The APC estimates that up to 5,376 ha of acquired grazing land located outside the disturbance footprint will still be available for grazing. As such the total impacted grazing land is estimated at 1,000 ha of the 6,376 ha of grazing land which was acquired for the revised Project. The total impacted strategic cropping land (SCL) is estimated at 1,361 ha, and comprises mixed uses of

sorghum, mung beans, sunflowers, maize and wheat, which have been distributed evenly across the impacted area. 2,500 pigs were also disturbed from acquisition for the revised Project.

**Table 17-16 Impacted land**

Impacted Land	Impact Type	
Total acquired land	7,840 ha	
Total woodland (remnant vegetation)	103 ha	
Total potential SCL	1,361 ha	Equal proportions of sorghum, mung beans, sunflowers, maize and wheat
Total impact on potential SCL	1,361 ha	
Total grazing land	6,376 ha	Approximately 500 heads of cattle (Approximately 1 head of cattle per 2 ha)
Total impacted grazing land	1,000 ha	
Impacted pigs (no.)	2,500 pigs	

The total estimated gross value of impacted agricultural production is provided in **Table 17-17**, based on ABS value of agricultural production in the Toowoomba Regional Council. These estimates are based on average gross value per ha of impacted crops, the average gross value per head of grazing cattle (meat production) and the average gross value per pig in the Toowoomba Regional Council (from the 2011 Agricultural Census). The total output impact per year (gross value) is estimated at \$2.3 million per year (June 2013 dollars), or \$37 million over the life of the revised Project.

**Table 17-17 Estimated impact on agricultural output (gross value) per year**

Impact type / Price year	\$June 2011	\$June 2013
Cropping	\$1,266,414	\$1,312,372
Grazing	\$100,516	\$104,164
Piggeries	\$863,032	\$894,351
<b>Total</b>	<b>\$2,229,961</b>	<b>\$2,310,887</b>

The direct employment impact associated with the estimated reduction in agricultural output has been derived from the regional IO model and is estimated at approximately 5 FTEs per year. It is expected that rehabilitation during de-commissioning would return the majority of impacted land to a state suitable for agricultural production and therefore impacts are not estimated beyond this period.

#### **17.4 Maximising economic benefits in the study area**

This section outlines strategies designed to maximise economic benefits from the revised Project, specifically strategies for increasing local participation in the revised Project.

##### **Employment of local residents and development of a diverse workforce**

NAC currently employs approximately 300 local workers for existing operations, for which employment will be maintained for the revised Project. It is noted that most staff training is undertaken internally to NHG, and that staff are trained to Black Coal Industry Standards.

NHG has committed 10 per cent of the NHG recruitment budget for targeted employment strategies. As part of the revised Project, NHG commits to the following strategies / actions to support employment locally:

- Maintaining the local apprenticeships program.
- Continuing to work with Downs Training Group to support apprenticeships and structured training.
- Maintaining relationships with education providers (such as Oakey State High School) to assess the opportunity for employment and training (including apprenticeship opportunities) for school leavers which provide opportunities to enhance the local skills base, including twice yearly meetings.
- Continuing the vacation work program in place with the University of Queensland and University of Southern Queensland. NHG will also continue to work with the University of Southern Queensland to develop and implement university courses aimed at the mining industry.
- Maintaining relationships with recruitment agencies to assess the opportunity to provide employment for long-term unemployed people or people with a disability, and assessing skills gaps and training required.
- Holding educational and industry tours of the mine site to interested groups.
- Implementing the Educational Assistance Program to the revised Project workforce to support workers to undertake further study and training to progress their careers, which will contribute to sustainable employment opportunities both as part of the revised Project and on decommissioning.

NHG is also committed to a recruitment approach which is non-discriminatory, through their Equal Employment Opportunity Policy and Recruitment and Selection Policy, and adopts flexible and fair work arrangements which are designed to:

- Assist employees with maintaining work/life balance
- Help disadvantaged groups transition to the workforce

Although employment opportunities are merit-based, there are a number of important strategies and programs which NHG commits to for the revised Project which will contribute to building and maintaining a diverse workforce. These include a targeted advertising campaign focussed at recruiting diverse population groups through:

- Circulating employment advertisements through local Aboriginal communities and to the Oakey Reconciliation Council.
- Distributing job ads/ flyers to local interest groups/community groups.
- Identifying new advertising locations to reach diverse population groups.
- Holding recruitment and employment workshops in Oakey to encourage diverse population groups and local people to apply for the revised Project workforce.
- Meeting twice yearly with QRC Women in Mining group to better understand and overcome barriers to employing women in the mining sector

- Investigating the potential for a partnership arrangement with a Masters student from the University of Queensland or the University of Southern Queensland to conduct a Masters research project aimed at understanding barriers to employing diverse population groups in the mining sector.

### **Engaging local businesses**

The economic impact assessment has highlighted the extent to which NAC anticipates to source goods and services for the revised Project from the Study area (refer **Table 17-9**), and these estimates are based on NAC's past experiences sourcing goods and services for similar activities. The economic impact assessment has also highlighted the flow on benefits which could be realised in the Study area in terms of increased economic output and value added, employment and household income.

However, it is noted that realisation of these objectives will be influenced by the approach to procurement and the level of engagement with local suppliers, and there are a number of Queensland Government and non-government policies which address local procurement. The headline Queensland Government policy addressing this theme is "The Local Industry Policy – A Fair Go for Queensland" (the Local Industry Policy). Although NAC is not required to adopt this policy, NAC has voluntarily committed to the Queensland Resources and Energy Sector Code of Practice for Local Content which outlines a similar ethos to the Local Industry Policy.

The Queensland Resources and Energy Sector Code of Practice for Local Content (the Code) outlines specific tools to assist resources and energy companies to buy local and build supply chain value. The Code may be applied through all stages of investment, including construction, operation and rehabilitation, and is of particular relevance to significant projects subject to the EIS process. Adopting the code ensures that proponents will provide "full, fair and reasonable opportunity for capable local industry to compete for the supply of goods and services for significant projects".

Strategies which are outlined in the Code for ensuring that local industry receives a full, fair and reasonable opportunity include:

- Openly promoting the adoption of the Code. Information dissemination can occur through one of or a number of mechanisms, and could be developed in partnership with NAC, local government authorities, the Regional Development Authority located in Toowoomba and Industry Capability Network Queensland at the pre-tender stage of the project (as well as for on-going operating requirements). Activities could include:
- Establishing a register for local contractors to register interest in the project. Registered contractors could be provided with information on the typical services that the constructor is looking to source and any pre-tender requirements;
- Hold local briefings explaining what opportunities are available for local contractors and the anticipated timelines;
- Providing or facilitating the provision of pre-tender training and information to ensure interested parties are tender ready. NAC will hold bi-annual procurement information sessions during detail design and construction of the project with potential contractors and subcontractors to explain NAC requirements and expectations;
- Developing and publicising a forward procurement plan;

- Inviting pre-qualified suppliers to tender in addition to advertising tender opportunities via public avenues;
- Provide feedback if requested by suppliers that were unsuccessful in prequalification or tendering.

Although NHG has very little control over who their contractors employ, many of their existing contractors are local companies, and NHG will continue to have local content specifications in the procurement policy. In addition, specific strategies / actions which NAC has committed to engage local content and businesses for the revised Project are outlined below:

- Presenting at the 2014 Toowoomba Regional Council Energy Summit to outline opportunities for local businesses to work with NHG and information to become 'tender ready'.
- Continuing their partnership with the Toowoomba Surat Enterprise and Oakey Chamber of Commerce to understand local business needs, capabilities and gaps.
- Sponsoring a workshop to build local business capacity to become 'tender ready'.
- Including a preference for local workforce in contractor service level agreements.
- Developing fact sheets for local businesses on how to tender / become 'tender ready'. Which will be distributed at the New Hope Community Information centre at Oakey, as well as to the Oakey Reconciliation Council and through existing relationships with traditional owners.

In addition to adopting the Code, NAC's procurement policy includes provision for local purchasing, and it should be recognised that an open and transparent procurement process is of its own accord a measure for assessing the capacity and cost-effectiveness of sourcing goods and services locally, since it provides a means for NAC to compare multiple suppliers against competitive tender requirements. For example, typical evaluation criteria might include the quality of services/goods provided by the tender, the experience and skills of key personnel, availability to commence work when required, management / quality assurance systems and price. The level of insurance held by potential suppliers is often a non-negotiable requirement for conformance with tender requirements.

With these considerations in mind, publication of invitations to tender will also provide a means for potential suppliers to examine their management systems, technical capabilities, resources, commercial/financial capacity to support the contract being tendered, insurance cover, business plans and employment regulation, which is also recommended in the Code. The benefit of this self-evaluation will be to opportunity to identify gaps in services / skills offerings which may be enhanced through alliances or skills development, or to provide a means for suppliers to consider measures to be more cost-effective and competitive across global markets. Finally, in addition to providing a means for NAC to assess the capacity and cost-effectiveness of services, the procurement process will ensure that decisions to utilise labour/source goods from outside of the Study area and Queensland can be clearly justified to stakeholders, and feedback can be provided to unsuccessful tenderers which will assist in strengthening their position to tender for future contracts.

### **Employment strategies for local Indigenous communities, including engaging local Indigenous businesses as suppliers**

The Indigenous Employment Policy for Queensland Government Building and Civil Construction Projects (IEP 20% Policy) is a Queensland Government policy which "promotes, encourages and creates skills development, employment and business opportunities for Aboriginal and Torres Strait



Islanders” for government funded building and civil construction projects. Although NAC are not required to adopt the policy as a privately funded project, they currently have in place two headline internal (confidential) agreements which outline established processes to provide employment opportunities for recognised traditional owners. Noting that the agreements are confidential, a broad outline of the commitments by NAC includes:

- Establishing clear position descriptions and notifying the Coordination Committee of available positions to enable awareness by local indigenous communities of skills, qualifications, attitudes/behaviours and experience necessary for employment and promotion on the revised Project
- Establishment of an Employment and Positions Register containing the names of members of the recognised traditional owners who wish to obtain employment with the revised Project
- Advising contractors and sub-contractors of commitments with the traditional owners
- Providing feedback as requested if tenders are unsuccessful which indicates areas for improvement to increase the prospects of success in future tenders
- Providing cultural awareness training for existing NAC employees, contractors and sub-contractors.

NAC will re-negotiate these provisions with recognised traditional owners for the revised Project.

NAC has also committed to working with the Oakey Reconciliation Council to invite local Indigenous businesses to tender for contracts for the revised Project, and will continue to sponsor NAIDOC week in Oakey which will contribute to an awareness of potential employment / contract opportunities for the revised Project. As noted previously, fact sheets for local businesses on how to tender / become ‘tender ready’ will be distributed to the Oakey Reconciliation Council and through existing relationships with traditional owners.

## 17.5 Mitigating economic risks

Economic risks as a result of the revised Project which have been identified and are outlined in **Table 17-18**, including proposed mitigation strategies.

**Table 17-18 Economic risks and mitigation strategies**

Economic risk	Description / Mitigation strategy
Reduction in agricultural output from impacted land	Household impacts from a reduction in agricultural output have been mitigated to some extent through compensation for landowners. Rehabilitation should ensure that land is returned to beneficial post mine use as possible.
Lower than expected benefits for the regional Study area through sourcing labour or materials outside of the region	Employ strategies outlined in Section 17.4 to increase local participation. Locally sources labour and materials should only be pursued where the net benefit of the project is not undermined.
Displacement of employment following construction and commissioning phase	<ul style="list-style-type: none"> <li>▪ Maximise the transfer of appropriately skilled and experienced staff within the New Hope Group where possible</li> <li>▪ Undertake a skills and education audit with employees to determine existing levels of transferrable skills, and opportunities for further training in the skills development program;</li> <li>▪ Identify local skills shortages through consultation with state and local government, industry, economic development boards and local training providers.</li> </ul>
Employment is transferred from other industries or businesses leading to reduced business viability and increasing labour costs	<p>Mitigating inflationary pressures are out of the scope of control for the proponent. However, it is recognised that the current unemployment rate in the Study area is quite low compared to the state average and that sourcing labour may be difficult. NAC will therefore focus on working with local employment and education agencies to provide training opportunities where possible particularly for:</p> <ul style="list-style-type: none"> <li>▪ Training for currently unemployed workers to encourage generated employment</li> <li>▪ Advertising employment opportunities with welfare agencies in the Project study area</li> </ul>
Significant migration to the local area causing upward pressure on property values	<ul style="list-style-type: none"> <li>▪ Source employment locally where appropriate to limit migration and pressure on property values</li> <li>▪ Conduct surveys to ascertain the number of workers likely to relocate for the revised Project and whether construction of temporary or permanent accommodation may be required</li> </ul>

Economic risk	Description / Mitigation strategy
Impact on future development in the region	<p>The revised Project is not expected to negatively impact on future development in the region except where significant competition for labour and materials exists. Should supply constraints exist, this impact can be mitigated through sourcing labour and materials outside of the region. This approach should only be pursued where necessary, since the objective of sourcing labour and materials locally is to maximise economic benefits for the region. NAC will therefore weigh up costs and benefits of either option when more information on labour and materials availability is known. This will be conducted in conjunction with local government authorities to ensure transparency of decisions and that communities are adequately informed. This is particularly prevalent based on recent survey feedback indicating that residents of some areas feel information is not transparent.</p> <p>Positive impacts include potential new business investment from supporting industries and industries benefitting from increased consumption expenditure such as retail trade. This benefit can be enhanced through employing the strategies outlined in Section 17.4, where this does not cause excessive pressure on availability of labour and materials.</p>

## 17.6 Conclusion

The economic impact assessment considers impacts (both quantitatively and qualitatively) at a local, regional, state and national level.

Economic benefits for the local Study area from the revised Project's construction and operation include:

- Ongoing contribution to local employment during operation – the New Acland Mine currently employs 300 full time workers, of which 105 reside within the local Study area and would be displaced in the absence of the revised Project. During operation of the revised Project, it is anticipated that this employment will continue to be sourced from the local study area. Where possible, the proponent will also endeavour to fulfil additional labour requirements for increased production locally.
- Ongoing contribution to household income during operation – The local Study area has historically had a lower median income compared to the regional Study area and the Queensland average, and displaced employment in the absence of the revised Project would likely exacerbate this disadvantage. Conversely, the revised Project will provide ongoing household income benefits for the local study area, estimated at approximately 35 per cent of total salaries outlay.
- NAC will seek to utilise local suppliers where possible and commercially viable during the construction and operation stage, which will enhance economic benefits for the local study area. However, it is unlikely that significant benefits for the local Study area will be realised from construction expenditure, since the majority of expenditure is likely to be outlaid outside of the local Study area (although there will be benefits for the regional study area). However, some impacts for economic output, value added, employment and household income would be expected through induced impacts associated with construction workers spending money in the local

economy. In addition, NAC estimates that some (approximately 20%) of the construction workforce would be sourced locally. Availability of local labour will be reviewed at the revised Project's commencement.

Economic risks for the local Study area from the revised Project's construction and operation include:

- A reduction in agricultural output valued at \$2.3 million per year or \$37 million over the life of the revised Project (\$June 2013). This represents a direct employment impact of approximately 5 FTEs per year. It is expected that rehabilitation during de-commissioning would return the majority of impacted land to a state suitable for agricultural production and therefore impacts are not estimated beyond this period.
- Significant migration to the local area causing upward pressure on property values - significant impacts on are not expected since the majority of the labour force during operation is expected to be sourced locally. Construction workers which are sourced from outside the local Study area are not expected to relocate to the region.

Across all regions, the revised Project will directly support approximately \$6.6 billion in economic output from construction / capital and operational expenditure. Direct employment for the revised Project is estimated at 109 FTEs on average during construction and 412 on average during operation. Total employment impacts per year (including direct, indirect and induced impacts are estimated at 468 FTEs per year on average from construction / capital expenditure and 3,082 FTEs per year on average during operation. As previously outlined, IO modelling provides an estimate of contributed or supported economic output, value added, employment and household income and does not necessarily constitute a generated benefit.

The total economic impact across all regions and including indirect and induced impacts is summarised in **Table 17-19**. Impacts are estimated for output, value added, employment and household income, and show that the revised Project will potentially contribute to the on-going economic growth in the Darling Downs (which has historically been lower than the Queensland average). Household income benefits may contribute to increasing the median household income in the Study area which is also below the Queensland average.

**Table 17-19 Overall economic impact (IO modelling)**

<b>Economic impact</b>	<b>Regional Study Area</b>	<b>Total Queensland</b>	<b>Total Australia</b>
Total output impact (millions)	\$3,876	\$16,740	\$18,711
Total value added impact (millions)	\$2,584	\$6,646	\$8,868
Total employment impact (Average FTE per year)	1,431	2,953	3,550
Total household income impact (millions)	\$1,247	\$4,288	\$4,877

Source: SKM Calculations

Estimated economic benefits for the local and regional study areas can be maximised through strategies to increase local worker and business participation, including from local indigenous communities, and through NHG's commitment to the Queensland Resources and Energy Sector Code of Practice for Local Content and the company's internal purchasing policy that makes provision for local purchasing.

NAC also currently holds two headline internal (confidential) policies which address employment opportunities for recognised traditional owners of impacted land. These will be renegotiated for the revised Project.

Other economic risks for which mitigation strategies have been provided include:

- Displacement of employment following construction and commissioning phase
- Transfer of employment from other industries or businesses leading to reduced business viability and increasing labour costs

Negative impacts on future development are not expected, except where significant competition for labour and materials exists. This can be mitigated through sourcing labour and materials externally. However, this approach should only be pursued where absolutely necessary, since it would reduce the overall contribution of the revised Project to the local economy.

Overall, if suggested strategies for local participation are pursued, the revised Project is expected to contribute to economic development in the local and regional study areas through supported output (and value added), employment and household income.

## 17.7 Summary of Mitigation Measures and Commitments

**Table 17-20 Summary of Mitigation Measures and Commitments**

<b>Economic risk</b>	<b>Mitigation strategy</b>
Reduction in agricultural output from impacted land	Household impacts from a reduction in agricultural output have been mitigated to some extent through compensation for landowners. Rehabilitation should ensure that land is returned to beneficial post mine use as possible.
Lower than expected benefits for the regional study area	Employ strategies outlined in Section 17.4 to increase local participation. Locally sources labour and materials should only be pursued where the net benefit of the project is not undermined.
Displacement of employment following construction and commissioning phase	<ul style="list-style-type: none"> <li>▪ Maximise the transfer of appropriately skilled and experienced staff within the New Hope Group where possible</li> <li>▪ Undertake a skills and education audit with employees to determine existing levels of transferrable skills, and opportunities for further training in the skills development program;</li> <li>▪ Identify local skills shortages through consultation with state and local government, industry, economic development boards and local training providers.</li> </ul>
Employment is transferred from other industries or businesses leading to reduced business viability and increasing labour costs	<p>Mitigating inflationary pressures are out of the scope of control for the proponent, however where possible local development should be supported through:</p> <ul style="list-style-type: none"> <li>▪ Training for currently unemployed workers to encourage generated employment</li> <li>▪ Advertising employment opportunities with welfare agencies in the Project study area</li> </ul>
Significant migration to the local area causing upward pressure on property values	<ul style="list-style-type: none"> <li>▪ Source employment locally where appropriate to limit migration and pressure on property values</li> <li>▪ Conduct surveys to ascertain the number of workers likely to relocate for the revised Project and whether construction of temporary or permanent accommodation may be required</li> </ul>
Impact on future development in the region	<p>The revised Project is not expected to negatively impact on future development in the region except where significant competition for labour and materials exists. Should supply constraints exist, this impact can be mitigated through sourcing labour and materials outside of the region. This approach should only be pursued where necessary, since the objective of sourcing labour and materials locally is to maximise economic benefits for the region.</p> <p>Positive impacts include potential new business investment from supporting industries and industries benefitting from increased consumption expenditure such as retail trade. This benefit can be enhanced through employing the strategies outlined in Section 17.4, where this does not cause excessive pressure on availability of labour and materials.</p>