EIDOS INSTITUTE LTD

MINERALS AND ENERGY RESOURCES SECTOR IN QUEENSLAND ECONOMIC IMPACT STUDY

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Eidos Institute acknowledges the traditional owners of the land on which it is situated and is committed to fostering a culture of remembrance, recognition and respect for indigenous people.

Background

This report has been commissioned by the Queensland Resources Council (QRC). The QRC collected and collated data on expenditure from its full-member companies (approximately $25 billion in 2009/2010), and then engaged the research team to analyse the data and generate this report.

The modelling and analysis that underpin the results in this report have been performed by the research team, and reflect the knowledge, expertise and experience of the researchers involved in preparing this report.

The primary data collected by the QRC and the modelling data generated by the research team will underpin the www.queenslandeconomy.com.au website that has been developed by the QRC. The research team also completed 14 case studies of everyday Queenslanders describing what their state's minerals and energy resources mean to them.

This report is designed to accompany the website, and to be available from it in electronic form.

The contribution of David Rynne from the QRC to the report through the provision of data, commentary and review is gratefully acknowledged. Thanks also go to Mr Mike Jeffrey from EIDOS helped to initiate and coordinate the project.

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1. Introduction

This report provides a detailed summary of the level of expenditure into the Queensland economy by the minerals and energy resources sector (termed as the resources sector throughout the report) in 2009-10 and the multiplier and consumption effects that are generated by that initial stimulus. While the resources sector[1] makes a significant contribution to the Queensland and Australian economies, information about the impacts of the sector on regional and metropolitan economies within Queensland is limited.

Impacts on regional and metropolitan areas of Queensland occur through direct, indirect and final consumption effects. There are two key types of direct impacts:

- Wages for direct employment of workforce
- Expenditure on business services in local and regional economies

Business expenditure generates both upstream and downstream ripple effects through the business supply chain as local businesses purchase goods and services from other businesses, often through several links in the supply chain. The net effect of subsequent rounds of economic activity in the business supply chain can be categorised as indirect effects. The increased employment that is generated through the direct effects (resources sector employment) and the indirect effects (business supply chain) generates a number of final consumption effects to support the increased population base.

The focus of the research outlined in this report is to identify the geographical spread of impacts from the resources sector across Queensland. The process was initiated in July 2010 when the QRC asked its full member companies to disclose how much they spent in 2009-10 on:

- Goods and services
- employee salaries and wages (by place of residence)
- voluntary community contributions.

The data was supplied by Australian postcodes and includes both operating expenditure (opex) and capital expenditure (capex).

The companies that contributed to this database can be found at Table 4.1. The QRC estimates that the projects of these Queensland operating companies represent around 95 per cent of the current and expected total value of production of the Queensland's resources sector.

The postcode spend data were then aggregated and the economic impacts (indirect and consumption impacts) of the resources sector were analysed at three geographic scales:

- State (the whole area of Queensland).
- Regional (represented by 13 Statistical Divisions in Queensland)
- Local (represented by 74 Local Government Areas in Queensland)

[1] For these purposes is defined more broadly than mining (ABS) and includes the producers and processors of coal, base and precious metals, coal and gas-fired electricity, cement, magnesite and magnesia, oil and gas, synthetic crude oil, mineral sands, aluminium, bauxite, and alumina.

2. Methodology

Input-output modelling

For this study, Input-Output (I-O) modelling has been used to estimate the sum of direct, indirect and final consumption of the resources industry on different regions of Queensland. I-O techniques provide a solid approach for taking account of the inter-relationships between the various sectors of the economy in the short-term and hence are an appropriate tool for determining the direct, indirect and induced economic impact of economic stimuli. An input-output model can be used to identify how different sectors in the economy interact, and how changes in one sector generate 'ripple' effects through the wider economy in terms of changes in income, expenditure and employment (Jensen and West 2002, Loveridge 2004). I-O models can be used to capture only the indirect impacts that occur through other industry sectors (Type I models), or the indirect plus the final consumption effects (Type II models).

The I-O technique was developed by Wassily Leontief in the 1930s to describe how impacts in one sector of an economy interacted with other sectors to generate economic changes, with matrix algebra used to perform the complex calculations. More advanced forms of I-O models are computable general equilibrium models, which are used for analysis of larger national economies. However the standard I-O model approach remains particularly useful for predicting the impacts of events or projects in an economy, or analysing regional level economies (Loveridge 2004). In this case study the I-O models were based on the ABS models of the Australian and Queensland economy generated from general equilibrium models.

A concept underlying I-O modelling is that an initial economic shock or stimulus can have multiplier effects through a series of successive spending rounds. The size of the economic multiplier in a local or regional area can be summarised in the following way. The key concepts of interest (Jensen and West 2002) are:

- The extent to which project operators purchase inputs from the local or regional economy. Examples of inputs include wages for labour supplied from the local or regional area, and purchases of goods and services. The more that a project operator sources from the local or regional economy, the more money that is directly injected into the economy.
- The extent to which money spent in a local or regional economy is retained within that economy. If there is not much opportunity for people receiving income to spend it on goods and services in their local or regional area, then not as much money will be kept in the local or regional area. Larger and more diverse regional economies tend to be better at keeping expenditures in their economy and not 'losing' it to other regions.

To generate predictions, the economic contribution of an industry is applied to the relevant industry sectors of the input-output model of a regional economy. The stimulus from economic activity can be traced through the economy in several different ways:

- The first round effect, or direct effect, are those from the expenditure in purchasing goods and services from other industries;
- The second round effects are those from the supplying industries increasing their purchases to meet the additional demand. The second and subsequent rounds of purchasing are termed the indirect effects; and
- The consumption-induced effects identify the increase in economic activity generated to service the additional employment (and population) created through the direct and indirect effects.

Predictions from I-O models are summarised in terms of multipliers and changes in four key variables:

Output

The output impact measures the increase in gross sales throughout the whole economy by summing all the individual transactions resulting, directly and indirectly, from the economic stimulus.

Income

The income impact measures the additional amount of wages and salaries paid to employees of the industry under consideration and to other industries benefiting from the stimulus to the economy.

Employment

The employment impact measures the number of jobs created by the stimulus, both directly and indirectly.

Value Added

The value added or Gross Regional Product (GRP) impact measures only the net activity at each stage of production. GRP is defined as the addition of consumption, investment and government expenditure, plus exports of goods and services, minus imports of goods and services for a region. The GRP impacts are the preferred measure for the assessment and contribution of a stimulus to the economy.

Key advantages of using input-output models are the fineness of detail available at a disaggregated industry level, the relative ease of application, particularly for sub-regional levels, and the ability to model effects in a timely manner (Loveridge 2004). However, care has to be taken in its application and interpretation of results. Key assumptions that underpin the application of I-O models are (Stilwell et al. 2000, Department of Mines and Energy 2007):

- Constant prices
- Fixed technology
- Fixed import shares
- Constant labour productivity within sectors
- No constraints on supplies of factor inputs

Type II models involve additional assumptions about fixed relationships between income and consumption patterns. A further issue is that both Type I and Type II models do not account for all forms of potential efficiency interactions between industries with changes. These factors mean that the results of I-O models should

generally be treated as the upper bound of estimates, and that care has to be taken in interpreting the results of very large changes in demand or production.

Previous literature

There have been several studies applying input-output modelling techniques to analyse the contribution of resources industries to economic growth in different countries and regions. Rubin and Solomon (1983) used economic base and regional multiplier analysis to estimate the impacts of coal liquification projects on 27 counties in Indiana and Kentucky in the United States. Their analysis identified an economic base multiplier of 7.93, implying that for every dollar of new income generated by the projects in the region, an additional $6.93 of additional new income would be generated through the remainder of the region.

Stilwell et al. (2000) used the technique to estimate the contribution of the mining industry to South Africa over a 22 year period. They found that while the employment multipliers were tending to rise over time, they were not substantially different from other sectors in the South African economy. Employment multipliers were estimated to range between 22.85 and 33.69 for different types of mining activities.

Aroca (2001) estimated that for each US dollar produced by mining industry in Chile, 9% is spent on compensation of employees in mining sector, 7-15% is spend on compensation of employees in other sectors. The open model multipliers (not including effects on final consumption from additional households) ranged from 1.01 to 1.65. That means that each additional dollar that is spent on final demand will increase the total output by US$1.01 to US$1.65 depending on the industry the initial dollar is spent. If the final consumption effects were included (closed model), the size of multiplier in the mining sector was estimated at 1.8. Aroca (2001) estimated that an additional employee in the private mining firm means that 3.1 (open model) or 5.7 (closed model) additional workers will be hired in the regional economy.

Bangsund and Leistritz (2007) estimated the economic contribution of the petroleum industry to the state economy of North Dakota in the United States. The total economic impacts were summarised in terms of direct and indirect business impacts, direct and indirect employment impacts, and additions to government revenues. The direct expenditure on businesses were estimated at US$1.5B, with every dollar spent generating a further 63 cents in indirect activity, generating total business activity of US$2.4B. Direct employment was estimated at 5,267 jobs, and additional employment through the business supply chain was estimated at 20,650 full-time jobs. Total personal income was estimated at US$1.5B, and there were direct and indirect contributions to local and state government tax revenues of US$280M and US$55M respectively.

Fannin et al. (2008) used community impact models to estimate the economic effects of oil and gas production from deepwater leases on growth on a regional area of Louisiana in the United States. They estimated that the industry was creating 0.59 indirect (business sector) jobs in the Lafourche Parish economy for every one direct job, with largest impacts in the transport and warehousing industry.

Leaming (2010) estimated the economic impacts fro the copper industry to the Arizona economy in 2009. He estimated that 25% (or $767 million) of US$3 billion direct payments to Arizona residents, business firms, and governments, were paid as personal income. The largest share of spending (70% or US2.1 billion) was on purchases from other firms within Arizona, while the payments for state and local governments reached $151 million, The estimated indirect economic impacts was more than two times higher than the direct impacts.

Previous studies

Previous modelling directly relevant to this study was carried out by ACIL Tasman in 2007, and reported by the State of Queensland (Department of Mines and Energy) (2007). In that report, the contribution of the mining and minerals processing sector to the Queensland economy, using 2004-05 data, was estimated with the use of I-O analysis and general equilibrium modelling.

The results of that study identified that in 2004-05, Queensland's mineral and mineral processing industry generated a direct value-added contribution of $15,377 million, or 9.7% of Gross State Product. These two industries also were estimated to generate direct employment of 50,007 people, with total employment effects, including both direct and indirect effects, estimated at 216,041 people. Total income, including both direct and indirect salaries and wages, was estimated at $11,122 million. These estimates represented large changes on analysis of 1999-00 data, demonstrating significant growth in the industry. The results of the current study, and similar work conducted in 2002 on 1999-00 data, is summarised in the table below, demonstrating that the industry continues to grow its share of the Queensland economy.

Table 2.1. QDME and CQU estimate of Economic Impact of Resources Sector on Queensland Economy over time.

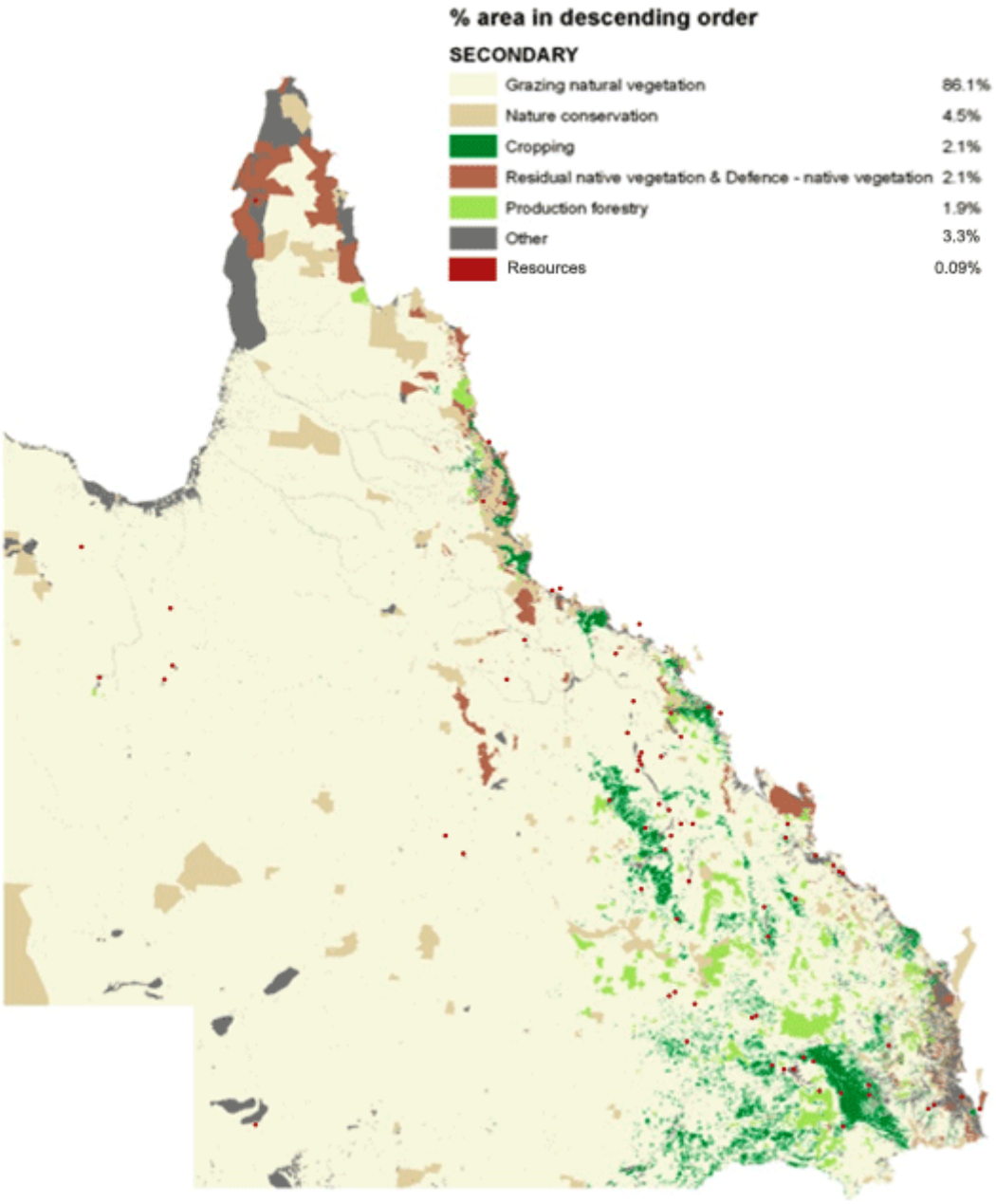
	QDME (ACIL Tasman) study – Mining and Minerals Processing sectors only		QRC – CQU study – full Resources sector
	1999-00 Data	2004-05 data	2009-10 data
Direct Output (A$ m)	17,036	32,412	38,573
Direct Value Added at market prices (A$ m)	7,233	15,377	28,066
Direct contribution to total factor income (A$ m)	5,590	11,650	18,972.2
% Gross State Product (GSP)	8.4%	9.7%	11.7%
Direct Employment	21,800	50,057	40,032
Total employment (Direct + indirect)	93,235	216,041	240,281
Total Income (direct + indirect wages and salaries) (A$ m)	5,094	11,122	18,972.2
Value of exports (A$ m)	12,290	21,809	26,647
% Total Exports	57%	62%	62%
Royalty payments (A$ m)	463	1,450	2,093

This study is different from the ACIL Tasman 2004-05 study because it applies a sample (estimated to be 95% of the Queensland resources sector) of primary spend data from the resource companies to accurately calculate the direct and indirect economic impacts (value add and employment in the main) at the Local Government Area (LGA) level, instead of estimating impacts from total revenue injected. The approach adopted in this study captures the level of spending injection into the economy from both current operations and new investment, in comparison to more standard approaches which only capture the impacts of current operations. As well, the methodology adopted in this study allows more accurate assessment of economic impacts at the LGA level, which are not available through general equilibrium modelling. The trade off is that this approach makes it more difficult to estimate the total state wide impacts as is discussed under 'indirect and final consumption effects'.

3. Overview of the resources industry in Queensland

The resources sector in Queensland involves the extraction and processing of a wide variety of resources as well as electricity generation from these resources. A representation of current land use by the resources industry is shown in Figure 3.1.

Figure 3.1. Land use in Queensland in 2010



Source: QRC © The State of Queensland (Department of Environment and Resource Management) [2010]

Activity and growth in resources activities is concentrated in some regional areas (LGAQ 2010), including:

- The Darling Downs SD currently has a number of gas and coal-fired electricity generation plants, gas and (thermal) coal production, and is experiencing major growth in the production of coal seam gas (CSG) as an input for liquefied natural gas (LNG) processing;
- The South West SD currently has gas-fired electricity generation, produces processed natural gas, liquefied petroleum gas and natural gas, and is also experiencing major growth in the production of CSG as an input for LNG processing;
- The Mackay and Fitzroy SDs are the lead regions for producing PCI, metallurgical and thermal coal, gas and coal fired electricity generation, limestone and cement related production, magnesite and magnesia, alumina and aluminium. These SDs also have the major coal export port facilities;
- The Northern and North-West SDs are largely involved in producing base metals, particularly gold, silver, nickel, copper, lead and zinc;
- The Far North SD has bauxite production at Weipa, and some additional production of tin and gold.

The resources sector has been on a very strong growth trajectory since about 2003, when high overseas growth, especially in developing countries like China and India pushed up demand for minerals and energy commodities. The relative performance of the mining sector [2] in the Queensland economy relative to other key sectors is shown in Figure 3.3.

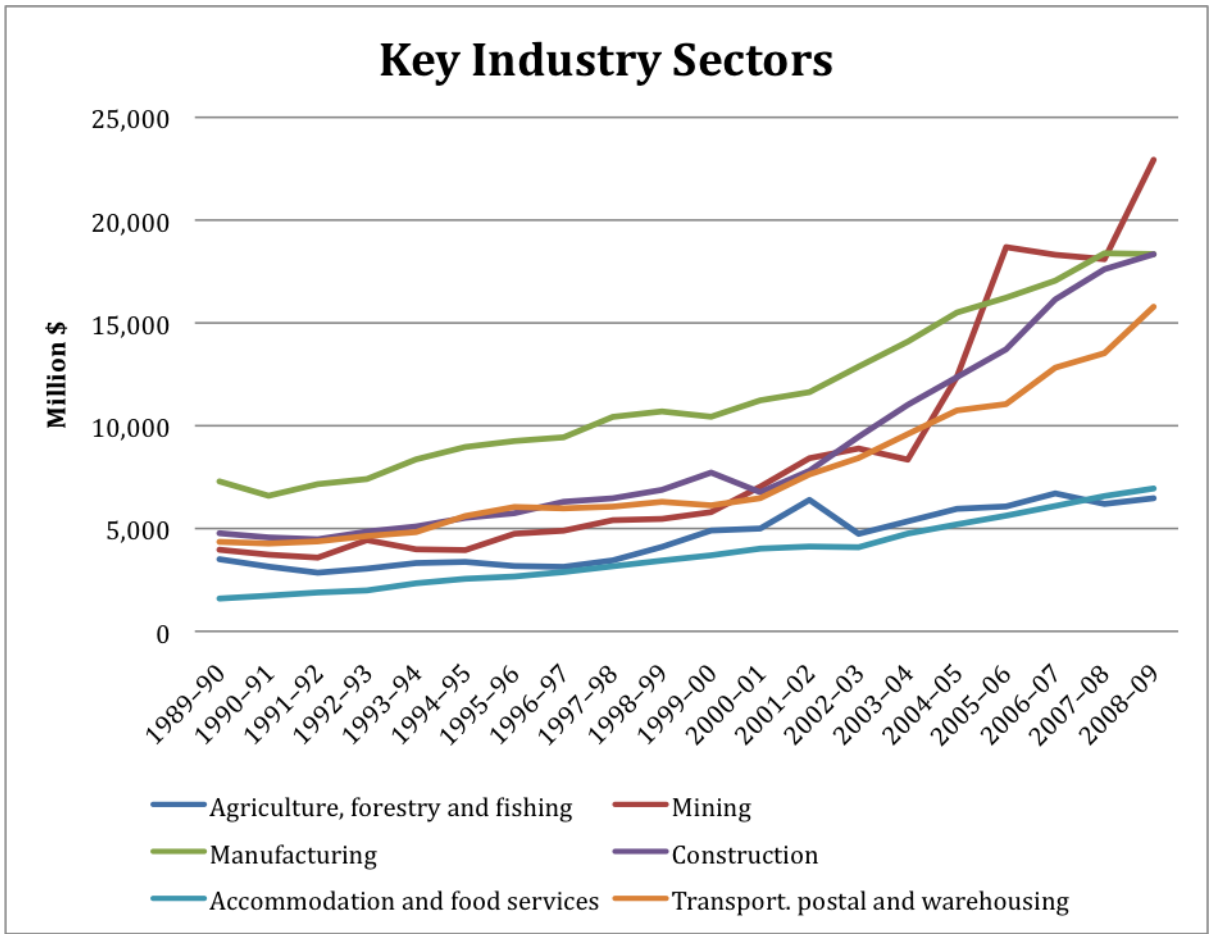
The data shows that the mining sector has grown to be the largest industry sector in the state since 2004. While the traditional sectors of Agriculture and Accommodation and Food Services (closely aligned with the tourism industry) have had relatively low rates of growth from 1989, mining has enjoyed much faster rates of growth (driven largely by price increases for key commodities), with high rates of growth in Manufacturing (incorporating minerals processing). There also appears to be high growth rates in closely related industries of Construction, Manufacturing and Transport.

Growth in the resources sector, particularly since the commodities boom from 2002, has led to increases in employment and regional incomes. The boom in the mining industry has generated an increase in direct employment in Queensland from 18,300 employees in 2002/03 to 42,500 employees in 2009-10 (Figure 3.4). Additional employees will also be involved in other non-mining industries of the resources sector. The resources industry typically has much higher salary levels than many other industry sectors. For example, May 2010 ABS data reveals that the mining industry in Australia paid 2.1 times more per employee than the retail trade industry, and 1.8 times more per employee in the

[2] As distinct from the 'resources sector' which for these purposes is broader in definition

manufacturing industry[3]. Higher levels of employment and income provide a base for larger inputs into regional and metropolitan economies.

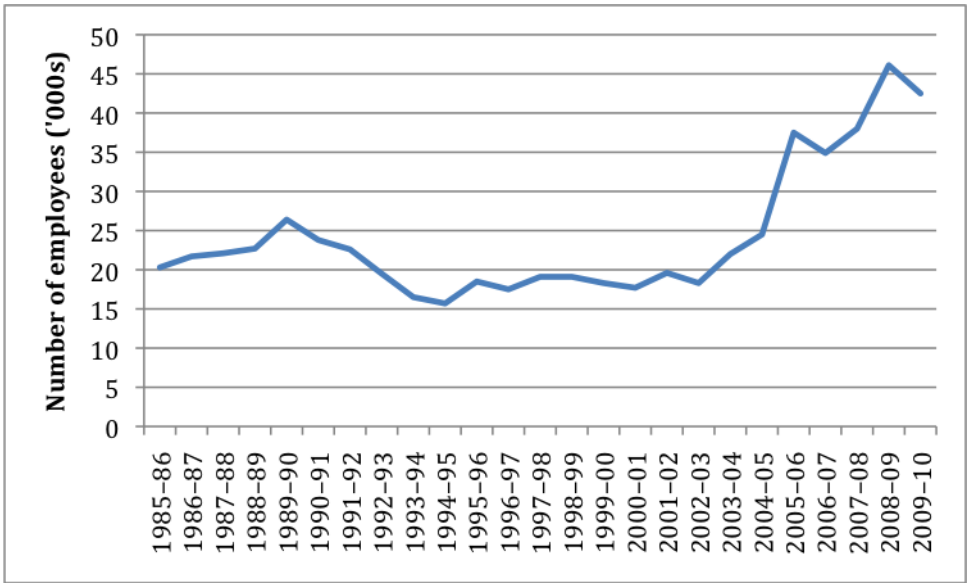
Figure 3.3. Contributions to Gross State Product for selected Queensland industries over time.



Source: Adapted from data from ABS: Australian national accounts, State accounts, Cat. No. 5220.0

[3] ABS Average Weekly Earnings, Australia, May 2010

Figure 3.4. Employment in the Queensland mining sector over time



Source: OESR, ABS Labour force data, Cat: 6291.0.55.003

Increased activity in the resources sector generates direct impacts on regional and metropolitan areas of Queensland and Australian economies in five key ways:

- The expenditure of companies on contractor and employee wages and salaries for extraction, development and exploration activities,
- The expenditure of companies on contractors and suppliers associated with extraction, development and exploration activities,
- The voluntary expenditure of companies on community infrastructure such as health centres,
- Increased dividends to investors in resources firms which are then used for the purchases of goods and services,
- Increased royalty payments and tax revenues to all levels of government.

Those direct impacts generate a number of indirect and consumption impacts, principally through:

- The flow-on effects of business expenditure back into other sectors of the economy,
- The flow-on effects of consumption expenditure back into other sectors of the economy, and
- The expenditure of government on infrastructure, goods and services.

The economic contributions of the resources sector to the Queensland economy and regional areas within the State are influenced by a number of dynamic factors. For convenience, these can be summarised into macro and micro issues. These issues are not analysed in this report, but they are outlined here to provide better contextual understanding around the I-O results that are provided in the next sections.

Macro factors

There are a number of ways in which the resources sector impacts on Australian and Queensland economies at an aggregate level. Resource production and exports contribute to Australia's terms of trade, with the increase in commodity prices generating a terms of trade increase of almost 50 per cent between 2004 and 2008 (Garton 2008).

Employment growth in the mining sector in Australia grew by more than 10 per cent per annum between 2003-04 and 2007-08, compared to declines in the Agriculture and Manufacturing sectors (Lim et al. 2009). The ongoing strength in commodity markets has helped Australia to weather the global financial crisis in 2008-09 (Perlich 2009, Lim et al. 2009).

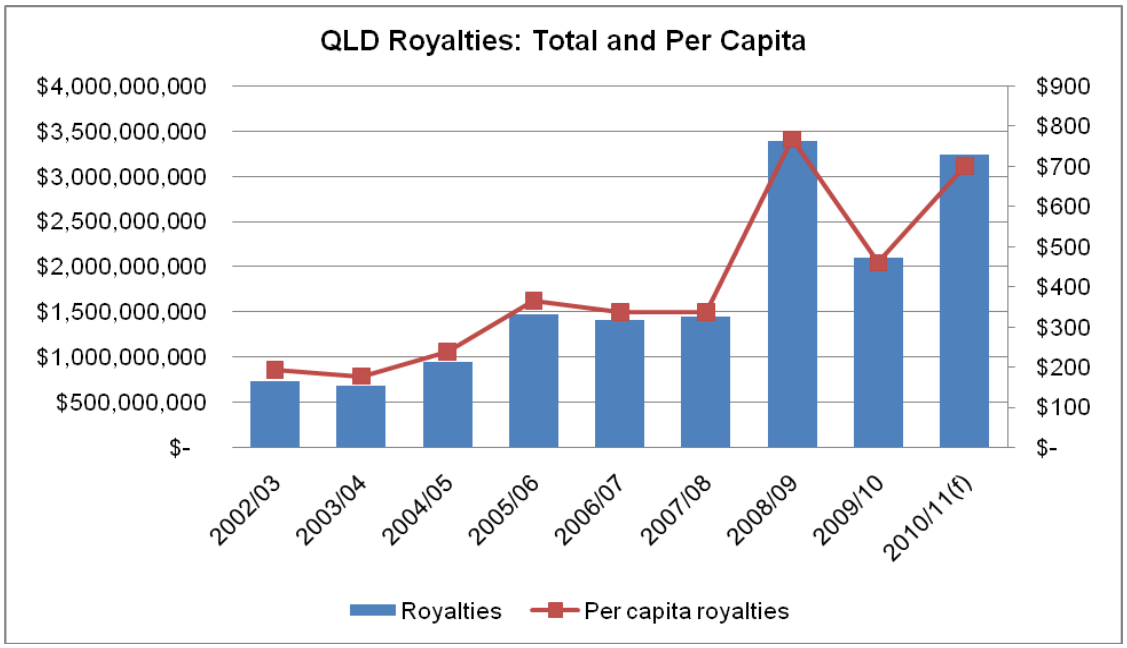
The resources sector also makes an important contribution to government revenues, particularly through payments of company tax and resource royalties. Approximately one-third of the additional national income generated by the resources boom between 2003-04 and 2007-08 has gone to Commonwealth tax revenues (Garton 2008). Similar growth in royalty income has been generated at the state level, with estimated royalties to the Queensland increasing from $0.69 billion in 2003/04 to $2.09 billion in 2009-10 (Figure 3.5).

High growth rates in the resources sector have raised concerns that Australia may have a two-speed economy, where the resource states of Queensland and Western Australia outstrip the economic performance of the other states.

There is evidence that the mining states have grown significantly faster than the non-mining states from 2002-03, with Gross State Product and employment growing about twice as fast in the mining states (Garton 2008). However, trends in population growth and real household disposable incomes have not changed much between the states (Garton 2008). This is in part because income gains appear to widely distributed away from the mining states because of the large share of profits that accrue to both international and interstate investors, increased tax revenues paid to the Commonwealth Government, adjustments in employment markets and differences in state inflation rates (Garton 2008).

There are also concerns that the growth in the resources sector in Australia is creating other pressures on the economy, particularly on exchange and interest rates. These types of negative impacts of a resources sector boom became known as 'Dutch Disease' after rapid expansion in the natural gas sector in the Netherlands in the 1960s caused a decline in the manufacturing sector.

Figure 3.5. Queensland royalties: Total and per capita



Source: Data provided by the Queensland Resources Council

The economic concepts underlying Dutch Disease have been more rigorously defined and explained by Corden and Neary (1982) and Corden (1984). Macroeconomic effects occur when the increasing revenues generated through a resources boom generate an appreciation in the exchange rate, affecting the returns for export industries and the costs for importing ones by (Corden and Neary 1982, Corden 1984). For an affected economic sector, Dutch Disease can simultaneously increase costs and reduce export income and the availability of skilled labour.

Economic performance is enhanced when countries or regions can specialise in industries where they have a competitive advantage, so the process of moving economic resources (including labour) from less productive industries to more productive ones is a normal part of economic growth (Malecki 1997).

The factors that distinguish Dutch Disease from the more standard phases of economic growth is where the speed or fluctuations in a resources boom amplifies the decline in other sectors in the short term beyond what is economically desirable (Corden 1984). This can occur when a decline in alternative industries during a resources boom is not easily reversed when the boom tapers off. There are two main options to reduce the potential for Dutch Disease (Corden 1984). The first is to quarantine some of the boom revenues so as to minimise impacts on exchange rates and reduce the spending surge. The second is to address some of the issues that limit the competitiveness of affected industries. Where some level of Dutch Disease is unavoidable, governments may have a role in helping affected sectors to transition to new levels of performance.

Micro factors

Key factors that influence how resource companies influence local economies revolve around trends in operations management, workforce location, and supply purchasing. Over the past thirty years in Australia, resource companies have streamlined many operations to focus on core business activities, moving away from being self-sufficient entities (Rolfe et al. 2007, Zheng et al. 2007).

From the 1990s, many mining companies reduced their provision of housing in mining towns and responsibility for employees outside of work hours, introduced greater use of business suppliers and contractors, particularly for non-core operations, and changed a number of work patterns, including moves towards longer shift patterns.

These changes have had the effect of diffusing the impact of direct mining expenditures in two main ways. First, greater reliance on external suppliers and contractors has led to increased development of business supply chains, which are often located in regional hubs and major centres (Rolfe et al. 2007). Second, increased flexibility about workforce location and increased use of drive-in/drive-out and fly-in/fly-out workforces means that many mining salaries flow to areas outside of direct mining activity. These trends in workforce mobility are underpinned by improved transportation and social and demographic changes. Factors such as employment for partners and children, access to education, health and recreation services, and convenience and lifestyle issues are making it more attractive for mining employees and their families to live in the larger more liveable centres or coastal cities.

Economic development remains constrained in many smaller communities in Queensland, as improved communication and transport options increases access to regional hubs and larger centres. Many smaller communities lack the capacity or diversified economic structure to service growth in new industry. For many mining developments, limited economic structures in local areas creates a 'fly-over' effect where business and employee expenditure tends to be directed outside the local region (Storey 2001). This means that the rates of economic leakage from smaller communities are tending to rise over time and with increased resource development.

4. Data Collection and Analysis

Data collection and sources

The focus of this project has been on the resources sector in Queensland. This has been broadly defined to encompass all mining activities in the State, including minerals, coal, oil and gas extraction, cement, magnesia and magnesite production, and some power generation activities that are aligned with resources extraction.

Capital expenditure (capex) data from proposed investments currently under development and operational expenditure (opex) data for current projects was provided by resources companies in Queensland through the QRC. Key details of the companies and their projects that were involved in supplying data are shown at Appendix One. Companies were asked to provide data for the 2009-2010 year. Approximately 95 per cent of the resource sector (by value of production) provided their data to the QRC for this project.

Table 4.1. Companies supplying data for the project.

Anglo American Metallurgical Coal	Origin Energy Australia
Arrow Energy Limited	Peabody Energy Australia Pty Ltd
Bowen Basin Coal Management Pty	QER Pty Ltd
BHP Cannington	QGC Limited
Queensland Alumina Limited	Queensland Magnesia Pty Ltd
BHP Billiton Mitsubishi Alliance (BMA)	Queensland Nickel Pty Ltd
Caledon Resources PLC	Rio Tinto Coal Australia
Cement Australia	Rio Tinto Alcan
Citigold Corporation Limited	Santos/TOGA Pty Ltd
Ensham Resources Pty Ltd	Sonoma Mine Management Pty Ltd
ERM Power Pty Ltd	Stanwell Power Corporation
Hancock Coal Pty Ltd	Tarong Energy Corporation
Millmerran Power Management Pty Ltd	Consolidated Rutile Limited
Ivanhoe Australia Limited	Vale Australia
Jellinbah Group	Wesfarmers Resources
Macarthur Coal Limited	Xstrata Coal Australia Pty Ltd
MetroCoal Limited	Xstrata Mount Isa Mines Ltd
Minerals and Metals Group Limited	Xstrata Ernest Henry Mining Pty Ltd
New Hope Coal Australia Ltd	Xstrata Zinc
North Queensland Metals Ltd	Yancoal Australia

Companies supplied data on expenditure by three key categories: salaries, voluntary community contributions and business supplies[4]. The expenditure was identified by the postcode where the salary was paid (residence of the worker or contractor) and where the community contributions and business expenditures were paid, thus providing a trace about the location of relevant salary earners

[4] The latter two were aggregated as their economic effects are identical

and business operators[5]. Geography correspondence files[6] from the Australian Bureau of Statistics were employed to group the salary and expenditure data by postcode to the LGA and SD levels. This then provided the basic input data for analysis. A total of $25 billion in annual spend data by postcode was collected.

Construction of the Regional Input-Output Models

For the derivation of the regional I-O tables for the Statistical Divisions (SDs) and Local Government Areas (LGAs) in Queensland, a variable interference non-survey technique was applied, involving a formalized non-survey method compilation. This allowed data on direct effects of the resources industry to be inserted at any stage of the compilation procedure. This approach is based primarily on a mechanical procedure (mainly on cross-industry location quotients) for the regionalisation of the national direct requirements matrix (DRM), which is at the core of any I-O table.

In summary, the construction of the local and regional I-O models employed the following steps:

- Adjustment to the latest available national I-O table
- Computation of the regional direct requirement matrix
- Aggregation of regional sectors (if necessary)
- Computation of the complete regional I-O table

All the necessary data for the regionalization procedure were collected from the Australian Bureau of Statistics as well as other reliable sources for secondary data such as regional household expenditure patterns, income and productivity measures. The latest available national I-O tables was 2005-06, which consisted of 109 sectors of economic activity, at the 4-digit level, compiled following the industry-technology assumption, product-by-product, with total flows and valued at basic values in current prices.

For estimating the regional IO tables, and especially in the interpretation of results, relevant limitations of the I-O approach (static, linear production function, no substitution or scale economy effects, infinite elasticity of supply) were taken into consideration. Once the I-O models were generated, predictions of impact were estimated for each regional area of interest in Queensland using the available data on salary and business expenditure. These data on direct expenditures were inputted into the models to generate estimates of changes in outcome, incomes, employment and value added.

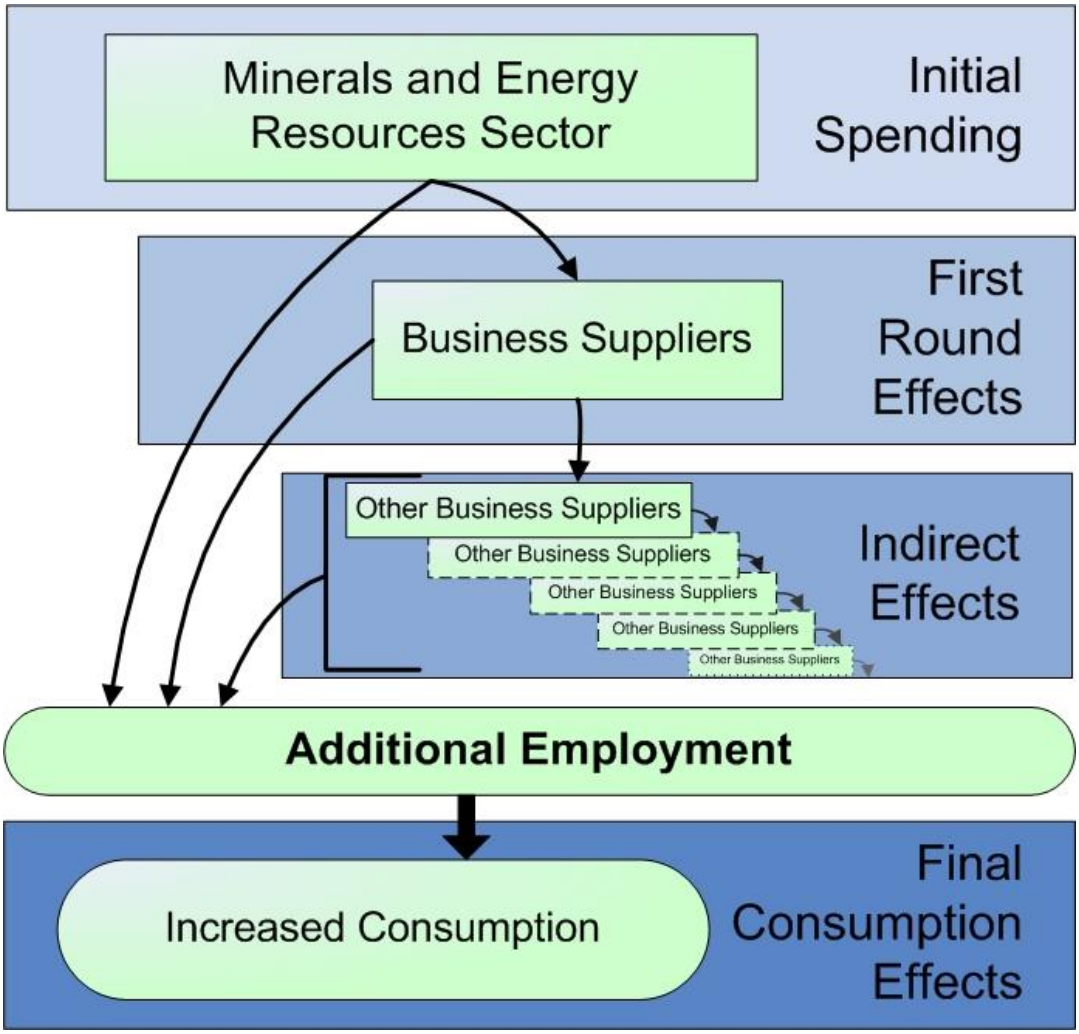
The predictions of the I-O models for each SD and LGA were estimated in two separate groups. The first group involved the economic impacts of expenditure on business goods and services (business suppliers), while the second involved economic expenditure on the labour force. The outputs of the models can be classified into First Round and Indirect Effects, representing industry impacts through the business chain, and Final Consumption effects, which represent the

[5] It was not possible to identify imports specifically out of the spending patterns. Some expenditure in the Brisbane CBD in particular may have transferred to imports.

[6] http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/1259.0.30.001Main+Features1July%202010?OpenDocument

economic activity needed to support the increased workforce from Direct, First Round and Indirect Effects (Figure 4.1).

Figure 4.1. Simplified structure of predictions from I-O models.



The data collection and the methodology applied in this study are notable in three key aspects.

- First, the data collected on actual spending by the resources industry allowed an assessment of impacts by spending in the economy in comparison to the more traditional approach of predicting economic impacts from total revenue changes.
- Second, the collection of primary data by local area allowed a much more accurate assessment of the direct impacts by geographic area than had previously been available.
- Third, the application of the I-O modelling framework down to the LGA level, when combined with the accuracy of the primary data, meant that relatively accurate models of local impacts from the resources sector could be generated.

The outcomes of the data collection and modelling approach meant that the assessment of direct, indirect and consumption effects could be expected to be more detailed and accurate at the LGA level than could be achieved with standard applications of general equilibrium models.

5. Benefits to Queensland

Direct Effects

The data generated in this project indicated that the Queensland resources sector had paid more than $4.95 billion in wages and salaries in 2009-10 year. The total number of employees and contractors identified through the data collection were 38,034 persons, indicating that the average salary level across the resources sector is $134,230 per annum.

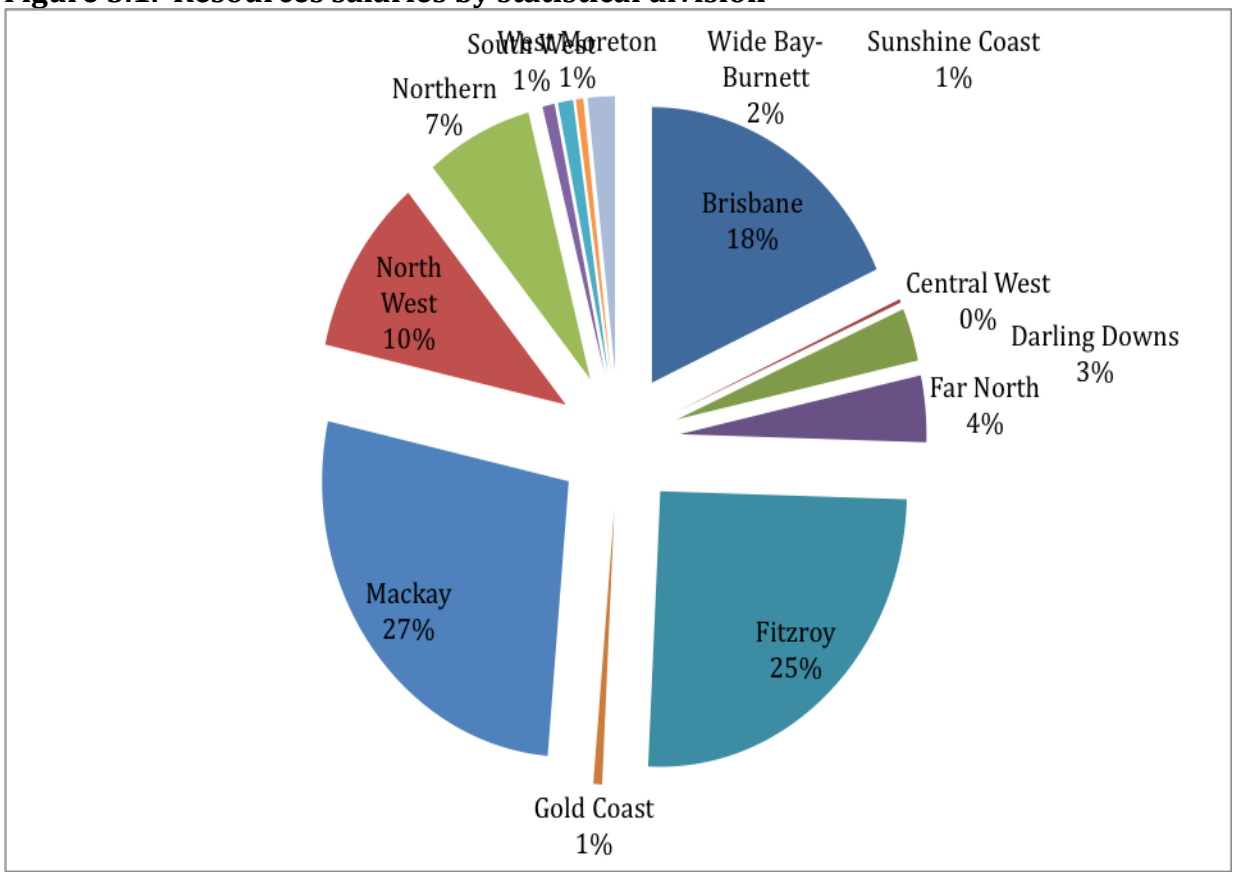
The sum of purchases from suppliers and voluntary community contributions in Queensland amounted to about $17.4 billion in 2009-10. Another $2.8 billion was spent on suppliers from outside of Queensland.

Australia wide, the sum of all three spends in 2009-10 came to in excess of $25 billion.

Table 5.1. Summary data from Resources Sector used in analysis

	Total employment in SD	Residing employees and contractors	Salaries spend	Business supplier & community spend	Total Economic stimulus	Aggregate value of production of current resource projects	Aggregate royalties generated
			$M	$M	$M		
Brisbane	1,072,287	6,940	903.8	9,479.0	10,382.8	266.1	14.0
Central West	7,663	77	10.0	25.3	35.2	429.0	33.0
Darling Downs	120,847	1,185	154.3	430.4	584.7	1,596.5	88.6
Far North	132,552	1,485	193.4	114.3	307.7	544.4	17.6
Fitzroy	111,223	9,627	1,253.7	2,406.7	3,660.4	10,836.0	522.4
Gold Coast	261,609	218	28.4	113.3	141.7	0.0	0.0
Mackay	90,255	10,322	1,344.3	2,678.8	4,023.0	16,706.9	1,254.8
North West	18,759	3,979	518.2	927.8	1,446.0	4,784.7	111.1
Northern	125,777	2,659	346.3	654.7	1,001.0	748.6	20.2
South West	15,844	301	39.2	139.5	178.6	609.6	60.4
Sunshine Coast	151,028	377	49.1	157.5	206.6	0.0	0.0
West Moreton	44,328	183	23.9	16.1	40.0	2.3	0.0
Wide Bay-Burnett	120,988	677	88.1	213.5	301.6	0.0	0.0
Total Queensland	**2,273,160**	38,031	4,952.7	17,356.7	22,309.5	36,524.1	2,122.2

Figure 5.1. Resources salaries by statistical division



The allocation of supplier expenditure by Statistical Division (SD) is shown in Figure 5.2. This illustrates that the bulk of direct expenditure on suppliers is going to the Brisbane region[7] (59%), followed by the Mackay region (14%), the Fitzroy region (13%), and North-West (5%). In contrast, the value of production data (Figure 5.3) shows that outputs are largely generated in the Mackay region (43%), the Fitzroy region (28%), the North-West region (16.5%), and the Northern region (4.4%).

The distribution of aggregate royalty payments are shown in Figure 5.4. This indicates that 59.9% of royalties are being generated from the Mackay region, 24.9% from the Fitzroy region, and 5.8% from the North-West region. The breakup of royalties by commodity type in Table 5.2 shows that about 88% of royalty payments across the state are generated by coal production.

[7] It is possible that some of the expenditure identified for Brisbane was transferring through to imports.

Figure 5.2. Supplier expenditure and voluntary community contributions by SD

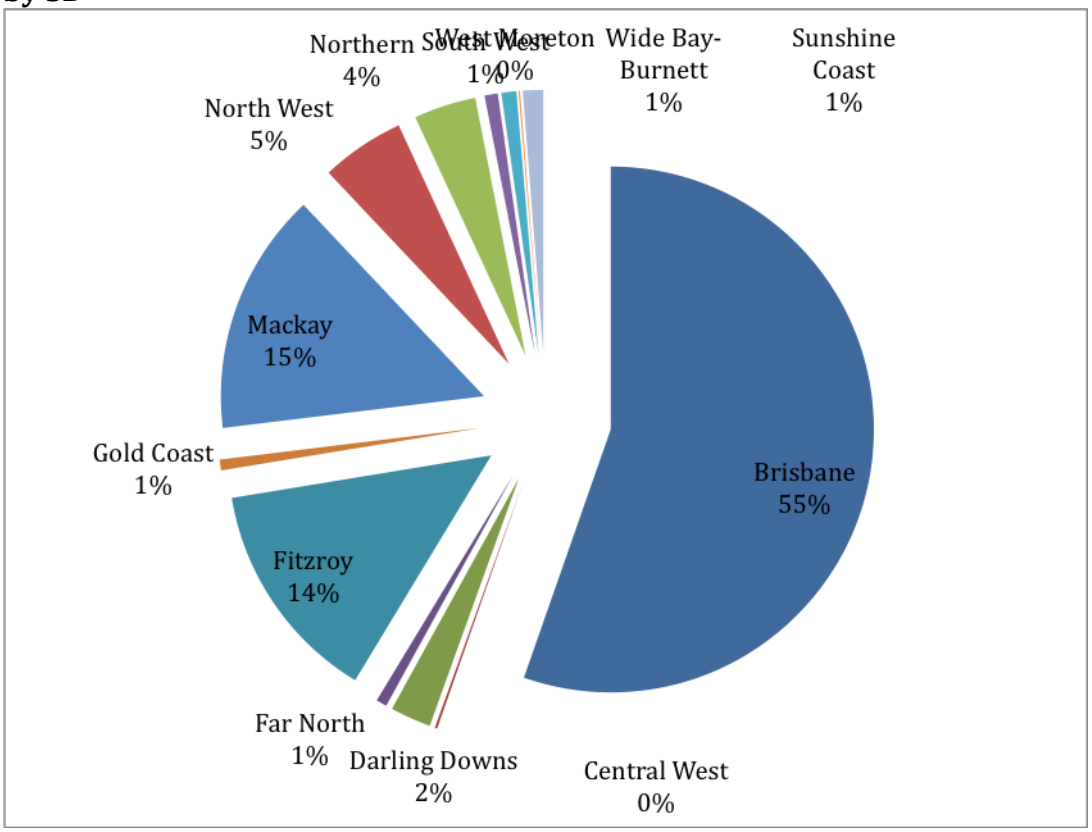


Figure 5.3. Aggregate value of resource production by SD

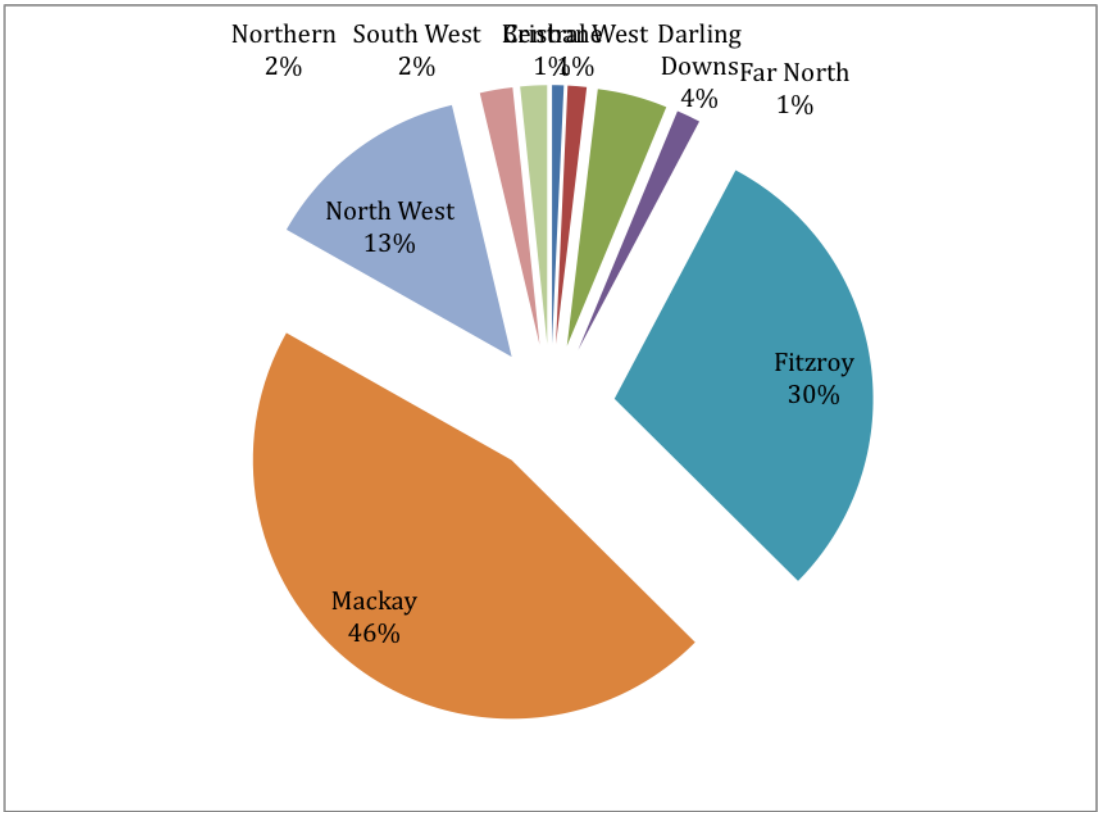
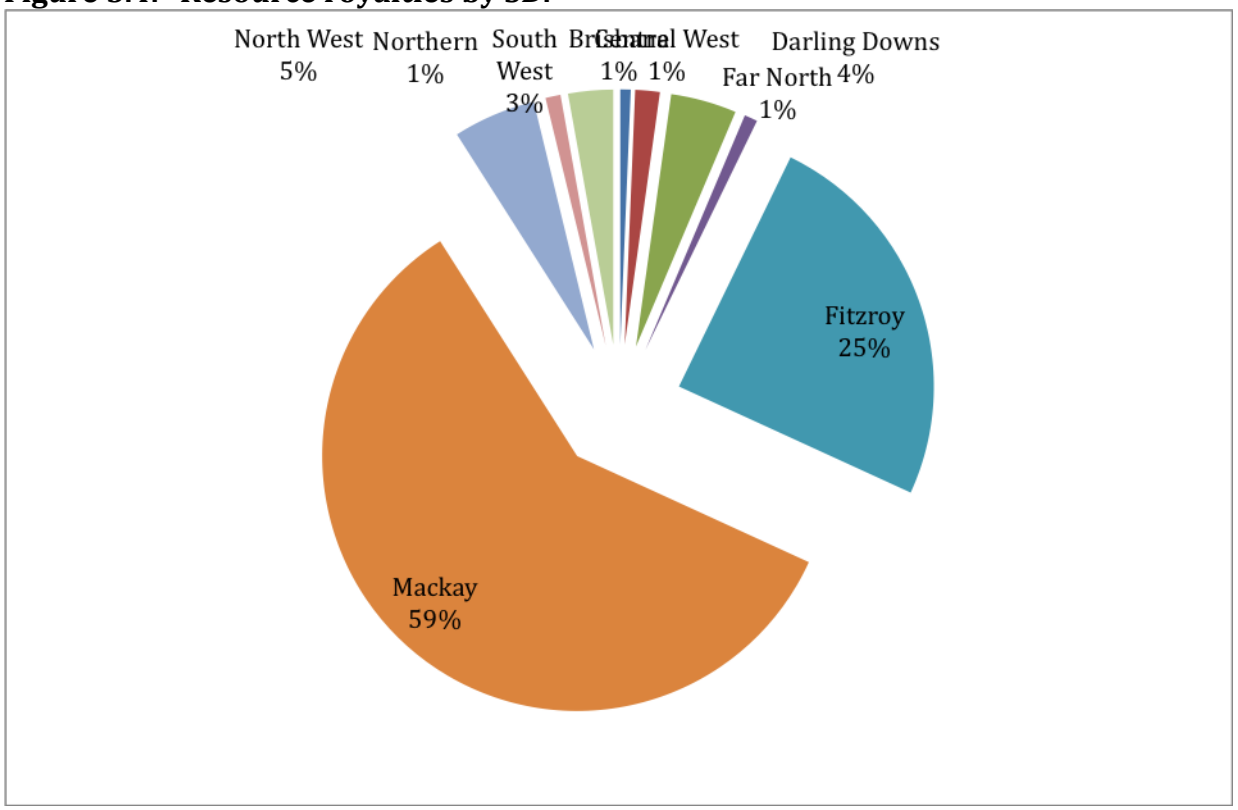


Figure 5.4. Resource royalties by SD.



Indirect and Final consumption effects

The IO modelling conducted for this project has estimated the indirect and consumption effects flowing from the business expenditure of $17.11 billion, and the employment expenditure of $4.95 billion. These impacts have been first modelled to identify the level of impacts on output, incomes, employment and industry value added in Queensland (Table 5.3).

Table 5.3. Input-output models for Queensland level impacts

	Initial stimulus	Business supply chain		Employment effects		Total effects	
		Queensland	Australia	Queensland	Australia	Queensland	Australia
Output ($m)							
First Round **($m)**		18,820.5	18,820.5	4,952.7	4,952.7		
Indirect **($m)**		13,872.0	19,096.7	3,606.4	5,017.6		
Consumption **($m)**		27,103.3	32,939.3	6,936.8	8,482.3		
Total ($m)	**38,573.0**	**59,795.7**	**70,856.6**	**15,495.9**	**18,452.7**	**113,864.6**	**127,882.3**
Income ($m)							
First Round# **($m)**		4,701.4	4,383.3	1,196.8	1,118.8		
Indirect **($m)**		2,843.7	3,969.1	734.3	1,032.0		
Consumption **($m)**		3,617.2	4,424.0	925.8	1,139.2		
Total ($m)	**4,953.0**	**11,162.3**	**12,776.5**	**2,856.9**	**3,290.1**	**18,972.2**	**21,019.6**
Employment (fte persons)							
First Round #		67,247.9	64,031.6	17,239.3	16,349.3		
Indirect		50,323.3	62,579.5	12,916.5	16,207.2		
Consumption		84,617.2	93,848.8	21,656.8	24,167.2		
Total	**38,093.0**	**202,188.4**	**220,459.9**	**51,812.6**	**56,723.8**	**292,094.0**	**315,276.7**
Value added ($m)							
First Round # **($m)**		8,902.2	8,568.6	2,330.2	2,229.8		
Indirect **($m)**		5,458.9	7,654.0	1,425.3	2,012.8		
Consumption **($m)**		7,922.7	9,436.7	2,027.7	2,430.1		
Total ($m)	**22,309.0**	**22,283.8**	**25,659.3**	**5,783.3**	**6,672.7**	**50,376.1**	**54,641.0**

Note: First round impacts are reported as slightly smaller for Australia because the national I-O model has 'averaged' first round multipliers across the country relative to the Queensland I-O model.

The results of the I-O modelling, together with other data drawn from the QRC and the Australian Bureau of Statistics, allow predictions to be made about the total size of impacts from the resources sector on the economy. For each key measure, the total impact on the economy is the sum of the direct effects from industry, the indirect effects through the business chain, and the final consumption effects. While the I-O models have estimated the indirect and consumption effects, other primary data is needed to estimate the direct effects. Information about the direct Output, Income and Employment effects are already available from the QRC data, and have been incorporated into Table 5.3 to estimate total effects for Queensland and Australia.

Estimates of the contribution to Gross State Product[8] (GSP) require an estimate of the initial contribution of the industry in terms of GSP or Gross Operating Surplus (GOS), plus the Value Added effects generated through the business chain and consumption effects. However, a precise measure of GSP or GOS for the resources industry is not available from the data. There are several options available to estimate this:

> Option 1: Estimate GOS as broadly equivalent to the sum of input and labour costs (see Richardson 2009). This generates a GOS of $22.9 billion, and a total contribution to Gross State Product of $50.4 billion (20.7% of GSP) (Table 5.3).
>
> Option 2. Estimate Gross operating surplus as the difference between exports and input and labour costs. This generates a GOS of $20.5 billion, and a total contribution to Gross State Product of $48.6 billion (19.9% of GSP).
>
> Option 3. Estimate GOS as the difference between gross value of production and input and labour costs. This generates a GOS of $14.2[9] billion, and a total contribution to Gross State Product of $42.3 billion (17.3% of GSP).
>
> Option 4. Estimate the GSP generated by the resources sector as a multiple of the mining sector from ABS data, deducting inter-industry estimates within the I-O model. The Department of Mines and Energy (2007) estimates reveals that the minerals processing sector generated approximately 29% of the value of exports of the mining industry in 2004-05. The Queensland Export (OESR) data shows that non-mining sector accounted for 15% of total costs, and 23.5% of total exports in 2009-2010. For this exercise, GSP of the resource sector has been estimated at 25% larger than the mining-only sector ($23,083 billion in 2008-09), inter-sector transfers from the I-O model have been deducted ($7,783 billion), and Indirect Value Added is included from the I-O model ($28,067 billion). This generates estimates of direct GSP of $28,508 billion, and total contribution to GSP of $48,792 billion (20% of GSP).

When both (and only) the business supply and employment effects are considered, the resources sector is generating approximately $50.1 billion in Gross State Product ($22.1 billion in direct effects, and $28.1 billion in value added effects), and is responsible for generating approximately 292,000 jobs (38,093 in direct employment and 254,000 in additional employment). This means that the resources sector is underpinning up to 21% of Gross State Product and 13% of total employment in Queensland.

[8] In this study, 2008-09 estimates of GSP of $243,829 million (ABS Cat. No. 5220.0) are used for comparison. If an estimated GSP at factor incomes for 2009-10 of $234,887 million is adopted (assuming long term growth trends), then the relative shares of GSP would be slightly higher.

[9] This is an under-estimate because the operating costs included in this analysis have covered both existing projects and new developments. Only the former should be included in calculating Gross Operating Surplus.

6. Benefits by Statistical Divisions

Queensland resources sector expenditures, split across salary and supplier and voluntary community contribution expenditure, varied considerably across SDs. The level of employment, and direct expenditure on employees, including direct employees and contractors, as well as expenditure on business supplies, is summarised for the 13 SDs in Queensland in Table 6.1.

The data identify that a significant amount of primary spend occurs in Brisbane. For this analysis, expenditure on contract employment has been reallocated across the state to reflect the geographic dispersion of this group of workers. All other expenditure to Queensland postcodes has been treated as occurring in the state, with no additional partitioning of the primary spend data on imports. The I-O model has allowed for spending leakages to imports in subsequent rounds of economic activity. It is possible that some reported expenditure in the Brisbane SD flows directly to imports, and that the direct stimulus is slightly over-estimated for this SD.

Table 6.1. Direct Economic Impacts of the Resources Sector by SD

	Total employment in SD	Residing employees	Salaries spend	Business supplier & community spend	Total Economic stimulus
			$M	$M	$M
Brisbane	1,072,287	6,940	903.8	9,479.0	10,382.8
Central West	7,663	77	10.0	25.3	35.2
Darling Downs	120,847	1,185	154.3	430.4	584.7
Far North	132,552	1,485	193.4	114.3	307.7
Fitzroy	111,223	9,627	1,253.7	2,406.7	3,660.4
Gold Coast	261,609	218	28.4	113.3	141.7
Mackay	90,255	10,322	1,344.3	2,678.8	4,023.0
North West	18,759	3,979	518.2	927.8	1,446.0
Northern	125,777	2,659	346.3	654.7	1,001.0
South West	15,844	301	39.2	139.5	178.6
Sunshine Coast	151,028	377	49.1	157.5	206.6
West Moreton	44,328	183	23.9	16.1	40.0
Wide Bay-Burnett	120,988	677	88.1	213.5	301.6
Total Queensland	**2,273,160**	**38,030**	**4,952.7**	**17,356.7**	**22,309.5**

6.1 Indirect and Final consumption effects

The IO modelling conducted for this project has estimated the indirect and consumption effects flowing from the two key direct impacts on the economy. One set of impacts is generated by business expenditure in each SD, while the other set of impacts is generated by employment expenditure in each area. These impacts have been modelled to identify the level of impacts on output, incomes,

employment and industry value added for each SD (Table 6.2), incorporating both indirect and consumption effects. Total effects are summarised for each SD (Table 6.3). The I-O for each SD identified a proportion of outputs that occurred outside of the SD but still in Queensland, without identifying the distribution of those out-of-region impacts. Most of these out-of-region impacts are likely to accrue to Brisbane or other major metropolitan areas.

The results show that the resources industry has the highest overall impact on output and jobs in Brisbane, indicating that much of the stimulus flows through to south-east Queensland. However, significant job creation also occurs in the Mackay, Fitzroy, Northern and North-West SDs, with total resources sector driven employment accounting for up to 53% of jobs in the North-West region, 46% of jobs in the Mackay region, and 36% in the Fitzroy region. Employment multipliers are highest in the Brisbane SD, with more than 19 jobs created for each additional mining job.

Table 6.2. Indirect and Consumption Economic Impacts of the Resources Sector by SD

	Business supply chain				**Final consumption**			
	Extra income	**Extra turnover**	**Extra total value add**	**Extra jobs**	**Extra income**	**Extra turnover**	**Extra total value add**	**Extra jobs**
	$M	$M	$M		$M	$M	$M	
Brisbane	5,052.3	20,588.6	8,720.2	76,621.7	2,963.7	21,008.6	6,264.1	60,288.8
Central West	5.6	28.6	13.1	93.8	5.7	35.1	11.7	134.0
Darling Downs	170.6	569.5	284.2	2,583.9	168.6	961.2	319.7	3,568.5
Far North	34.4	170.1	73.0	602.5	97.1	597.6	212.9	2,104.8
Fitzroy	784.0	3,316.0	1,554.8	11,802.5	939.5	5,594.5	1,924.4	18,962.1
Gold Coast	44.1	203.0	78.3	882.9	30.1	230.4	67.5	851.3
Mackay	812.1	3,639.1	1,711.8	12,506.6	925.6	5,815.0	1,972.9	18,940.9
North West	195.8	1,142.7	501.0	2,319.6	211.0	1,500.0	548.6	3,755.7
Northern	210.8	897.1	427.2	2,747.7	251.8	1,525.1	528.7	4,983.5
South West	34.4	171.0	72.1	327.8	29.4	182.8	56.6	593.3
Sunshine Coast	60.3	293.3	109.7	1,360.9	48.8	356.9	103.5	1,518.4
West Moreton	14.5	78.2	28.3	518.7	16.7	120.2	33.9	723.1
Wide Bay-Burnett	70.6	299.1	155.7	1,602.3	74.1	446.0	152.5	1,625.9
Impacts in Qld outside of each region	55.6	1,296.2	631.7	3,600.3	712.0	4,225.8	1,508.9	18,379.5
Total Queensland	**7,545.1**	**32,692.5**	**14,361.1**	**117,571.2**	**6,474.1**	**42,599.2**	**13,705.9**	**136,429.8**

Table 6.3. Total Economic Impacts of the Resources Sector by SD

	Total output (initial + addition)	Total Income (Initial + addition)	Addition to GSP (expenditure + Value Add)	Total jobs (Initial + addition)	% of regional workforce	Additional job multiplier
	$ million	$ million	$ million			
Brisbane	41,597.3	8,920.5	25,366.23	143,849.5	13.4	19.7
Central West	64.0	21.3	60.20	304.8	4.0	3.0
Darling Downs	1,530.8	493.6	1,188.78	7,338.4	6.1	5.2
Far North	768.1	312.7	578.48	4,192.3	3.2	1.8
Fitzroy	8,910.5	2,978.2	7,140.43	40,389.6	36.3	3.2
Gold Coast	433.4	102.7	287.56	1,952.2	0.7	8.0
Mackay	9,454.1	3,083.0	7,708.75	41,769.5	46.3	3.0
North West	2,642.7	925.4	2,496.19	10,053.3	53.6	1.5
Northern	2,422.2	809.2	1,957.20	10,390.2	8.3	2.9
South West	353.7	103.0	307.37	1,221.1	7.7	3.0
Sunshine Coast	650.2	158.2	419.81	3,256.3	2.2	7.6
West Moreton	198.3	55.1	102.16	1,425.8	3.2	6.7
Wide Bay-Burnett	745	232.9	609.80	3,904.2	3.2	4.8
Impacts in Qld outside of each region	5,503.90	776.30	2,153.15	22,046.80		
Total Queensland	**113,846.6**	**18,972.2**	**50,376.1**	**292,094**		

6.2 Brisbane STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $10,381.9 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy.
The mining industry directly contributed:

- $904.5 million in wages and salaries to approximately 6,957 residing employees and contractors
    - $597.5 million in direct mining salaries, and
    - $307 million in estimated contractor salaries
- $9,471.5 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $5,052.3 million in additional income
- $20,588.6 million in additional turnover
- $8,720.2 million in total value add
- 76,621.7 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (6,957+ 76,621.7 JOBS) WITH DIRECT AND INDIRECT INCOME ($904.5 million + 5,052.3 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $2,963.7 million in additional income
- $21,008.6 million in additional turnover
- $6,264.1 million in total value add
- 60,288.8 in additional 'Final Demand' full-time equivalent jobs

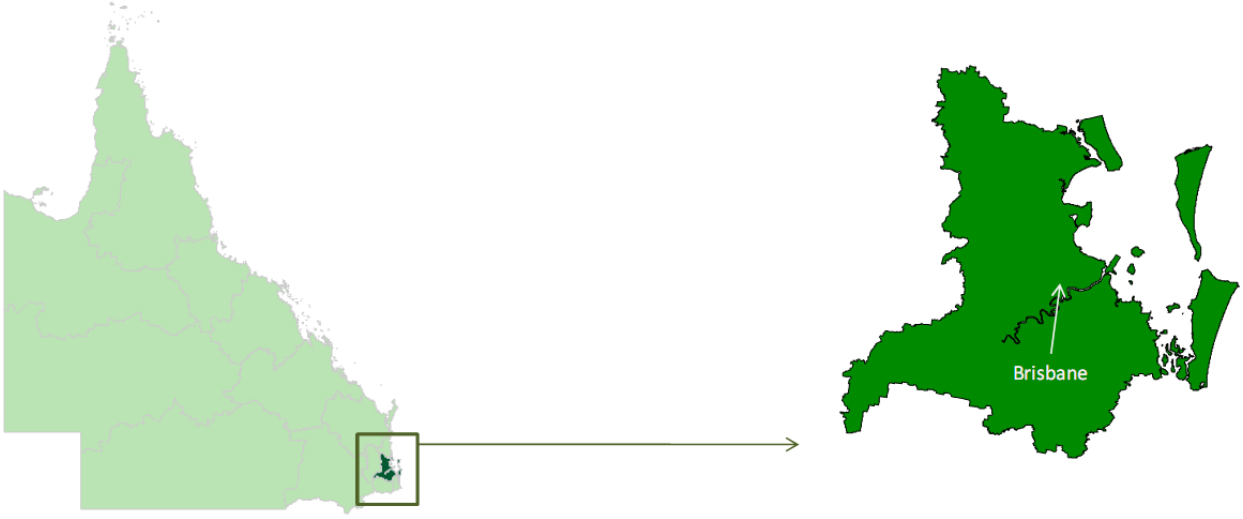
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($4,473 million in turnover)
- Services to mining ($1,983 million in turnover)
- Rail, pipeline and other transport ($1,691 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 143,867.5 jobs or 13.4% of the entire workforce in this region. For every resource sector job created another 19.7 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.4. Estimated Gross Regional Product for the Brisbane Statistical Division

Gross Regional Product – Brisbane SD	**$ million**
Agriculture, forestry & fishing	$257
Mining	$1,751
Manufacturing	$9,276
Electricity, gas, water & waste services	$2,352
Construction	$7,593
Wholesale trade	$5,363
Retail trade	$5,439
Accommodation & food services	$2,956
Transport, postal & warehousing	$8,416
Information media & telecommunications	$3,033
Financial & insurance services	$9,961
Rental, hiring & real estate services	$3,207
Professional, scientific & technical services	$7,073
Administrative & support services	$2,327
Public administration & safety	$7,242
Education & training	$4,238
Health care & social assistance	$6,942
Arts & recreation services	$548
Other services	$2,452
Total Industry Factor Income	*$90,427*
Ownership of dwellings	$8,351
GRP at Factor Cost / Total Factor Income	***$98,778***
Taxes less subsidies on production and imports	$6,977
Statistical discrepancy	$2,038
Gross Regional Product (at Current Prices)	**$107,793**

6.3 Central West STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $35.4 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy
BREAKDOWN: - The mining industry directly contributed:
$10 million in wages and salaries to approximately 77 residing employees and contractors
$6.6 million in direct mining salaries, and
$3.4 million in estimated contractor salaries
$24.9 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $5.6 million in additional income
- $28.6 million in additional turnover
- $13.1 million in total value add
- 93.8 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (77+ 93.8 JOBS) WITH DIRECT AND INDIRECT INCOME ($10 million + 5.6 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $5.7 million in additional income
- $35.1 million in additional turnover
- $11.7 million in total value add
- 134 in additional 'Final Demand' full-time equivalent jobs

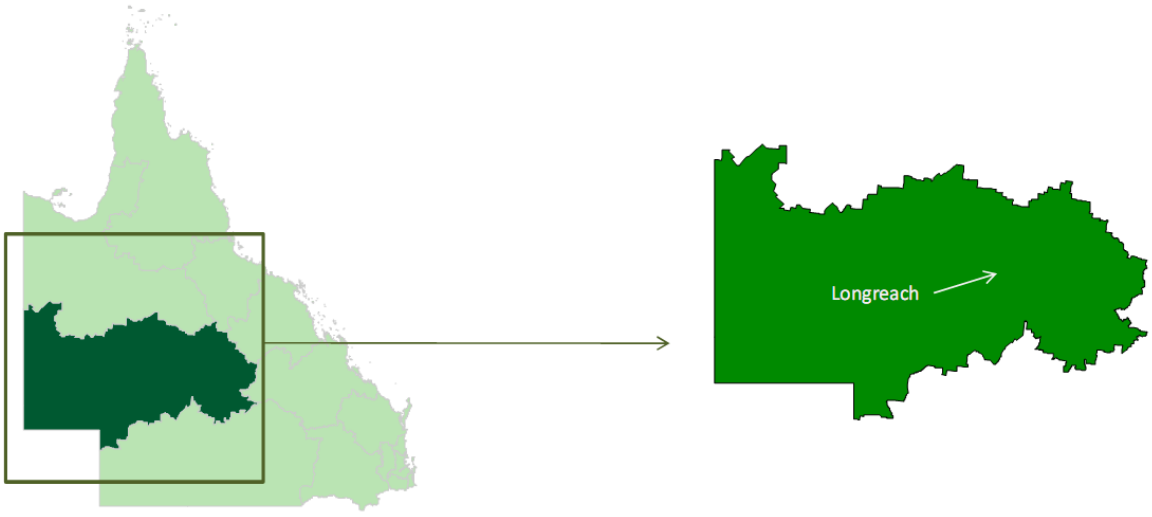
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($9.1 million in turnover)
- Services to mining ($5.9 million in turnover)
- Rail, pipeline and other transport ($3.3 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 304.8 jobs or 4.0% of the entire workforce in this region. For every resource sector job created another 3.0 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also

been estimated from the modelling.

Table 6.5. Estimated Gross Regional Product for the Central West Statistical Division

Gross Regional Product – Central West SD	**$ million**
Agriculture, forestry & fishing	$96
Mining	$199
Manufacturing	$20
Electricity, gas, water & waste services	$7
Construction	$35
Wholesale trade	$19
Retail trade	$38
Accommodation & food services	$20
Transport, postal & warehousing	$57
Information media & telecommunications	$6
Financial & insurance services	$8
Rental, hiring & real estate services	$5
Professional, scientific & technical services	$10
Administrative & support services	$7
Public administration & safety	$80
Education & training	$26
Health care & social assistance	$38
Arts & recreation services	$6
Other services	$13
Total Industry Factor Income	*$689*
Ownership of dwellings	$64
GRP at Factor Cost / Total Factor Income	***$753***
Taxes less subsidies on production and imports	$53
Statistical discrepancy	$16
Gross Regional Product (at Current Prices)	**$821**

6.4 Darling Downs STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $584.9 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $154.4 million in wages and salaries to approximately 1,188 residing employees and contractors
    - $102 million in direct mining salaries, and
    - $52.4 million in estimated contractor salaries
- $429.3 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $170.6 million in additional income
- $569.5 million in additional turnover
- $284.2 million in total value add
- 2,583.9 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (1,188+ 2,583.9 JOBS) WITH DIRECT AND INDIRECT INCOME ($154.4 million + 170.6 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $168.6 million in additional income
- $961.2 million in additional turnover
- $319.7 million in total value add
- 3,568.5 in additional 'Final Demand' full-time equivalent jobs

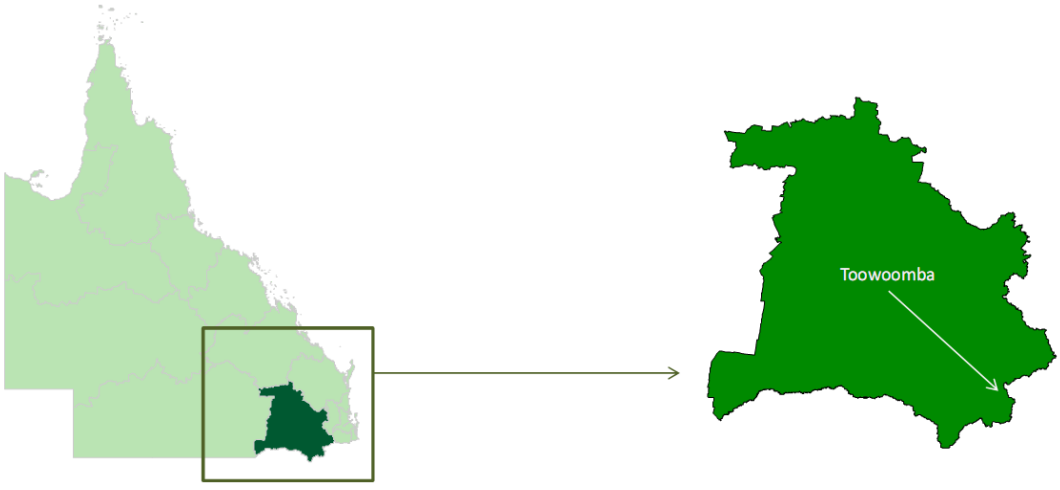
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Services to mining ($165.7 million in turnover)
- Wholesale trade ($71.9 million in turnover)
- Retail Trade ($47.6 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 7,340.4 jobs or 6.1% of the entire workforce in this region. For every resource sector job created another 5.2 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.6. Estimated Gross Regional Product for the Darling Downs Statistical Division

Gross Regional Product – Darling Downs SD	**$ million**
Agriculture, forestry & fishing	$953
Mining	$946
Manufacturing	$1,257
Electricity, gas, water & waste services	$382
Construction	$916
Wholesale trade	$423
Retail trade	$676
Accommodation & food services	$240
Transport, postal & warehousing	$558
Information media & telecommunications	$174
Financial & insurance services	$661
Rental, hiring & real estate services	$271
Professional, scientific & technical services	$215
Administrative & support services	$167
Public administration & safety	$443
Education & training	$845
Health care & social assistance	$854
Arts & recreation services	$56
Other services	$303
Total Industry Factor Income	*$10,342*
Ownership of dwellings	$955
GRP at Factor Cost / Total Factor Income	***$11,297***
Taxes less subsidies on production and imports	$798
Statistical discrepancy	$233
Gross Regional Product (at Current Prices)	**$12,328**

6.5 Far North STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $292.6 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $181.12 million in wages and salaries to approximately 1,393 residing employees and contractors
    - $119.7 million in direct mining salaries, and
    - $61.5million in estimated contractor salaries
- $109.7 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $34.4 million in additional income
- $170.1 million in additional turnover
- $73 million in total value add
- 602.5 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (1,393+ 602.5 JOBS) WITH DIRECT AND INDIRECT INCOME ($181.2 million + 34.4 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $97.1 million in additional income
- $597.6 million in additional turnover
- $212.9 million in total value add
- 2,104.8 in additional 'Final Demand' full-time equivalent jobs

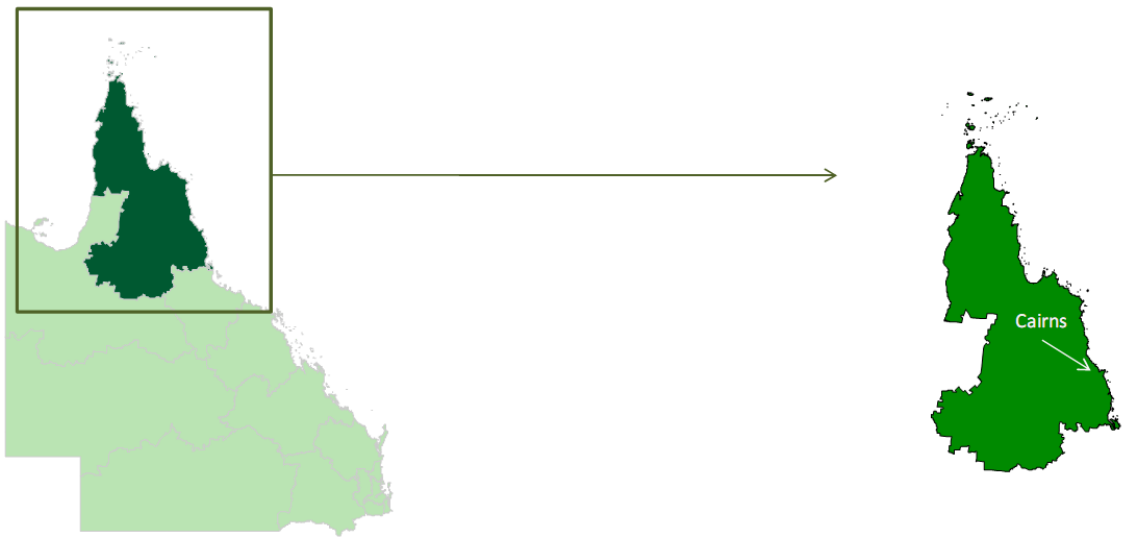
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($27.6 million in turnover)
- Electricity supply ($13.8 million in turnover)
- Services to mining ($11.7 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 4,100.3 jobs or 3.1% of the entire workforce in this region. For every resource sector job created another 1.9 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.7. Estimated Gross Regional Product for the Far North Statistical Division

Gross Regional Product – Far North SD	**$ million**
Agriculture, forestry & fishing	$272
Mining	$647
Manufacturing	$586
Electricity, gas, water & waste services	$189
Construction	$1,097
Wholesale trade	$879
Retail trade	$880
Accommodation & food services	$648
Transport, postal & warehousing	$1,033
Information media & telecommunications	$239
Financial & insurance services	$747
Rental, hiring & real estate services	$577
Professional, scientific & technical services	$536
Administrative & support services	$405
Public administration & safety	$760
Education & training	$545
Health care & social assistance	$662
Arts & recreation services	$127
Other services	$221
Total Industry Factor Income	*$11,051*
Ownership of dwellings	$1,021
GRP at Factor Cost / Total Factor Income	***$12,071***
Taxes less subsidies on production and imports	$853
Statistical discrepancy	$249
Gross Regional Product (at Current Prices)	**$13,173**

6.6 Fitzroy STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $3661.2 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $1254.7 million in wages and salaries to approximately 9,650 residing employees and contractors
    - $828.8 million in direct mining salaries, and
    - $425.8 million in estimated contractor salaries
- $2,351.9 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $784 million in additional income
- $3,316 million in additional turnover
- $1,554.8 million in total value add
- 11,802.5 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (9,650+ 11,802.5 JOBS) WITH DIRECT AND INDIRECT INCOME ($1,254.7 million + 784 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $939.5 million in additional income
- $5,594.5 million in additional turnover
- $1,924.4 million in total value add
- 18,962.1 in additional 'Final Demand' full-time equivalent jobs

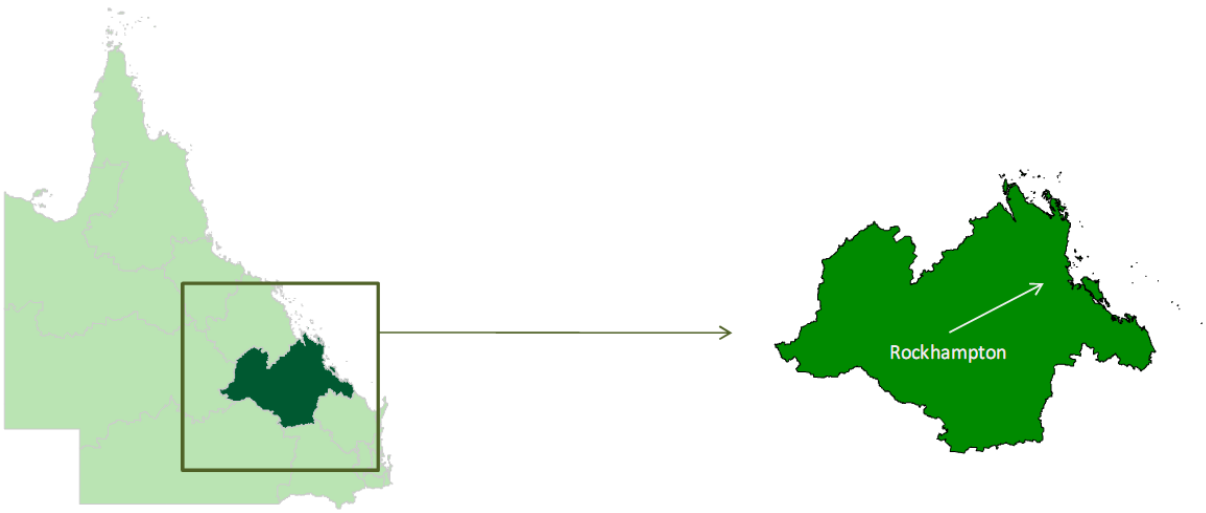
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($1,021.4 million in turnover)
- Rail, pipeline and other transport ($364.0 million in turnover)
- Services to mining ($300.3 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 40,414.6 jobs or 36.3% of the entire workforce in this region. For every resource sector job created another 3.2 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.8. Estimated Gross Regional Product for the Fitzroy Statistical Division

Gross Regional Product – Fitzroy SD	**$ million**
Agriculture, forestry & fishing	$287
Mining	$5,029
Manufacturing	$1,121
Electricity, gas, water & waste services	$326
Construction	$945
Wholesale trade	$319
Retail trade	$705
Accommodation & food services	$347
Transport, postal & warehousing	$1,237
Information media & telecommunications	$119
Financial & insurance services	$207
Rental, hiring & real estate services	$266
Professional, scientific & technical services	$261
Administrative & support services	$189
Public administration & safety	$513
Education & training	$421
Health care & social assistance	$552
Arts & recreation services	$58
Other services	$282
Total Industry Factor Income	*$13,183*
Ownership of dwellings	$1,217
GRP at Factor Cost / Total Factor Income	***$14,400***
Taxes less subsidies on production and imports	$1,017
Statistical discrepancy	$297
Gross Regional Product (at Current Prices)	**$15,714**

6.7 Gold Coast STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $141.8 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $28.5 million in wages and salaries to approximately 219 residing employees and contractors
    - $18.8 million in direct mining salaries, and
    - $9.7 million in estimated contractor salaries
- $113.2 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $44.1 million in additional income
- $203 million in additional turnover
- $78.3 million in total value add
- 882.9 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (219+ 882.9 JOBS) WITH DIRECT AND INDIRECT INCOME ($28.5 million + 44.1 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $30.1 million in additional income
- $230.4 million in additional turnover
- $67.5 million in total value add
- 851.3 in additional 'Final Demand' full-time equivalent jobs

Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($35.3 million in turnover)
- Services to mining ($35.1 million in turnover)
- Other property services ($16.9 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 1,953.2 jobs or 0.75% of the entire workforce in this region. For every resource sector job created another 7.9 indirect and consumption jobs are created in the local area.

The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.9. Estimated Gross Regional Product for the Gold Coast Statistical Division

Gross Regional Product – Gold Coast SD	**$ million**
Agriculture, forestry & fishing	$69
Mining	$343
Manufacturing	$2,296
Electricity, gas, water & waste services	$313
Construction	$3,254
Wholesale trade	$1,793
Retail trade	$1,983
Accommodation & food services	$1,289
Transport, postal & warehousing	$1,091
Information media & telecommunications	$779
Financial & insurance services	$1,382
Rental, hiring & real estate services	$1,787
Professional, scientific & technical services	$1,214
Administrative & support services	$754
Public administration & safety	$1,174
Education & training	$947
Health care & social assistance	$1,491
Arts & recreation services	$334
Other services	$694
Total Industry Factor Income	*$22,985*
Ownership of dwellings	$2,123
GRP at Factor Cost / Total Factor Income	***$25,108***
Taxes less subsidies on production and imports	$1,773
Statistical discrepancy	$518
Gross Regional Product (at Current Prices)	**$27,399**

6.8 Mackay STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $4024 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $1,345.3 million in wages and salaries to approximately 10,347 residing employees and contractors
    - $888.7 million in direct mining salaries, and
    - $456.6 million in estimated contractor salaries
- $2,550.3 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $812.1 million in additional income
- $3,639.1 million in additional turnover
- $1,711.8 million in total value add
- 12,506.6 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (10,347+ 12,506.6 JOBS) WITH DIRECT AND INDIRECT INCOME ($1,345.3 million + 812.1 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $925.6 million in additional income
- $5,815 million in additional turnover
- $1,972.9 million in total value add
- 18,940.9 in additional 'Final Demand' full-time equivalent jobs

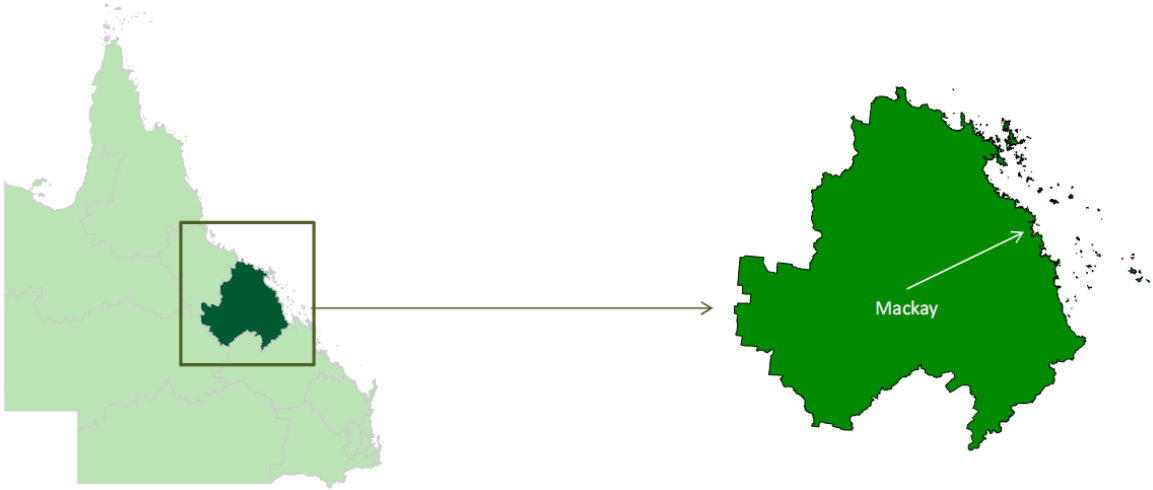
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($1,225.2 million in turnover)
- Rail, pipeline and other transport ($448.4 million in turnover)
- Services to mining ($384.6 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 41,794.5 jobs or 46.3% of the entire workforce in this region. For every resource sector job created another 3 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.10. Estimated Gross Regional Product for the Mackay Statistical Division

Gross Regional Product – Mackay SD	**$ million**
Agriculture, forestry & fishing	$291
Mining	$7,995
Manufacturing	$676
Electricity, gas, water & waste services	$97
Construction	$807
Wholesale trade	$335
Retail trade	$590
Accommodation & food services	$355
Transport, postal & warehousing	$1,030
Information media & telecommunications	$79
Financial & insurance services	$158
Rental, hiring & real estate services	$239
Professional, scientific & technical services	$227
Administrative & support services	$157
Public administration & safety	$285
Education & training	$240
Health care & social assistance	$367
Arts & recreation services	$49
Other services	$253
Total Industry Factor Income	*$14,231*
Ownership of dwellings	$1,314
GRP at Factor Cost / Total Factor Income	***$15,545***
Taxes less subsidies on production and imports	$1,098
Statistical discrepancy	$321
Gross Regional Product (at Current Prices)	**$16,964**

6.9 North West STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $1,446. 6 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $518.6 million in wages and salaries to approximately 3,988 residing employees and contractors
    - $342.6 million in direct mining salaries, and
    - $176 million in estimated contractor salaries
- $880.1 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $195.8 million in additional income
- $1,142.7 million in additional turnover
- $501 million in total value add
- 2,319.6 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (3,988+ 2,319.6 JOBS) WITH DIRECT AND INDIRECT INCOME ($518.6 million + 195.8 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $211 million in additional income
- $1,500 million in additional turnover
- $548.6 million in total value add
- 3,755.7 in additional 'Final Demand' full-time equivalent jobs

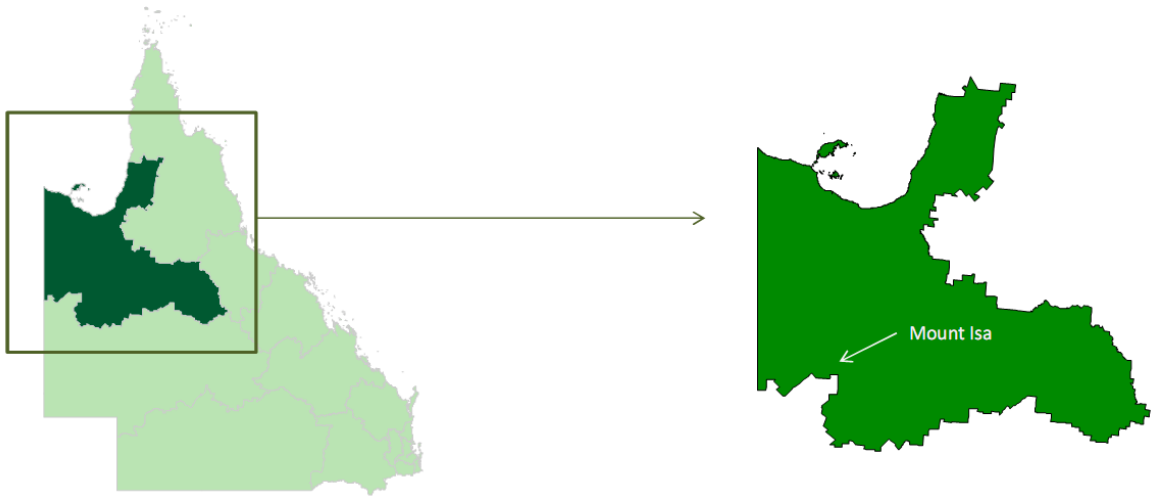
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Services to mining ($173.3 million in turnover)
- Wholesale trade ($115.2 million in turnover)
- Electricity supply ($104.3 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 10,063.3 jobs or 53.6% of the entire workforce in this region. For every resource sector job created another 1.5 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.11. Estimated Gross Regional Product for the North West Statistical Division

Gross Regional Product – North West SD	**$ million**
Agriculture, forestry & fishing	$373
Mining	$2,949
Manufacturing	$105
Electricity, gas, water & waste services	$46
Construction	$151
Wholesale trade	$57
Retail trade	$80
Accommodation & food services	$40
Transport, postal & warehousing	$149
Information media & telecommunications	$20
Financial & insurance services	$59
Rental, hiring & real estate services	$41
Professional, scientific & technical services	$23
Administrative & support services	$33
Public administration & safety	$112
Education & training	$67
Health care & social assistance	$101
Arts & recreation services	$2
Other services	$29
Total Industry Factor Income	*$4,436*
Ownership of dwellings	$410
GRP at Factor Cost / Total Factor Income	***$4,846***
Taxes less subsidies on production and imports	$342
Statistical discrepancy	$100
Gross Regional Product (at Current Prices)	**$5,288**

6.10 Northern STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $1,001.3 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $346.6 million in wages and salaries to approximately 2,666 residing employees and contractors
    - $228.9 million in direct mining salaries, and
    - $117.6 million in estimated contractor salaries
- $653.1 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $210.8 million in additional income
- $897.1 million in additional turnover
- $427.2 million in total value add
- 2,747.7 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (2,666+ 2,747.7 JOBS) WITH DIRECT AND INDIRECT INCOME ($346.6 million + 210.8 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $251.8 million in additional income
- $1,525.1 million in additional turnover
- $528.7 million in total value add
- 4,983.5 in additional 'Final Demand' full-time equivalent jobs

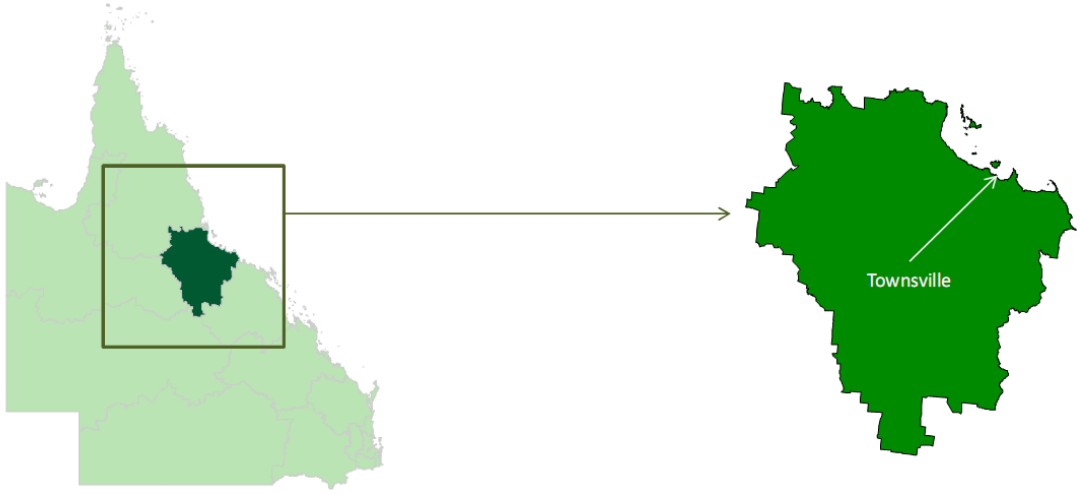
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Services to mining ($133.1 million in turnover)
- Wholesale trade ($109.8 million in turnover)
- Electricity supply ($81.7 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 10,397.2 jobs or 8.3% of the entire workforce in this region. For every resource sector job created another 2.9 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.12. Estimated Gross Regional Product for the Northern Statistical Division

Gross Regional Product – Northern SD	**$ million**
Agriculture, forestry & fishing	$831
Mining	$794
Manufacturing	$931
Electricity, gas, water & waste services	$348
Construction	$1,091
Wholesale trade	$333
Retail trade	$673
Accommodation & food services	$262
Transport, postal & warehousing	$775
Information media & telecommunications	$267
Financial & insurance services	$687
Rental, hiring & real estate services	$325
Professional, scientific & technical services	$412
Administrative & support services	$205
Public administration & safety	$814
Education & training	$458
Health care & social assistance	$779
Arts & recreation services	$35
Other services	$229
Total Industry Factor Income	*$10,250*
Ownership of dwellings	$947
GRP at Factor Cost / Total Factor Income	***$11,197***
Taxes less subsidies on production and imports	$791
Statistical discrepancy	$231
Gross Regional Product (at Current Prices)	**$12,218**

6.11 South West STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $178.7 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $39.2 million in wages and salaries to approximately 301 residing employees and contractors
    - $25.9 million in direct mining salaries, and
    - $13.3 million in estimated contractor salaries
- $139.1 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $34.4 million in additional income
- $171 million in additional turnover
- $72.1 million in total value add
- 327.8 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (301+ 327.8 JOBS) WITH DIRECT AND INDIRECT INCOME ($39.2 million + 34.4 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $29.4 million in additional income
- $182.8 million in additional turnover
- $56.6 million in total value add
- 593.3 in additional 'Final Demand' full-time equivalent jobs

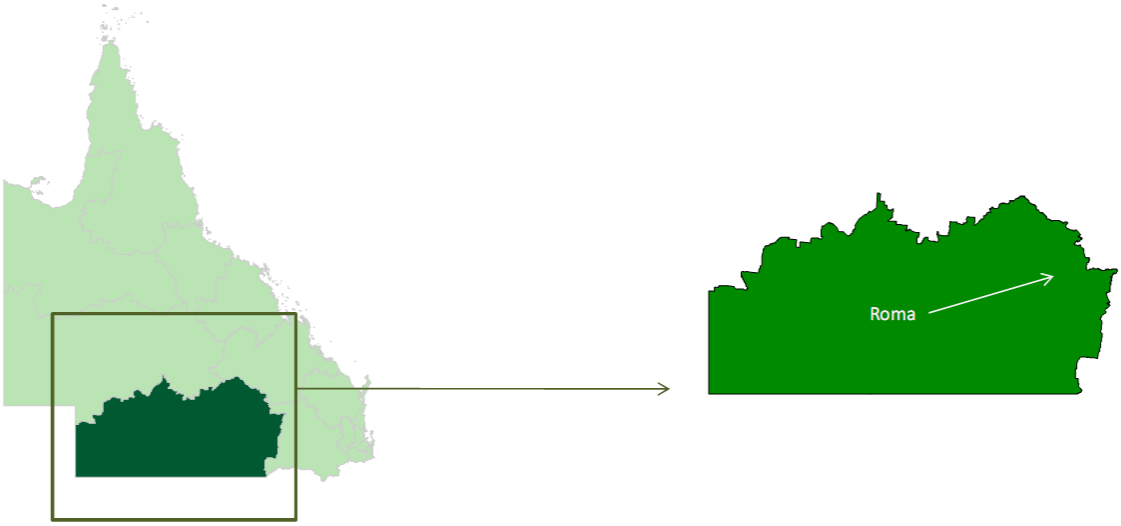
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Services to mining ($88.3 million in turnover)
- Wholesale trade ($13.7 million in turnover)
- Water supply, sewerage and drainage services ($10.5 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 1,222.1 jobs or 7.7% of the entire workforce in this region. For every resource sector job created another 3.1 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.13. Estimated Gross Regional Product for the South-West Statistical Division

Gross Regional Product – South West SD	**$ million**
Agriculture, forestry & fishing	$275
Mining	$481
Manufacturing	$85
Electricity, gas, water & waste services	$59
Construction	$99
Wholesale trade	$40
Retail trade	$75
Accommodation & food services	$31
Transport, postal & warehousing	$83
Information media & telecommunications	$14
Financial & insurance services	$40
Rental, hiring & real estate services	$23
Professional, scientific & technical services	$18
Administrative & support services	$18
Public administration & safety	$79
Education & training	$86
Health care & social assistance	$98
Arts & recreation services	$5
Other services	$32
Total Industry Factor Income	*$1,641*
Ownership of dwellings	$152
GRP at Factor Cost / Total Factor Income	***$1,793***
Taxes less subsidies on production and imports	$127
Statistical discrepancy	$37
Gross Regional Product (at Current Prices)	**$1,956**

6.12 Sunshine Coast STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $206.6 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $49.2 million in wages and salaries to approximately 378 residing employees and contractors
    - $32.5 million in direct mining salaries, and
    - $16.7 million in estimated contractor salaries
- $157.5 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $60.3 million in additional income
- $293.3 million in additional turnover
- $109.7 million in total value add
- 1,360.9 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (378+ 1,360.9 JOBS) WITH DIRECT AND INDIRECT INCOME ($49.2 million + 60.3 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $48.8 million in additional income
- $356.9 million in additional turnover
- $103.5 million in total value add
- 1,518.4 in additional 'Final Demand' full-time equivalent jobs

Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($62.3 million in turnover)
- Services to mining ($42.3 million in turnover)
- Other property services ($27.8 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 3,257.3 jobs or 2.2% of the entire workforce in this region. For every resource sector job created another 7.6 indirect and consumption jobs are created in the local area.

The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.14. Estimated Gross Regional Product for the Sunshine Coast Statistical Division

Gross Regional Product – Sunshine Coast SD	**$ million**
Agriculture, forestry & fishing	$124
Mining	$464
Manufacturing	$921
Electricity, gas, water & waste services	$86
Construction	$1,290
Wholesale trade	$765
Retail trade	$906
Accommodation & food services	$683
Transport, postal & warehousing	$875
Information media & telecommunications	$258
Financial & insurance services	$1,231
Rental, hiring & real estate services	$742
Professional, scientific & technical services	$869
Administrative & support services	$272
Public administration & safety	$517
Education & training	$571
Health care & social assistance	$985
Arts & recreation services	$84
Other services	$375
Total Industry Factor Income	*$12,017*
Ownership of dwellings	$1,110
GRP at Factor Cost / Total Factor Income	***$13,127***
Taxes less subsidies on production and imports	$927
Statistical discrepancy	$271
Gross Regional Product (at Current Prices)	**$14,325**

6.13 West Moreton STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $39.9 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $23.9 million in wages and salaries to approximately 184 residing employees and contractors
    - $15.8 million in direct mining salaries, and
    - $8.1 million in estimated contractor salaries
- $16.1 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $14.5 million in additional income
- $78.2 million in additional turnover
- $28.3 million in total value add
- 518.7 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (184+ 518.7 JOBS) WITH DIRECT AND INDIRECT INCOME ($23.9 million + 14.5 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $16.7 million in additional income
- $120.2 million in additional turnover
- $33.9 million in total value add
- 723.1 in additional 'Final Demand' full-time equivalent jobs

Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Wholesale trade ($18.0 million in turnover)
- Services to mining ($7.8 million in turnover)
- Rail, pipeline and other transport ($6.6 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 1,425.8 jobs or 3.2% of the entire workforce in this region. For every resource sector job created another 6.7 indirect and consumption jobs are created in the local area.

The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.15. Estimated Gross Regional Product for the West Moreton Statistical Division

Gross Regional Product – West Moreton SD	**$ million**
Agriculture, forestry & fishing	$347
Mining	$123
Manufacturing	$312
Electricity, gas, water & waste services	$193
Construction	$227
Wholesale trade	$168
Retail trade	$285
Accommodation & food services	$36
Transport, postal & warehousing	$329
Information media & telecommunications	$47
Financial & insurance services	$105
Rental, hiring & real estate services	$70
Professional, scientific & technical services	$149
Administrative & support services	$54
Public administration & safety	$109
Education & training	$107
Health care & social assistance	$153
Arts & recreation services	$16
Other services	$118
Total Industry Factor Income	*$2,947*
Ownership of dwellings	$272
GRP at Factor Cost / Total Factor Income	***$3,219***
Taxes less subsidies on production and imports	$227
Statistical discrepancy	$66
Gross Regional Product (at Current Prices)	**$3,513**

6.14 Wide Bay-Burnett STATISTICAL DIVISION – Model predictions

The resources sector in 2009/10 contributed $301.6 million in economic stimulus through a combination of additional jobs in the LGA and spending in the local economy

BREAKDOWN: - The mining industry directly contributed:

- $88.2 million in wages and salaries to approximately 678 residing employees and contractors
    - $58.2 million in direct mining salaries, and
    - $29.9 million in estimated contractor salaries
- $213.2 million in goods and services purchases and other community contributions

THE SPENDING IN GOODS AND SERVICES CREATED THE FOLLOWING EFFECTS IN THE BUSINESS SUPPLY CHAIN:

- $70.6 million in additional income
- $299.1 million in additional turnover
- $155.7 million in total value add
- 1,602.3 in additional 'indirect' full-time equivalent jobs

THE ADDITION TO DIRECT AND INDIRECT JOBS (678+ 1,602.3 JOBS) WITH DIRECT AND INDIRECT INCOME ($88.2 million + 70.6 million) WAS MODELLED TO CREATE ADDITIONAL CONSUMPTION EFFECTS

- $74.1 million in additional income
- $446 million in additional turnover
- $152.5 million in total value add
- 1,625.9 in additional 'Final Demand' full-time equivalent jobs

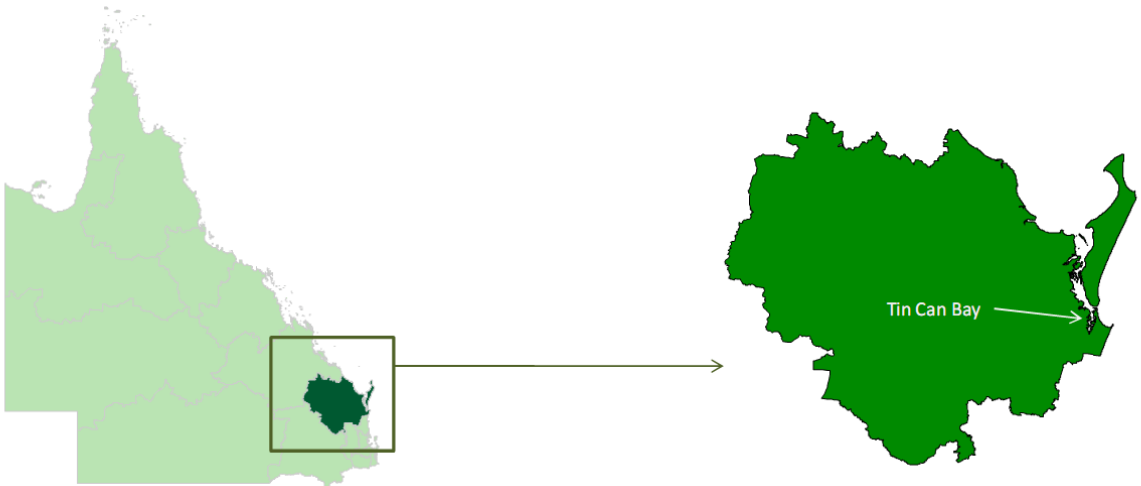
Note: Care has to be taken in using the estimates of consumption effects, as these represent average consumption patterns in areas. The effects of recent and new developments may generate slightly different consumption patterns.

INDUSTRIES BENEFITTING MOST:

- Retail trade ($70.4 million in turnover)
- Electricity supply ($33.0 million in turnover)
- Services to mining ($25.4 million in turnover)

SUMMARY:

Directly and indirectly the resources sector generated 3,906.2 jobs or 3.2% of the entire workforce in this region. For every resource sector job created another 4.8 indirect and consumption jobs are created in the local area.



The level of Gross Regional Product generated for the SD in 2009-10 has also been estimated from the modelling.

Table 6.16. Estimated Gross Regional Product for the Wide Bay-Burnett Statistical Division

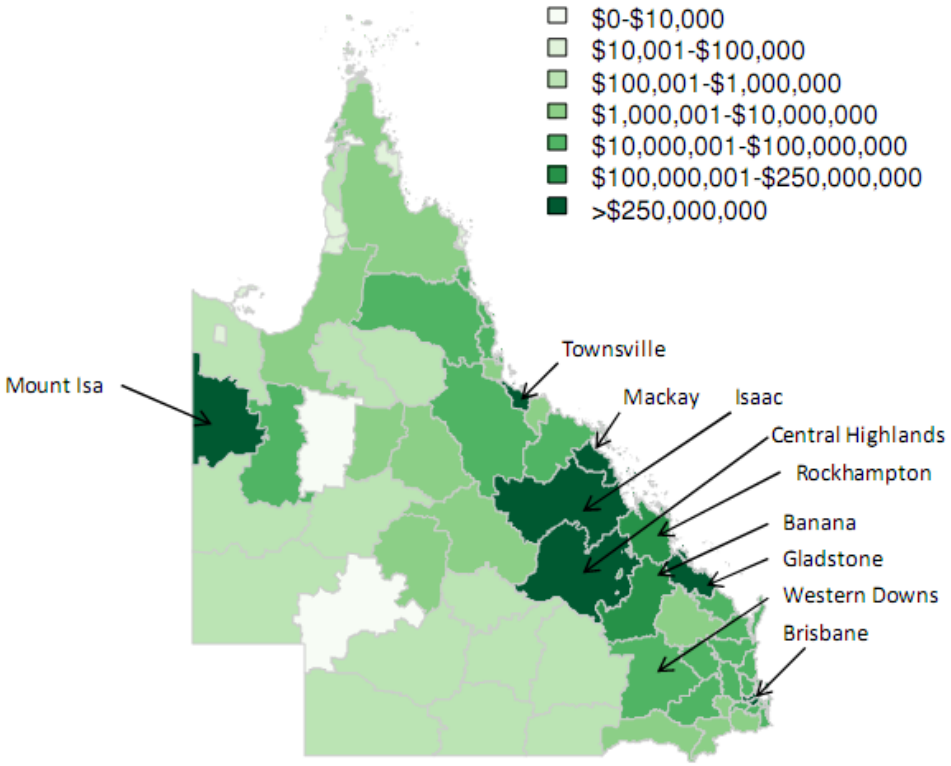
Gross Regional Product – Wide Bay-Burnett SD	**$ million**
Agriculture, forestry & fishing	$748
Mining	$1,362
Manufacturing	$1,385
Electricity, gas, water & waste services	$233
Construction	$1,122
Wholesale trade	$390
Retail trade	$781
Accommodation & food services	$233
Transport, postal & warehousing	$756
Information media & telecommunications	$325
Financial & insurance services	$306
Rental, hiring & real estate services	$177
Professional, scientific & technical services	$218
Administrative & support services	$243
Public administration & safety	$490
Education & training	$508
Health care & social assistance	$766
Arts & recreation services	$82
Other services	$225
Total Industry Factor Income	*$10,349*
Ownership of dwellings	$956
GRP at Factor Cost / Total Factor Income	***$11,305***
Taxes less subsidies on production and imports	$798
Statistical discrepancy	$233
Gross Regional Product (at Current Prices)	**$12,336**

7. Benefits by Local Government Authorities

Queensland resources sector expenditures, split across salary and supplier and voluntary community contribution expenditure, varied considerably across LGAs. The level of employment, and direct expenditure on employees, including direct employees and contractors, as well as expenditure on business supplies, is summarised for the 74 LGA[10]s in Queensland in Appendix Two, and illustrated in the figures below.

Salary expenditures were greatest in the Isaac Regional LGA followed by the Central Highlands Regional LGA, Brisbane City LGA, Mackay Regional LGA and Townsville City LGA. Comparison of Figure 7.1 (salaries) and Figure 7.2 (supplier expenditures) show significant differences in the concentration of expenditures in general (note there are different scales between figures). Comparing an ordering of expenditures obtained from ranking LGAs by salary and an ordering from a ranking by supplier expenditure, matches can only be found in only 4 cases (5% of LGAs).

Figure 7.1: Salary payments in Queensland LGAs with top ten expenditure areas labelled



[10] There are technically 73 Local Government Authorities in Queensland, but the Weipa Town Authority is treated by both the Queensland Government and the Australian Bureau of Statistics as separate to the Cook Shire. This convention is followed in this report, so 74 profiles have been created.

Figure 7.2: Supplier expenditures in Queensland LGAs with top ten expenditure areas labelled

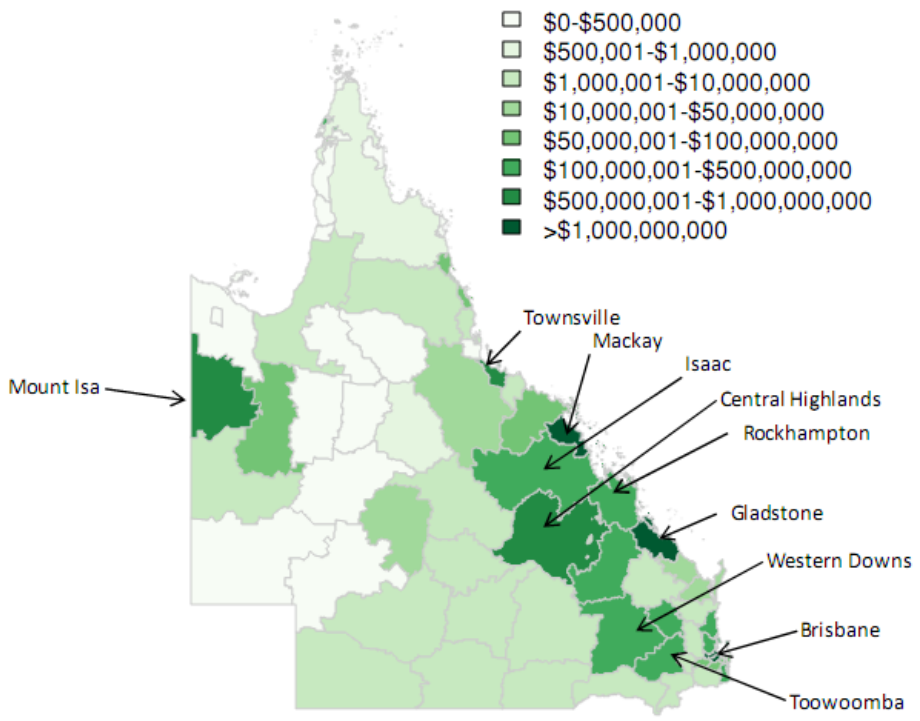
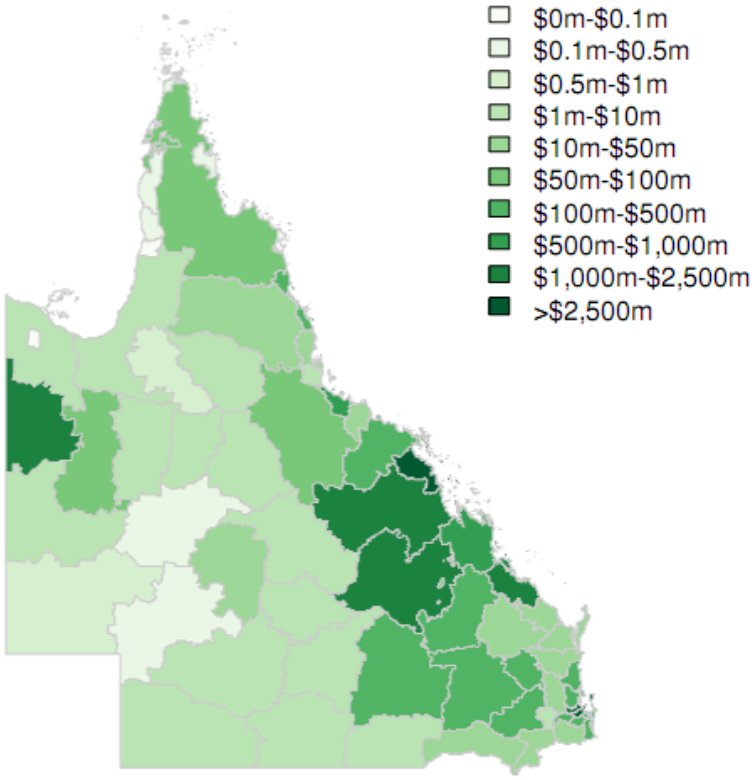


Figure 7.2 shows the distribution of supplier expenditures from resources companies across Queensland. The graphic shows that business expenditure tends to be more concentrated in some LGAs than salary expenditure. Of the LGAs listed, five are locations of major ports whilst another (Rockhampton Regional LGA) is a major regional population and industrial centre. The total economic stimulus by LGA incorporating both salaries and business expenditure is summarised in Figure 7.3. The results show that almost every LGA in Queensland is receiving some level of direct expenditure from the resources industry.

Figure 7.3: Total Economic Stimulus from Resources Sector by LGA



Indirect and Final consumption effects

The IO modelling conducted for this project has estimated the indirect and consumption effects flowing from the two key direct impacts on the economy. One set of impacts is generated by business expenditure in each LGA, while the other set of impacts is generated by employment expenditure in each area. These impacts have been modelled to identify the level of impacts on output, incomes, employment and industry value added for each LGA (Appendix Three), incorporating both indirect and consumption effects. Total effects are summarised for each LGA (Appendix Four). The results are also demonstrated in Figures 7.4 and 7.5.

The I-O model for each SD identified a proportion of outputs that occurred outside of the SD but still in Queensland, without identifying the distribution of those out-of-region impacts. Most of these out-of-region impacts are likely to accrue to Brisbane or other major metropolitan areas.

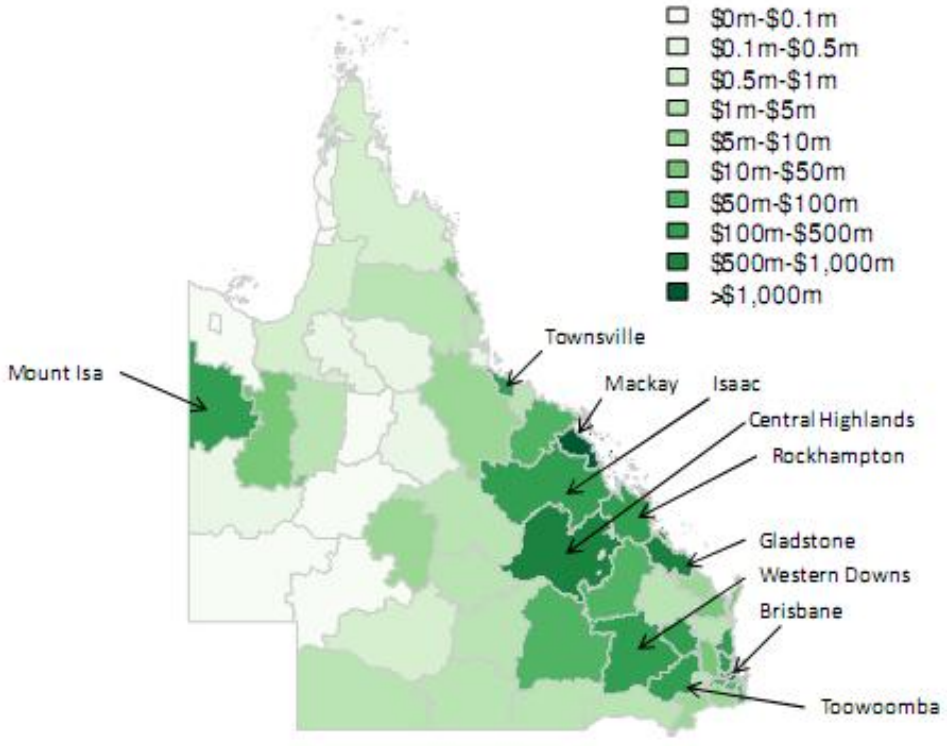
Modelling consumption impacts is problematic for smaller shires with limited economic structures because only a subset of goods and services are available. Smaller and specialised mining LGAs tend to have larger expenditure leakages, typically to the nearest large regional centre. To incorporate this into the modelling, a further correction factor has been applied for LGAs, as shown in Table 7.1. The rates were further reduced for the mining focused LGAs of Central Highlands (70%), Isaac (40%), Mount Isa (70%) and Weipa (30%) to account for

the tendency of residents of those communities to travel to major centres for consumption spending.

Table 7.1. Rates of adjustment for local consumption expenditure by LGA population size

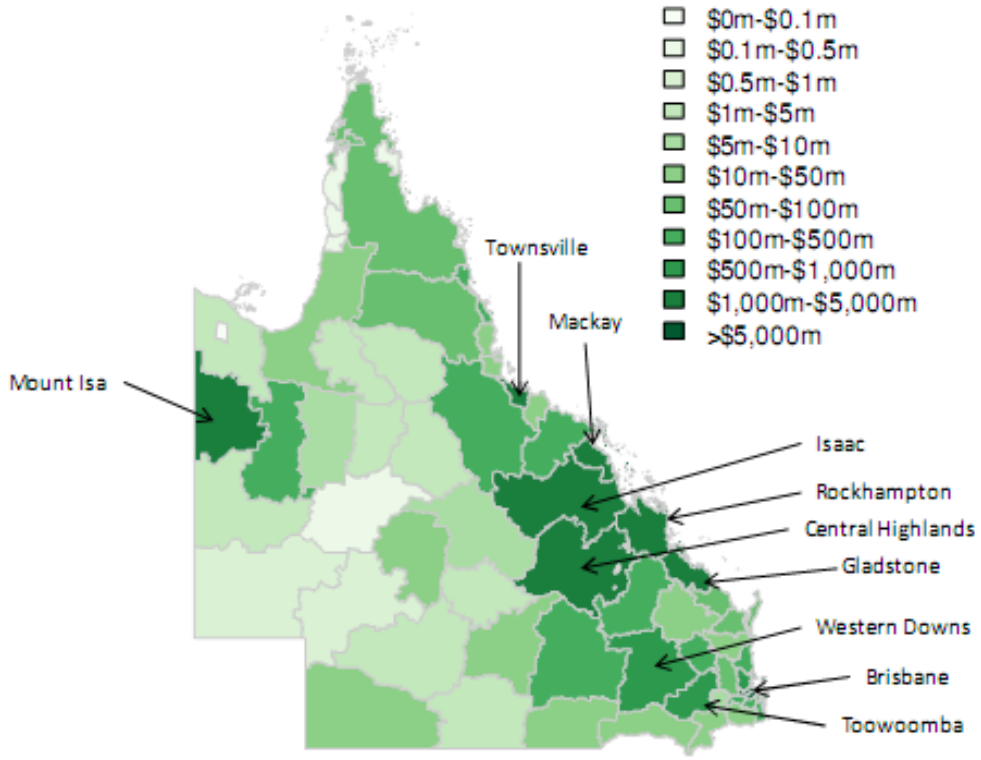
Population of LGA	Rate of consumption expenditure in LGA
0 – 1,000	30%
1,001 – 5,000	50%
5,000 – 10,000	60%
10,000 – 20,000	70%
20,000 – 30,000	80%
➢ 30,000	100%

Figure 7.4. Extra value-add in business supply chain by LGA



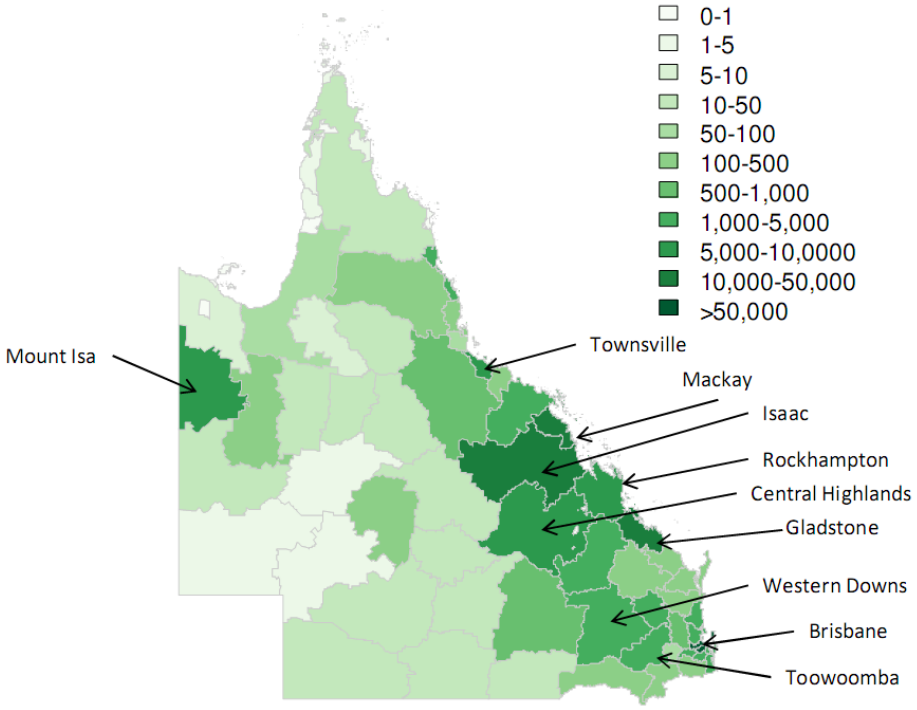
The results show that the resources industry has the highest overall impact on output and jobs in the Brisbane LGA, indicating that much of the stimulus flows through to south-east Queensland. There were substantial additions to the business supply chain in many LGAs, including Brisbane ($8.4 billion), Mackay ($1.4 billion), Gladstone ($0.65 billion), Mt Isa ($0.69 billion), and Townsville ($0.42 billion). The largest total additions to Gross Regional Product were made in the the following LGAs: Brisbane ($24.1 billion), Mackay ($5.0 billion), Gladstone ($2.5 billion), Mt Isa ($2.2 billion), Central Highlands ($2.1 billion), and Isaac ($2.0 billion).

Figure 7.5. Total addition to Gross Regional Product by LGA



LGAs where the resources industry is accounting for the largest shares of employment are Brisbane, Mackay, Gladstone, Isaac, Central Highlands, Townsville, and Mt Isa (Figure 7.6).

Figure 7.6. Total job creation by LGA.



8. EXAMPLE LGA: Mt Isa – Queensland's mining city

Mt Isa has spent most of its life as a corporate mining town. Established in 1923 to initially provide for workers in a new zinc, lead and silver mine, Mt Isa has been dominated since the 1930s by one mine. Being heavily reliant on the fortunes of one company, the city has a history that reflects the ebb and flow of base metal prices on the world's commodity exchanges.

The history of Mt Isa

The settlement of Mt Isa followed shortly after the discovery of base minerals in the area in 1923. Within a year, Mount Isa Mines Ltd (MIM) was established and the new town quickly moved from a miners camp of 300 to a town with shops (moved from surrounding towns), an open air cinema, and a provisional school.

A rail link was opened in 1929, primarily to haul the iron ore to Townsville ports. MIMs milling and smelter began working in 1931, although the lead smelter stack that is featured in many of today's postcards is a much more recent edition (1978).

The mine continued and began to prosper in the late 1940s, and by 1955 it's owner, MIM, had become Australia's biggest mining company. The town grew, as did its infrastructure, including a new water supply, built by MIM.

By the 1960s a prosperous MIM was employing approximately 17,000 workers. Employee unrest about entitlements resulted in the Queensland Government declaring a State of Emergency in Mt Isa in 1964 after an eight month dispute with miners, and the temporary closure of the copper smelter. The dispute was resolved the following year. Two years later, still strong with resident mine workers, Mt Isa was declared a city.

In 2003, after a difficult period for the mine, MIM was purchased by Swiss company Xstrata. Money was reinvested in the mine, and the town, and today MIM mine remains one of Australia's largest producers of copper ore. Xstrata's zinc production is also set to increase, with Xstrata recently announcing the expansion of its production levels at its George Fisher zinc mine, 20km north of Mt Isa, by nearly 30% by 2013.

As a company mining town dominated by one employer, the township of Mt Isa has been heavily reliant on the fortunes of the mine. The salaries of its miners and contractors support the local retailers, banks, community and other service organisations, so as wages swell, so does local expenditure.

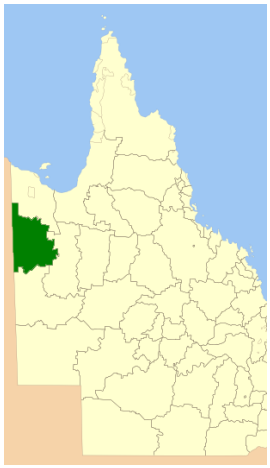
This expenditure has attracted well known national retail chains in clothing, sports gear, electrical and homeware goods, car parts and supermarkets to Mt Isa. The money circulating within the city has also meant support for a wide variety of sporting activities, including the high profile annual Isa Rodeo.

Mt Isa population and workforce

At its peak in the 1970s, the city of Mt Isa was home to nearly 26,000 people. At this time the city's workforce was dominated by the mining industry, employing 40.7% of Mt Isa's workers.

With the fall in base metal prices in the late 1980s came a fall in employment in mining. Mt Isa went from having 40.7% of its workforce employed in mining in 1976 to half this level by 2001, with 20.5% of the workforce in mining.

The Mt Isa LGA borders the Northern Territory (see map) and covers 43,310km^2, making it the second largest city in Australia in terms of area.



The majority of the LGA's population calls lives in Mt Isa, although the LGA is also includes the smaller settlements of Camooweal, Gunpowder, Barkly and Lawn Hill. Beyond these towns are the sparsely populated areas which are home to grazing properties held by families and large pastoral houses, for which Mt Isa is their regional services hub.

In 2006, the region punched above its weight in terms of weekly income, with 4.5% people over the age of 15 earning more than $ 2,000 a week (compared to the Qld average of 2.9%), while 29.8% of everyone over the age of 15 earned $1,000 or more a week.

The Mt Isa LGA recorded a decline in population from a high of 26,502 (1976) to 21,114 (2006 census). The Office of Economic and Statistical Research estimates the population to have modestly grown since then to 21,838 (June 2009).

In terms of future population trends for this LGA, given the mining sector accounted for 26.6% of the LGA's workforce in 2006, the plans for mining projects within the region will be the single most influential driver of future demographics, income levels, and the renewal or expansion of infrastructure.

By 2009-10, the resources sector has contributed $1,355 million in economic stimulus to the Mt Isa Shire through a combination of additional jobs in the LGA and spending in the local economy

Direct expenditure on wages and salaries to approximately 3,761 residing employees and contractors is $490 million ($324 million in direct mining salaries and $166 million in estimated contractor salaries)

There was other direct expenditure in the same year of $820 million in goods and services purchases to businesses in Mt Isa. This has been modelled to create the following effects on the business supply chain:

- $182 million in additional income
- $1,053 million in additional turnover
- $469 million in total value add
- 2,122 in additional 'indirect' full-time equivalent jobs

The addition to direct and indirect jobs created by mining (3,761 plus 2,122 jobs) was modelled to create additional consumption effects of:

- $139 million in additional income
- $986 million in additional turnover
- $361 million in total value add
- 2,463 in additional 'Final Demand' full-time equivalent jobs

The modelling suggests that when all the flow on effects are considered, the mining industry is responsible for generating approximately 70% of employment in Mt Isa.

9. Conclusions

This report contains the outcomes of two key pieces of analysis. The first is the collection of primary data by the QRC that identifies the direct impact of resources industries by local and regional areas in Queensland. The second is the conduct of I-O modelling that identifies the flow-on effects through the economy at a State, Statistical Division and Local Government Authority level.

The results of the analysis demonstrate that incomes and expenditures from the resources sectors are widely distributed across the state, and generate significant flow-on effects. The analysis identifies that the resources industry underpins up to 20.5% of Gross State Product, and 13% of employment in Queensland. It is notable that the industry makes a strong direct contribution in many of the more remote areas of Queensland, helping to underpin economic conditions in those regions. Expenditure from the resources industry has indirect impacts on the business environment in many areas, and generates substantial levels of production in south-east Queensland and central Queensland in particular.

A comparison to the previous estimates reported by the Queensland Department of Mines and Energy (2007) for only the mining and minerals processing sectors identifies that the resources sector has grown significantly within the Queensland economy. For example, the results of this study indicate that up to $18.97 billion are being paid in direct and indirect salaries from the resources sector in 2009-10, compared to $5.09 billion in 1999-00 and $11.12 billion in 2004-05 (mining and minerals processing only). The results of this study demonstrate how those wages and salaries are being widely distributed across Queensland through direct, indirect and consumption effects.

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APPENDIX ONE: Participating companies and current projects for data collection

Company	Operation	Location	Postcode	Local Government Area	Statistical Division	Output
Anglo American Metallurgical Coal	Capcoal	Middlemount	4746	Isaac	Fitzroy	Metallurgical coal
Anglo American Metallurgical Coal	Dawson	Moura	4718	Central Highlands	Fitzroy	Metallurgical coal
Anglo American Metallurgical Coal	Foxleigh	Middlemount	4746	Isaac	Central West	Metallurgical coal
Anglo American Metallurgical Coal	Morbanbah North	Moranbah	4744	Isaac	Mackay	Metallurgical coal
Anglo American Metallurgical Coal	Callide	Biloela	4715	Banana	Fitzroy	Thermal coal
Anglo American Metallurgical Coal	Dawson River	Theodore	4719	Banana	Fitzroy	Coal seam gas
Anglo American Metallurgical Coal	Moura	Moura	4718	Highlands	Fitzroy	Coal seam gas
Arrow Energy Limited	Kogan North	Kogan	4406	Western Downs	Darling Downs	Coal seam gas
Arrow Energy Limited	Tipton West	Tipton	4405	Toowoomba	Darling Downs	Coal seam gas
Arrow Energy Limited	Daandine	40km W Dalby	4405	Western Downs	Darling Downs	Coal seam gas
Arrow Energy Limited	Moranbah	Moranbah	4744	Isaac	Mackay	Coal seam gas
BHP Billiton Mitsubishi Alliance (BMA)	Blackwater	Blackwater	4717	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Broadmeadow	30km N Moranbah	4744	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Goonyella Riverside	30km N Moranbah	4744	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Gregory Crinum	Crinum	4723	Central Highlands	Fitzroy	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Norwich Park Mine	Norwich Park	4745	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Peak Downs Mine	30km N Moranbah	4744	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Saraji Mine	50km N Moranbah	4745	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	South Walker Mine	30km W Nebo	4742	Isaac	Mackay	Thermal coal
BHP Billiton Mitsubishi Alliance (BMA)	Poitrel Mine	Moranbah	4744	Isaac	Mackay	Metallurgical coal
BHP Billiton Mitsubishi Alliance (BMA)	Hay Point Coal Terminal	Hay Point	4740	Mackay	Mackay	Coal export
BHP Cannington	Cannington	Cloncurry	4824	Cloncurry	North West	Silver, lead and zinc
Bowen Central Coal Management Pty	Isaac Plains (Vale and Aquila)	Moranbah	4744	Isaac	Mackay	Metallurgical coal
Caledon Resources PLC	Cook Mine	Blackwater	4717	Central Highlands	Mackay	Metallurgical coal
Cement Australia	Bulwer Island Plant	Brisbane	4008	Brisbane	Brisbane	Cement
Cement Australia	Bagging and Despatch	Darra	4076	Brisbane	Brisbane	Bagged cement
Cement Australia	Fisherman's Landing	Gladstone	4680	Gladstone	Fitzroy	Cement and clinker
Cement Australia	Rockhampton Plant	Rockhampton	4700	Rockhampton	Fitzroy	Clinker
Cement Australia	East End Mine	Mt Larcom	4695	Gladstone	Fitzroy	Limestone
Citigold Corporation Limited	Warrior Mine	Charters Towers	4820	Charters Towers	North West	Gold
Consolidated Rutile Limited (Unimin)	N Stradbroke Is Mineral Sands	N Stradbroke Island	4183	Redland	Brisbane	Mineral sands
Ensham Resources Pty Ltd	Ensham Central Project	Comet	4702	Central Highlands	Fitzroy	Thermal coal

ERM Power Pty Ltd	Braemer 1&2 Power Station	Kumbarilla	4405	Western Downs	Darling Downs	Gas-fired electricity
ERM Power Pty Ltd	Oakey Power Station	Oakey	4401	Toowoomba	Darling Downs	Gas-fired electricity
Jellinbah Group	Jellinbah East	Blackwater	4717	Central Highlands	Mackay	Thermal coal
Jellinbah Group	Lake Vermont	Dysart	4745	Isaac	Mackay	Metallurgical coal
Macarthur Coal Limited	Coppabella Mine	Coppabella	4741	Isaac	Mackay	Thermal coal
Macarthur Coal Limited	Moorvale Mine	S Coppabella	4741	Isaac	Mackay	Thermal coal
Macarthur Coal Limited	Middlemount Mine	Middlemount	4746	Isaac	Fitzroy	Metallurgical coal
Millmerran Power Management Pty Ltd	Callide C	Biloela	4715	Banana	Fitzroy	Coal-fired electricity
Millmerran Power Management Pty Ltd	Millmerran Power Station	Millmerran	4357	Toowoomba	Darling Downs	Coal-fired electricity
Millmerran Power Management Pty Ltd	Commodore Mine	Millmerran	4357	Toowoomba	Darling Downs	Thermal coal
Minerals and Metals Group Limited	Century	Gregory Downs	4830	Burke	North West	Lead and zinc
New Hope Coal Australia Ltd	North Ipswich	North Ipswich	4305	Ipswich	Brisbane	Thermal coal
New Hope Coal Australia Ltd	New Acland	Acland	4401	Toowoomba	Darling Downs	Thermal coal
New Hope Coal Australia Ltd	New Oakleigh	Rosewood	4340	Ipswich	Brisbane	Thermal coal
New Hope Coal Australia Ltd	Jeebropilly	Jeebropilly	4340	Ipswich	Brisbane	Thermal coal
North Queensland Metals Ltd	Pajingo Gold Mine	40km S Charters Towers	4820	Charters Towers	Northern	Gold
Origin Energy	Glentulloch	Injune	4454	Maronoa	South West	Natural gas
Origin Energy	Spring Gully	40km E Injune	4454	Maronoa	South West	Coal seam gas
Origin Energy	Peat	N Wandoan	4419	Western Downs	Darling Downs	Coal seam gas
Origin Energy	Talinga	30km SE Miles	4415	Western Downs	Darling Downs	Coal seam gas
Origin Energy	Bulwer Island Power Station	Bulwer	4008	Brisbane	Brisbane	Gas-fired electricity
Origin Energy	Roma Power Station	Roma	4455	Maronoa	South West	Gas-fired electricity
Peabody Energy Australia Pty Ltd	Burton	Burton	4742	Isaac	Mackay	Metallurgical coal
Peabody Energy Australia Pty Ltd	North Goonyella/Eaglefield	15km N Moranbah	4742	Isaac	Mackay	Metallurgical coal
Peabody Energy Australia Pty Ltd	Millenium	10km SW Coppabella	4741	Isaac	Mackay	Metallurgical coal
Peabody Energy Australia Pty Ltd	Wilkie Creek	20km SE Chinchilla	4413	Western Downs	Darling Downs	Thermal coal
QGC Limited	Berwyndale South Gasfield	20km E Condamine	4416	Western Downs	Darling Downs	Coal seam gas
QGC Limited	Argyle-Kenya Gasfield	35km E Condamine	4416	Western Downs	Darling Downs	Coal seam gas
QGC Limited	Codie/Lauren	25km E Condamine	4416	Western Downs	Darling Downs	Coal seam gas
QGC Limited	Condamine Power Station	Condamine	4416	Western Downs	Darling Downs	Gas-fired electricity
Queensland Alumina Limited	Queensland Alumina	Gladstone	4680	Gladstone	Fitzroy	Alumina
Queensland Magnesia Pty Ltd	Kunwarara/Yaa	70km N Rockhampton	4704	Isaac	Fitzroy	Magnesite
Queensland Magnesia Pty Ltd	Parkhurst	N Rockhampton	4701	Rockhampton	Fitzroy	Magnesia
Queensland Nickel Pty Ltd	QNI Yabulu Refinery	25km NE Townsville	4810	Townsville	Northern	Nickel and copper
Rio Tinto Alcan	Yarwun	Gladstone	4680	Gladstone	Fitzroy	Alumina
Rio Tinto Alcan	Boyne Smelter	Gladstone	4680	Gladstone	Fitzroy	Aluminium
Rio Tinto Alcan	Weipa	Weipa	4874	Napranum	Far North	Bauxite
Rio Tinto Coal Australia	Blair Athol	20km NW Clermont	4721	Isaac	Mackay	Thermal coal

Rio Tinto Coal Australia	Hail Creek	Hail Creek	4742	Isaac	Mackay	Metallurgical coal
Rio Tinto Coal Australia	Kestrel	40km NE Emerald	4720	Central Highlands	Fitzroy	Metallurgical coal
Rio Tinto Coal Australia	Clermont	Clermont	4721	Isaac	Mackay	Thermal coal
Santos/Toga Pty Ltd	Fairview	30km NE Injune	4454	Maranoa	South West	Coal seam gas
Santos/Toga Pty Ltd	Challum	50k W Nochatunga	4492	Bulloo	South West	Processed natural gas
Santos/Toga Pty Ltd	Challum	50k W Nochatunga	4492	Bulloo	South West	Liquified petroleum gas
Sonoma Mine Management Pty Ltd	Sonoma Mine	Collinsville	4804	Whitsunday	Mackay	Metallurgical coal
Stanwell Corporation Limited	Stanwell Power Station	Stanwell	4702	Rockhampton	Fitzroy	Coal-fired electricity
Stanwell Corporation Limited	Mackay Gas Turbine	W Mackay	4740	Mackay	Mackay	Gas-fired electricity
Stanwell Corporation Limited	Wivenhoe Dam Hydro	Wivenhoe	4306	Somerset	West Moreton	Hydro electricity
Stanwell Corporation Limited	Barron Gorge Hydro	20km NW Cairns	4870	Cairns	Far North	Hydro electricity
Stanwell Corporation Limited	Kareeya Hydro	Tully	4854	Cassowary Coast	Far North	Hydro electricity
Stanwell Corporation Limited	Koombooloomba hydro	Koombooloomba	4872	Tablelands	Far North	Hydro electricity
Tarong Energy Corporation Ltd	Meandu Mine	SW Nanango	4615	South Burnett	Wide-Bay Burnett	Thermal coal
Tarong Energy Corporation Ltd	Tarong Power Station	Tarong	4615	South Burnett	Wide-Bay Burnett	Coal-fired generation
Tarong Energy Corporation Ltd	Tarong North Power Station	Tarong	4615	South Burnett	Wide-Bay Burnett	Coal-fired generation
Tarong Energy Corporation Ltd	Wivenhoe Dam Hydro	Wivenhoe	4306	Somerset	West Moreton	Hydro electricity
Vale	Carborough Downs	15km E Moranbah	4744	Isaac	Mackay	Metallurgical coal
Wesfarmers Resources	Curragh Mine	NW Blackwater	4717	Central Highlands	Mackay	Metallurgical coal
Xstrata Coal Australia Pty Ltd	Collinsville Coal	Collinsville	4804	Whitsunday	Mackay	Metallurgical coal
Xstrata Coal Australia Pty Ltd	Newlands Coal	32km NW Glenden	4743	Isaac	Mackay	Metallurgical coal
Xstrata Coal Australia Pty Ltd	Oaky Creek	14km E Tieri	4709	Central Highlands	Fitzroy	Metallurgical coal
Xstrata Coal Australia Pty Ltd	Rolleston	Rolleston	4702	Central Highlands	Fitzroy	Thermal coal
Xstrata Ernest Henry Mining Pty Ltd	Ernest Henry Mine	38km NE Cloncurry	4824	Cloncurry	North West	Copper and gold concentrate
Xstrata Mount Isa Mines Ltd	Mount Isa Mines	Mount Isa	4825	Mount Isa	North West	Copper concentrate and copper anode from smelter
Xstrata Mount Isa Mines Ltd	Townsville Copper and Port	Townsville	4810	Townsville	Northern	Copper
Xstrata Mount Isa Mines Ltd	Mount Isa Mines	Mount Isa	4825	Mount Isa	North West	Zinc concentrate, crude lead and silver in bullion
Xstrata Mount Isa Mines Ltd	Bowen Coke Works	Bowen	4805	Whitsunday	Mackay	Coke
Yancoal	Yarrabee Coal Mine	Blackwater	4717	Central Highlands	Mackay	Thermal coal
Yancoal	Minerva Coal mine	Springsure	4722	Central Highlands	Fitzroy	Thermal coal

APPENDIX TWO: Direct impacts by LGA in Queensland.

	Total employment in LGA	Residing mining & resource employees	Mining & resource salaries	Business supplier spend	Total Economic Stimulus
			$M	$M	$M
Aurukun	355	1	0.10	0.06	0.17
Balonne	2,872	6	0.84	6.54	7.72
Banana	9,685	925	120.45	117.14	238.14
Barcaldine	2,033	16	2.06	3.72	5.84
Barcoo	293	0	0.00	0.38	0.38
Blackall Tambo	1,304	2	0.24	2.99	3.23
Boulia	285	8	0.99	1.68	2.76
Brisbane	600,910	5819	757.87	9032.12	9,796.42
Bulloo	288	1	0.17	9.62	9.79
Bundaberg	40,595	159	20.77	15.01	35.80
Burdekin	10,251	73	9.57	4.25	13.82
Burke	366	5	0.69	0.31	1.39
Cairns	84,657	298	38.86	72.99	111.94
Carpentaria	1,018	54	7.01	1.10	8.54
Cassowary Coast	15,297	88	11.47	4.48	15.96
Central Highlands	17,621	4996	650.65	816.78	1,519.74
Charters Towers	6,455	411	53.52	11.88	65.46
Cherbourg	332	0	0.03	0.07	0.11
Cloncurry	2,125	127	16.51	55.85	73.49
Cook	1,558	17	2.23	14.16	77.03
Croydon	142	5	0.65	0.24	0.94
Diamantina	213	2	0.30	0.21	0.52
Doomadgee	357	0	0.03	0.01	0.05
Etheridge	480	7	0.86	0.32	1.24
Flinders	1,205	9	1.15	0.53	1.68
Fraser Coast	38,632	107	13.89	23.23	37.13
Gladstone	29,805	2240	291.78	1011.06	1,304.13
Gold Coast	261,609	218	28.45	113.24	141.76
Goondiwindi	6,114	52	6.73	6.05	12.78
Gympie	20,786	138	17.97	5.26	23.24
Hinchinbrook	6,530	43	5.57	0.42	6.00
Hope Vale	378	0	0.03	0.02	0.04
Ipswich	76,070	211	27.49	99.07	126.64
Isaac	12,884	6965	907.06	322.90	1,357.86
Kowanyama	481	0	0.05	0.02	0.08
Lockhart River	209	1	0.08	0.03	0.11
Lockyer Valley	15,751	33	4.27	1.75	6.03
Logan	141,446	128	16.69	92.88	109.58
Longreach	2,678	48	6.29	15.86	22.45

	Total employment in LGA	Residing mining & resource employees	399.11	Business supplier spend	Total Economic Stimulus
Mackay	59,744	3065	0.85	2140.00	2,539.79
McKinlay	745	6	0.00	2.62	3.91
Mapoon	134	0	36.66	0.00	0.00
Maranoa	8,166	282	53.84	111.45	148.15
Moreton Bay	176,559	413	0.03	173.05	226.93
Mornington	456	0	489.80	0.01	0.04
Mount Isa	11,887	3761	0.79	819.43	1,354.89
Murweh	2,829	6	0.00	7.34	8.14
Napranum	313	0	5.35	9.93	55.22
North Burnett	6,091	41	0.11	6.87	12.22
Northern Peninsula Area	913	1	0.01	0.00	0.11
Palm Island	674	0	0.16	0.00	0.01
Paroo	1,028	1	0.10	2.87	3.03
Pormpuraaw	303	1	0.55	0.04	0.14
Quilpie	661	4	47.88	1.29	1.84
Redland	77,302	368	2.13	74.34	122.36
Richmond	600	16	190.90	0.26	2.59
Rockhampton	53,957	1465	6.34	406.95	599.22
Scenic Rim	19,054	49	13.24	6.00	12.35
Somerset	9,523	102	30.09	8.33	21.59
South Burnett	14,552	231	6.51	162.77	193.10
Southern Downs	16,818	50	49.11	7.80	14.32
Sunshine Coast	151,028	377	21.23	157.47	206.61
Tablelands	20,433	163	58.67	7.41	28.75
Toowoomba	81,726	451	0.25	238.62	297.85
Torres	1,677	2	0.27	0.00	0.25
Torres Strait Island	2,196	2	277.63	0.00	0.28
Townsville	101,867	2132	117.09	636.55	916.01
Weipa	1,933	899	82.38	0.05	0.30
Western Downs	16,189	633	38.03	176.81	259.92
Whitsunday	17,627	292	0.13	87.41	126.39
Winton	857	1	0.00	0.05	0.21
Woorabinda	155	0	0.00	0.00	0.00
Wujal Wujal	140	0	0.01	0.00	0.00
Yarrabah	1,087	0	0.10	0.00	0.01
Total	**2,272,207**	**38,029**	**4,953**	**17,110**	**22,297**

APPENDIX THREE: Indirect and consumption impacts by LGA in Queensland.

	Business supply chain				Final consumption			
	Additional income	**Additional turnover**	**Additional total value add**	**Additional jobs**	**Additional income**	**Additional turnover**	**Additional total value add**	**Additional jobs**
	$M	$M	$M		$M	$M	$M	
Aurukun	0.0	0.1	0.0	0.3	0.1	0.2	0.1	0.7
Balonne	1.6	7.6	4.3	21.3	0.5	3.4	1.0	11.6
Banana	38.8	166.3	76.9	583.5	51.0	292.7	104.5	989.0
Barcaldine	0.9	4.3	2.1	14.1	0.6	3.3	1.1	12.2
Barcoo	0.1	0.5	0.1	1.1	0.0	0.1	0.0	0.3
Blackall Tambo	0.7	3.6	1.2	8.5	0.2	1.3	0.3	4.8
Boulia	0.2	1.8	0.5	3.9	0.1	0.7	0.2	2.0
Brisbane	4,865.4	19,856.4	8,403.3	74,015.2	2,777.9	19,846.6	5,892.3	56,833.7
Bulloo	2.4	11.8	4.9	21.7	0.4	2.3	0.6	8.4
Bundaberg	5.1	20.6	9.4	63.7	12.5	68.1	24.4	224.4
Burdekin	1.3	5.8	2.7	17.6	3.4	19.0	7.1	60.6
Burke	0.0	0.2	0.1	0.5	0.1	0.4	0.2	1.1
Cairns	22.5	109.6	47.3	385.0	26.6	170.6	57.9	595.2
Carpentaria	0.2	1.4	0.6	3.5	1.2	7.1	2.8	18.8
Cassowary Coast	1.4	6.6	3.0	23.8	5.8	33.3	12.3	118.0
Central Highlands	288.6	1,150.1	550.0	4,249.8	314.5	1,788.6	633.4	6,143.2
Charters Towers	4.7	16.3	7.8	55.9	22.3	110.1	41.6	371.9
Cherbourg	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.3
Cloncurry	12.8	83.7	30.0	183.2	4.3	32.5	11.4	83.5
Cook	0.3	1.3	0.6	5.1	0.6	3.5	1.3	12.7
Croydon	0.1	0.3	0.2	1.4	0.1	0.6	0.2	2.3
Diamantina	0.0	0.2	0.1	0.6	0.0	0.2	0.1	0.7
Doomadgee	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Etheridge	0.1	0.5	0.3	1.9	0.2	0.8	0.3	3.1
Flinders	0.1	0.7	0.3	1.5	0.3	1.6	0.5	3.8
Fraser Coast	8.2	32.3	15.0	110.0	10.7	61.6	21.1	211.5
Gladstone	316.5	1,430.3	650.1	4,914.1	264.0	1,702.4	554.9	5,659.7
Gold Coast	44.1	203.0	78.3	882.9	30.1	230.4	67.5	851.3
Goondiwindi	2.4	8.2	4.0	33.3	3.5	18.1	6.5	66.3
Gympie	1.7	7.2	3.3	22.3	9.6	50.2	18.6	165.1
Hinchinbrook	0.1	0.6	0.3	2.0	2.1	10.4	4.0	34.6
Hope Vale	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Ipswich	32.1	123.0	53.2	443.9	33.9	208.8	67.2	624.0
Isaac	103.4	462.6	216.5	1,576.8	179.0	1,012.3	378.7	3,338.3
Kowanyama	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4
Lockhart River	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.5
Lockyer Valley	0.6	3.0	1.1	18.2	2.3	14.7	4.5	87.7
Logan	40.5	166.1	71.8	588.3	29.6	199.2	61.6	579.6

	Additional income	Additional turnover	Additional total value add	Additional jobs	Additional income	Additional turnover	Additional total value add	Additional jobs
Longreach	3.7	18.2	9.1	65.5	1.9	11.4	4.0	44.7
Mackay	684.7	3,054.4	1,439.1	10,563.5	453.7	3,121.5	971.3	10,087.1
McKinlay	0.6	3.3	1.4	7.7	0.2	1.0	0.3	2.7
Mapoon	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maranoa	27.5	137.4	57.2	258.9	20.3	125.4	39.2	401.7
Moreton Bay	80.4	307.4	133.9	1,080.9	74.3	468.9	148.9	1,380.6
Mornington	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mount Isa	182.0	1,053.0	468.5	2,122.3	138.6	985.9	361.2	2,463.2
Murweh	1.8	9.0	3.7	16.5	0.6	3.6	1.1	12.3
Napranum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
North Burnett	2.5	9.6	4.5	34.9	2.7	15.2	5.3	53.3
Northern Peninsula Area	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.5
Palm Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Paroo	0.7	3.6	1.4	6.5	0.2	1.3	0.4	4.5
Pormpuraaw	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.4
Quilpie	0.4	1.6	0.6	2.9	0.2	1.1	0.4	3.2
Redland	33.9	135.7	58.0	493.4	48.0	285.1	94.1	870.9
Richmond	0.1	0.4	0.1	0.9	0.2	1.3	0.5	3.6
Rockhampton	140.1	569.3	277.8	2,055.6	153.3	918.7	315.3	3,113.5
Scenic Rim	3.6	19.4	7.0	123.8	3.0	21.7	6.2	129.3
Somerset	10.3	55.8	20.2	376.7	10.1	74.5	20.6	450.7
South Burnett	53.1	229.3	123.5	1,371.0	29.9	195.4	64.6	758.6
Southern Downs	3.0	10.7	5.3	45.2	5.1	26.9	9.6	99.9
Sunshine Coast	60.3	293.3	109.7	1,360.9	48.8	356.9	103.5	1,518.4
Tablelands	2.3	11.0	4.8	39.2	10.0	59.7	22.0	210.2
Toowoomba	97.6	317.8	156.0	1,313.6	80.8	475.9	152.4	1,697.9
Torres	0.0	0.0	0.0	0.0	0.1	0.3	0.1	1.1
Torres Strait Island	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Townsville	204.7	874.4	416.4	2,672.2	212.0	1,325.8	453.4	4,316.3
Weipa	7.7	40.7	16.8	145.3	20.9	128.0	46.2	452.2
Western Downs	67.6	232.8	118.9	1,191.8	77.7	432.6	148.4	1,676.0
Whitsunday	24.0	122.1	56.2	366.3	24.5	162.7	54.8	508.0
Winton	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4
Woorabinda	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wujal Wujal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yarrabah	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**7,489.5**	**31,396.3**	**13,729.4**	**113,971.4**	**5,204.4**	**35,096.3**	**11,002.1**	**107,382.1**

APPENDIX FOUR: Direct and indirect impacts by LGA in Queensland.

	Total Income (Initial + addition)	Addition to GSP (expenditure + Value Add)	Total jobs (Initial + addition)	% of regional workforce	Additional job multiplier
Aurukun	0.15	0.22	2.00	0.56	1.00
Balonne	2.95	13.02	38.90	1.35	5.48
Banana	210.38	419.55	2,497.53	25.79	1.70
Barcaldine	3.51	9.04	42.30	2.08	1.64
Barcoo	0.10	0.51	1.40	0.48	Not estimated
Blackall Tambo	1.14	4.73	15.30	1.17	6.65
Boulia	1.28	3.44	13.91	4.88	0.74
Brisbane	8,401.81	24,092.02	136,667.90	22.74	22.49
Bulloo	2.93	15.32	31.13	10.81	30.13
Bundaberg	38.39	69.60	447.10	1.10	1.81
Burdekin	14.30	23.66	151.15	1.47	1.07
Burke	0.75	1.64	6.61	1.81	0.32
Cairns	87.99	217.14	1,278.20	1.51	3.29
Carpentaria	8.42	11.94	76.30	7.50	0.41
Cassowary Coast	18.67	31.26	229.80	1.50	1.61
Central Highlands	1,254.32	2,703.17	15,389.00	87.33	2.08
Charters Towers	80.59	114.84	838.81	12.99	1.04
Cherbourg	0.03	0.11	0.70	0.21	Not estimated
Cloncurry	33.63	114.84	393.65	18.52	2.10
Cook	62.95	78.93	34.75	2.23	1.04
Croydon	0.87	1.38	8.71	6.13	0.74
Diamantina	0.33	0.68	3.26	1.53	0.63
Doomadgee	0.03	0.05	0.05	0.01	Not estimated
Etheridge	1.14	1.84	11.96	2.49	0.71
Flinders	1.55	2.48	14.30	1.19	0.59
Fraser Coast	32.81	73.23	428.50	1.11	3.00
Gladstone	872.52	2,509.13	12,813.80	42.99	4.72
Gold Coast	102.67	287.56	1,952.20	0.75	7.96
Goondiwindi	12.64	23.29	151.59	2.48	1.92
Gympie	29.28	45.14	325.40	1.57	1.36
Hinchinbrook	7.78	10.29	79.58	1.22	0.85
Hope Vale	0.03	0.04	0.06	0.02	Not estimated
Ipswich	93.51	247.04	1,278.90	1.68	5.06
Isaac	1,190.19	1,953.08	11,880.12	92.21	0.71
Kowanyama	0.05	0.13	0.45	0.09	Not estimated
Lockhart River	0.08	0.16	1.55	0.74	0.55
Lockyer Valley	7.18	11.63	138.90	0.88	3.21
Logan	86.80	242.98	1,295.90	0.92	9.12

	Total Income (Initial + addition)	Addition to GSP (expenditure + Value Add)	Total jobs (Initial + addition)	% of regional workforce	Additional job multiplier
Longreach	11.90	35.50	158.15	5.91	2.29
Mackay	1,537.85	4,950.19	23,715.60	39.70	6.74
McKinlay	1.60	5.64	16.40	2.20	1.73
Mapoon	0.00	0.00	0.00	0.00	Not estimated
Maranoa	84.52	244.55	942.58	11.54	2.34
Moreton Bay	208.58	509.73	2,874.50	1.63	5.96
Mornington	0.03	0.04	0.00	0.00	Not estimated
Mount Isa	810.81	2,184.59	8,346.46	70.22	1.22
Murweh	3.14	12.89	34.80	1.23	4.80
Napranum	44.78	55.22	0.00	0.00	Not estimated
North Burnett	10.58	22.04	129.17	2.12	2.15
Northern Peninsula Area	0.11	0.16	1.50	0.16	0.50
Palm Island	0.01	0.01	0.00	0.00	Not estimated
Paroo	1.06	4.78	11.95	1.16	10.95
Pormpuraaw	0.13	0.17	1.66	0.55	0.66
Quilpie	1.10	2.79	10.10	1.53	1.53
Redland	129.82	274.46	1,732.30	2.24	3.71
Richmond	2.44	3.20	20.50	3.42	0.28
Rockhampton	468.20	1,160.61	6,673.52	12.37	3.56
Scenic Rim	12.96	25.51	302.09	1.59	5.17
Somerset	33.65	62.39	929.40	9.76	8.11
South Burnett	113.13	381.24	2,360.56	16.22	9.22
Southern Downs	14.62	29.22	195.10	1.16	2.90
Sunshine Coast	158.25	419.81	3,256.30	2.16	7.64
Tablelands	33.55	55.55	412.40	2.02	1.53
Toowoomba	237.12	606.25	3,462.50	4.24	6.68
Torres	0.30	0.35	3.10	0.18	0.55
Torres Strait Island	0.27	0.28	2.00	0.09	0.00
Townsville	694.57	1,785.81	9,120.50	8.95	3.28
Weipa	28.82	63.34	1,496.54	77.42	0.66
Western Downs	227.75	527.22	3,500.80	21.62	4.53
Whitsunday	86.56	237.39	1,166.30	6.62	2.99
Winton	0.13	0.26	1.50	0.18	0.50
Woorabinda	0.00	0.00	0.00	0.00	-1.00
Wujal Wujal	0.00	0.00	0.00	0.00	Not estimated
Yarrabah	0.01	0.01	0.00	0.00	Not estimated