

The impact of Fly-In-Fly-Out employment policy on Mackay and Moranbah, QLD



SGS
Economics
& Planning

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Independent insight.



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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1 INTRODUCTION	3
1.1 Purpose of the report	3
1.2 Methodology	3
1.3 Report outline	4
2 CONTEXT OF MORANBAH AND MACKAY	5
2.1 Study area	5
2.2 Demographic profile	6
2.3 Housing profile	8
2.4 Economic profile	9
2.5 Labour accessibility	10
2.6 Summary and implications	13
3 ECONOMIC IMPACT	14
3.1 Introduction	14
3.2 Definition of employment scenarios	14
3.3 Overview of assumptions for estimating economic impacts	15
3.4 Economic impacts	17
3.5 Other potential economic impacts	18
3.6 Summary and implications	19
4 SOCIAL IMPACTS	20
4.1 Why are social impacts important?	20
4.2 Framing the impact on the community	20
4.3 Us-versus-Them	20
4.4 Social cohesion and investment	21
4.5 Impact on housing	22
4.6 Summary and implications	23
5 APPENDIX A	24
5.1 Mackay's gross weekly income expenditure by quintile	24
5.2 Impact on household types	24
6 REFERENCES	25

LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics
BMA	BHP Billiton Mitsubishi Alliance
CFMEU	Construction, Forestry, Mining and Energy Union
FIFO	Fly-In-Fly-Out
FTE	Full-time equivalent
QGSO	Queensland Government Statistical Office
SA2	Statistical Area 2
SA4	Statistical Area 4
WAV	Worker Accommodation Village

EXECUTIVE SUMMARY

Purpose of the report

SGS has undertaken an economic and social impact assessment on the effect that a proposed Fly-In-Fly-Out (FIFO) mining operation at the recently constructed Daunia and Caval Ridge mines will have on the town of Moranbah in central Queensland. The study reviews the demographic and economic profile of Moranbah and the wider Mackay region in which it sits, to determine whether there is scope to open the mining operations to the local working population. The study proposes a scenario whereby 30% of the mine's operating workforce (1,000 to 1,200 across both mines) are sourced from Moranbah and the wider Mackay region. This is done in order to compare the economic and social impact of the current scenario which proposes a workforce that is entirely sourced remotely (100% FIFO).

Moranbah and Mackay

Moranbah is a small regional town 190 kilometres from Mackay in central Queensland. It has a population of 9,269 and is dominated by the mining industry, with 47% of the population employed in the industry. It also has a large contingent of non-resident workers who, through FIFO operations or by other means, work in the area while living elsewhere. This is driven heavily by mining operations in the region.

Scenarios

Two scenarios are tested in this study to determine the impact that the proposed 100% FIFO operation will have on the Moranbah and Mackay economies, in contrast with some degree of local employment. The first scenario assumes that the entire operational workforce of the new mines is sourced remotely, from Brisbane and Cairns, in keeping with the mine's policy. This scenario assumes that there would be very little involvement of the FIFO workers in the local economy as they are housed in purpose built Workers Accommodation Villages (WAVs) located on or near to the mine sites.

The second scenario assumes that 30% of the operational workforce is sourced from within the Mackay region, and in particular, Moranbah with the remaining 70% being FIFO operators. This scenario is premised on the involvement of unemployed persons in both Moranbah and Mackay being targeted for employment opportunities. This premise is underpinned by the explicit call for applicants with no previous industry experience and thus not requiring specialist mining skills. It also considers journey to work patterns for those currently employed in the mining sector within Mackay to ensure that the scenario is grounded in current behavioural patterns.

Economic impacts

There is little evidence available to quantify the expenditure patterns of FIFO workers across Australia. This study evaluates the potential differences in expenditure based on an assessment of expenditure habits and household profiles, coupled with an assumption emerging from a parliamentary standing committee report that FIFO workers spend one sixth of residential workers in local economies. Guided by this, this study estimates that the Moranbah and broader Mackay economies stand to generate around an **additional \$14.3 million** in annual expenditure within the scenario that sources 30% of the mines' operational workforce locally.

Social impacts

Many impacts felt by the proposal to source 100% of the workforce remotely are qualitative and relate to the social implications for Moranbah. The demographic profile of Moranbah suggests that a share of residents have been a part of the community for a number of years, with 60% of town residents having lived there since at least 2006 and a high proportion of families living in the area. This commitment to the town and the region is likely underpinned by employment opportunities. The proposal to source employment entirely remotely threatens the social makeup of Moranbah as a lack of working opportunities will force people to look elsewhere for jobs.

In a town the size of Moranbah, the loss of residents will be more keenly felt and exacerbated by the unlikelihood of those leaving being replaced by new people, due to the lack of diversity in the region's employment profile. These effects impact on social organisations such as sports and community clubs as well as increase vacancy rates and drive down property prices.

Currency

This study has been undertaken in the shadow of significant job cuts announced by the mine operators, Billiton Mitsubishi Alliance (BMA) in late September 2014. An internal review of the company's structure has resulted in a reported loss of 700 jobs across its Queensland coal business, representing 8% of its workforce (Saunders, A, 2014). Given the recent nature of the announcement, this report does not specifically address this issue. However, it gives weight to the study's suggestion that sourcing a proportion of the new mines' workforce locally, or opening up the opportunity for work to the Moranbah and Mackay workforce, will add flexibility and choice to local residents who may be facing job losses in the near future.

Summary

Moranbah is a town heavily reliant upon the mining industry to sustain its future. A proposal that sees between 1,000 and 1,200 jobs in the region inaccessible to the local working population of Moranbah and its surrounds reduces choice and flexibility for the workforce. A scenario where 30% of the workforce are sourced from the local community, not only increases employment choice in an area heavily invested in mining, but significantly increases the potential expenditure within the local economy. There are also a number of social benefits derived from such a scenario, when a proportion of locally sourced jobs would be filled by Moranbah and Mackay's unemployed.

1 INTRODUCTION

1.1 Purpose of the report

SGS have been engaged by the Construction, Forestry, Mining and Energy Union (CFMEU) to prepare a report that explores an alternate option to a new workforce arrangement for the operation of two recently-opened coal mines. BHP Billiton, through their Billiton Mitsubishi Alliance (BMA) have recently constructed two mines surrounding the town of Mackay, 150 kilometres (190km by road) south-west of Mackay in Queensland. The mine operators propose to run the mine operations exclusively through a Fly-In-Fly-Out (FIFO) workforce, with source communities based in Brisbane and Cairns.

The CFMEU are concerned that such an operation, for two mines – Caval Ridge and Daunia - providing between 1,000 and 1,200 jobs, whilst limiting local access to them, marginalises the local community of Moranbah and the wider Mackay region. The CFMEU's concern lies in the removal of choice from the local resident workforce regarding where they are able to work in their region. This is an important point to note, as a position against the use of a FIFO workforce is not taken; rather that there should be some allowance for the local workforce to be involved in the mining operations if they wish.

BMA propose that the FIFO workforce be housed in specially-constructed accommodation villages. Caval Ridge is serviced by the Buffel Park Accommodation Village (located 17km south of Moranbah) and Daunia's workforce is housed at the Coppabella Accommodation Village (30kms east of Moranbah). The location and nature of FIFO shifts means that is likely that there will be little opportunity for FIFO workers to engage with the wider Moranbah community and economy.

1.2 Methodology

SGS has undertaken this report using the following method:

- Review project background and engage in discussion with client regarding employment objectives
- Determine relevant 'catchment' upon which to base the assessment
- Undertake demographic, economic and labour profile to determine the extent of workforce capacity that could reasonably be sourced within the Mackay region
- Develop an employment scenario from this profiling to test against the current 100% FIFO proposal
- Assessment of social and direct economic impacts that a 100% FIFO proposal will have when compared to a scenario involving locally-sourced workers

This report uses two statistical areas defined by the Australian Bureau of Statistics (ABS) when assessing the issue. The economic and social impacts are primarily centred on the Moranbah statistical area (SA2), given the separation from other towns in the area. The assessment of workforce location, however, has considered the capturing of relevantly-skilled workers from the broader Mackay region (SA4), as a number of people within the mining industry travel across statistical areas for work opportunities.

Note, when reference is made to Mackay, it is in reference to the Mackay statistical area, not the town of Mackay, unless explicitly referred to. Refer to Figure 1 for these boundaries.

1.3 Report outline

The report is structured as follows:

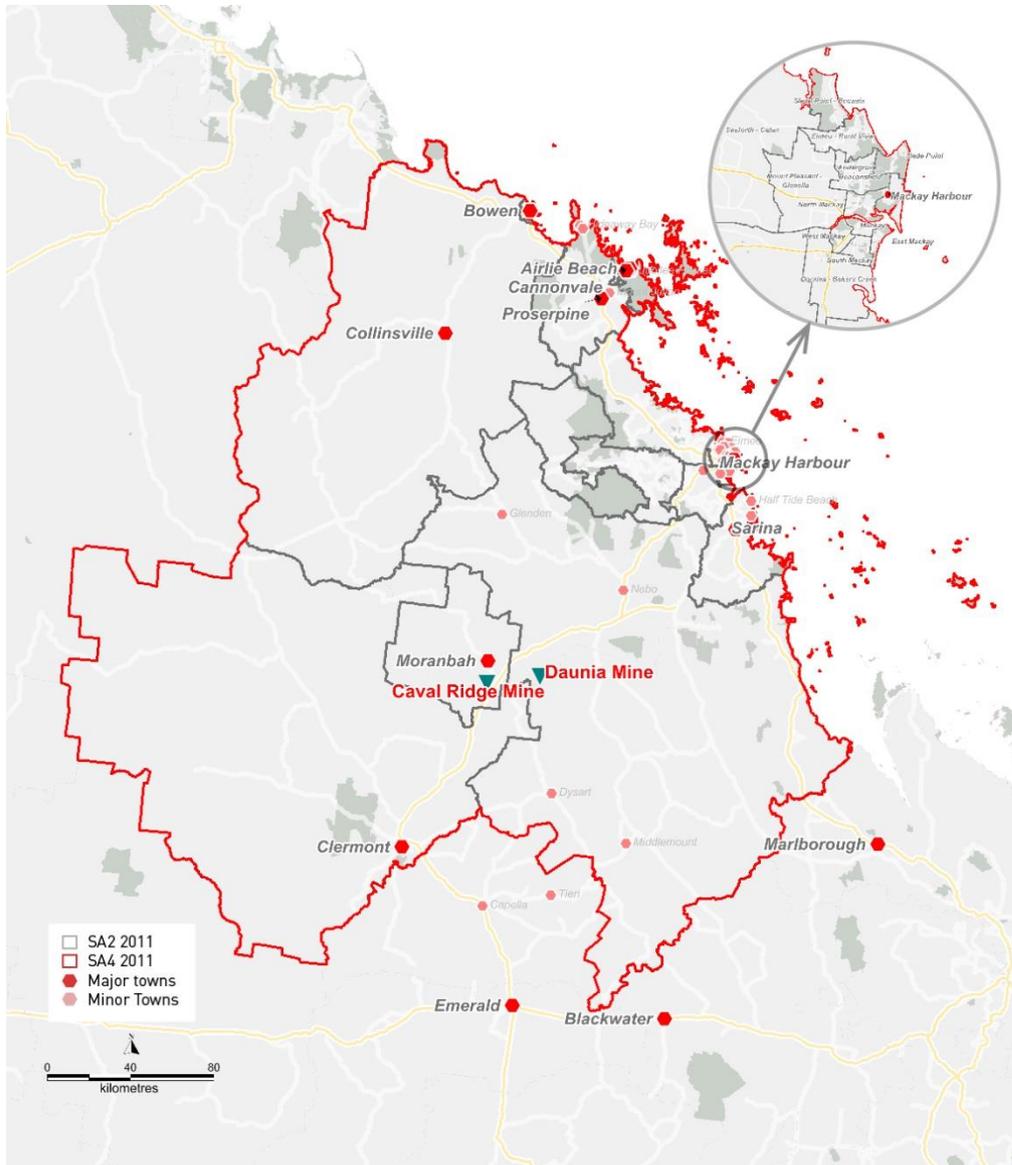
- Chapter 2:** Locational, demographic and economic context for the Moranbah and Mackay regions
- Chapter 3:** Outlines the tested scenarios and economic impact of each on Moranbah
- Chapter 4:** Outlines the social impact of each scenario on Moranbah
- Chapter 5:** Appendix A
- Chapter 6:** Documents references made within this report

2 CONTEXT OF MORANBAH AND MACKAY

2.1 Study area

The town of Moranbah is located approximately 150km south-west of Mackay in Queensland, and lies within the Isaac local government authority. The Mackay Region has a number of mine operations, with coal being extracted for the export market.

FIGURE 1. MORANBAH AND MACKAY REGIONAL CONTEXT



Source: SGS Economics and Planning, 2014

2.2 Demographic profile

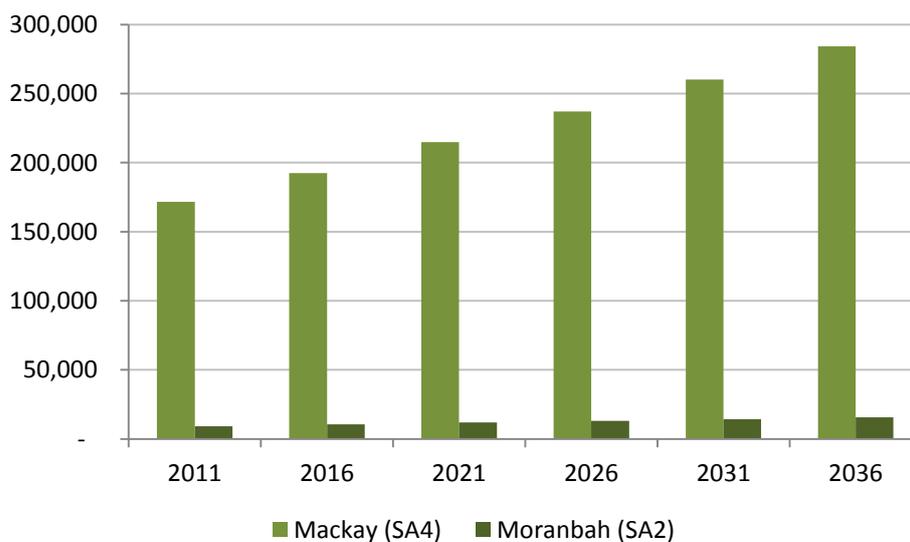
As of 2012, the wider Mackay region has a residential population of 176,083. According to Queensland government projections this is expected to increase to 192,529, or by 9%, by 2016. Over the same period the area of Moranbah is expected to grow by 13% to 10,561.

TABLE 1. DEMOGRAPHIC COMPARISON FOR MACKAY AND MORANBAH, 2012

	Moranbah (SA2)	Mackay (SA4)
Resident population	9,269	176,083
Male	5,220	92,779
Female	4,049	83,304
Under 15	27%	21%
15-65	71%	68.9%
65+	2%	10%
Median age	29	35

Source: ABS, 2012

FIGURE 2. POPULATION GROWTH PROJECTIONS



Source: QLD Government Population Projections, 2013

In both Moranbah and Mackay generally, the dominant household composition is family households, accounting for over two-thirds of households in both areas. The instance of visitors in Moranbah, accounting for 10% of households, suggests that there is a proportion of residents who travel to the area for business, given the relatively small usual population and lack of identified visitor attractions in the immediate area.

TABLE 2. HOUSEHOLD COMPOSITION FOR MACKAY AND MORANBAH, 2011

Statistical Area	Family Household	Lone Person Household	Group Household	Visitors	Other	Total Household (number)
Mackay	68%	19%	3%	6%	4%	62,202
Moranbah	69%	14%	4%	10%	4%	3,011

Source: ABS Census data, 2011

This proposition is supported by Table 3 that shows the estimated non-resident working population within the Moranbah area from 2012 to 2013. Although the total populations vary from ABS data due to a slight variance in areas measured, the table shows that non-resident workers make up approximately 30% of the Moranbah workforce (the figures include FIFO workers living in accommodation villages). From 2012 to 2013 there has been an 18% decrease in non-resident workers. This trend is likely to be due to mine construction coming to an end for mines such as Daunia and Caval Ridge and operations commencing, therefore requiring a smaller workforce.

TABLE 3. ESTIMATED NON-RESIDENT WORKING POPULATION IN BOWEN BASIN 2012 TO 2013

Location	2012	2013
Clermont	130	60
Coppabella	2,575	2,380
Dysart	2,365	2,205
Glenden	535	295
Middlemount	2,110	1,515
Moranbah	4,585	3,745
Nebo	555	475

Source: Queensland Government Statistics Office, 2013

Of those who, as of 2011, live permanently in Moranbah, 60% of them have lived there for at least five years. This suggests that employment opportunities are relatively stable and aligns with family composition data which shows that 54% of all families living in Moranbah have dependent children under the age of 15. Together, this suggests that a number of residents have chosen to settle in the area for an extended period and raise a family there.

TABLE 4. PLACE OF RESIDENCE OF MORANBAH POPULATION (2011) AT TIME OF 2006 CENSUS

Moranbah	Place of Residence (2006)	
	Mackay (excl. Moranbah)	QLD (excl. Mackay)
3684	787	1696
60%	13%	28%

Source: ABS, 2011

TABLE 5. FAMILY COMPOSITION, MORANBAH, 2011

Families by type	No. of families
Couple families with children under 15	1,150
Couple families with non-dependent children	145
Couple families without children	625
One parent families with children under 15	129
One parent families with non-dependent children	65
Other families	8
Total families	2,122
Average family size	3.3

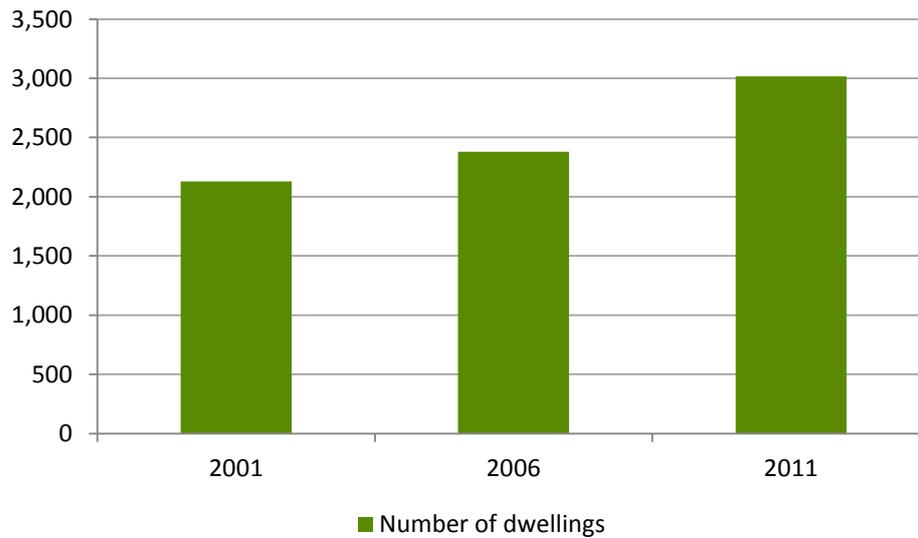
Source: ABS Census data, 2011

2.3 Housing profile

Housing growth

Housing development has increased over the past ten years to 2011, with an annual average growth rate of 3.5%.

FIGURE 3. DWELLING GROWTH IN MORANBAH, 2001 TO 2011



Source: ABS, 2011

Of the dwellings in Moranbah, 65% are rented, while 29% are owned by the occupant. The ratio of approximately two renters to every owner is in contrast to the broader Mackay area where the ratio is reversed. This suggests that either house prices are out of reach for a portion of the Moranbah population or that living in Moranbah is not necessarily a long-term proposition for many residents.

TABLE 6. HOUSEHOLD OWNERSHIP IN MORANBAH AND MACKAY

	Owned outright	Owned with a mortgage	Being purchased under a rent/buy scheme	Rented	Being occupied rent-free	Being occupied under a life tenure scheme	Other tenure type
Moranbah	15%	14%	0%	65%	5%	0%	1%
Mackay	30%	32%	0%	33%	2%	0%	1%

Source: ABS, 2011

In comparison, there is reported to be 21,745 bed capacity in worker accommodation villages across the Isaac Regional council (QGSO,2013) of which Moranbah forms a sub-region. This is a 200% increase on the number of beds in 2006 and highlights the growing nature of FIFO camps across the region. The dwelling growth data in Figure 3 do not capture this information.

2.4 Economic profile

Industry profile

Moranbah's workforce profile is heavily driven by the mining sector, with 47% of the population employed in the industry. Although mining is also the largest industry in the wider Mackay region by workforce, it only accounts for 15% of the region. In both, the construction industry is the second largest employer. The gap in Moranbah's industry profile between mining and the next largest employer, Construction at 8%, highlights the dominance of mining and Moranbah's unbalanced economy.

TABLE 7. INDUSTRY PROFILE OF MORANBAH AND MACKAY, MAY QUARTER 2014

ANZSIC 1 Digit Industry	Moranbah (SA2)		Mackay (SA4)	
	Total jobs	Percentage of total	Total jobs	Percentage of total
Agriculture, Forestry and Fishing	28	0.5%	4,800	4.6%
Mining	2891	47.1%	16,200	15.6%
Manufacturing	163	2.6%	7,000	6.7%
Electricity, Gas, Water and Waste Services	58	0.9%	1,300	1.3%
Construction	515	8.4%	12,300	11.8%
Wholesale Trade	130	2.1%	3,000	2.9%
Retail Trade	372	6.1%	10,200	9.8%
Accommodation and Food Services	237	3.9%	4,700	4.5%
Transport, Postal and Warehousing	201	3.3%	6,800	6.5%
Information Media and Telecommunications	5	0.1%	200	0.2%
Financial and Insurance Services	51	0.8%	1,600	1.5%
Rental, Hiring and Real Estate Services	103	1.7%	1,400	1.3%
Professional, Scientific and Technical Services	150	2.4%	5,700	5.5%
Administrative and Support Services	209	3.4%	3,200	3.1%
Public Administration and Safety	196	3.2%	4,200	4.0%
Education and Training	317	5.2%	5,600	5.4%
Health Care and Social Assistance	245	4.0%	8,500	8.2%
Arts and Recreation Services	17	0.3%	300	0.3%
Other Services	254	4.1%	7,000	6.7%
Total	6,142		104,000	

Source: ABS, 2014

Workforce profile

The workforce profile of Moranbah is predominantly operational, with technicians, machine operators and labourers accounting for 63% of the workforce, whilst managerial, professional and administrative roles account for 28%.

TABLE 8. OCCUPATION PROFILE OF MORANBAH (SA2), MAY QUARTER 2014

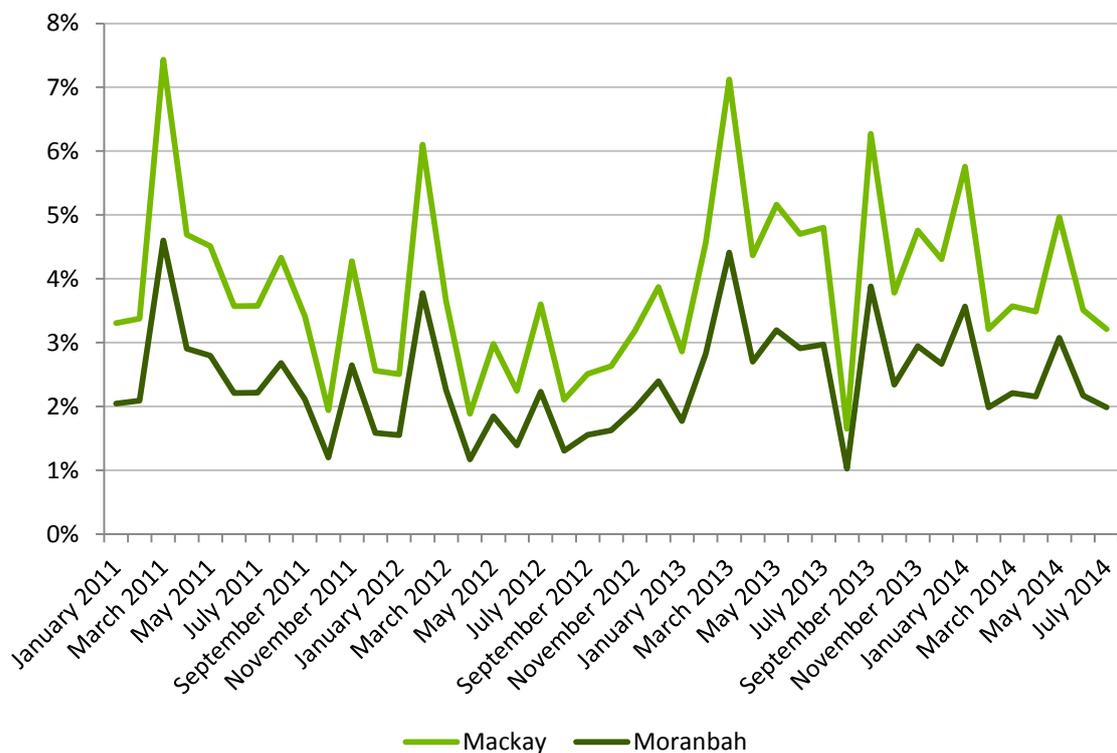
	Managers	Professionals	Technicians & Trades Workers	Community & Personal Service Workers	Clerical & Administrative Workers	Sales Workers	Machinery Operators & Drivers	Labourers
Employees	339	718	1747	363	592	296	1389	686
Percentage	6%	12%	29%	6%	10%	5%	23%	11%

Source: ABS, 2014

Unemployment

Over the past three years, the average unemployment rate in Moranbah is lower than that of Mackay, with Figure 4 showing that trends over that time are mirrored in both regions. Given the heavy focus of mining in Moranbah region, and the lack of other major industry employers in the area, it is logical that unemployment is low at 2% of the labour force. With few non-mining related work opportunities, it is assumed that many unemployed would seek work outside of the area, which, given the distance of Moranbah from major centres, may necessitate relocating in order to find work.

FIGURE 4. PERCENTAGE OF MACKAY AND MORANBAH LABOUR FORCE UNEMPLOYED, 2011 TO 2014



Source: ABS, 2014

2.5 Labour accessibility

Due to its remote location, Moranbah has a relatively self-contained mining-sector workforce, with 66% of mining-employed locals working within the area. Of note is the number of people employed in the industry who reside elsewhere in the Mackay region and who travel to Moranbah for work. Table 9 shows that of the 10,713 people who live and work in the Mackay region and who are employed in the mining industry, 13% of them travel to Moranbah for work. Of interest too are the numbers of

Moranbah residents travelling across or even out of the Mackay area to work in mining operations, with 618 travelling around the area and 351 travelling out of it entirely.

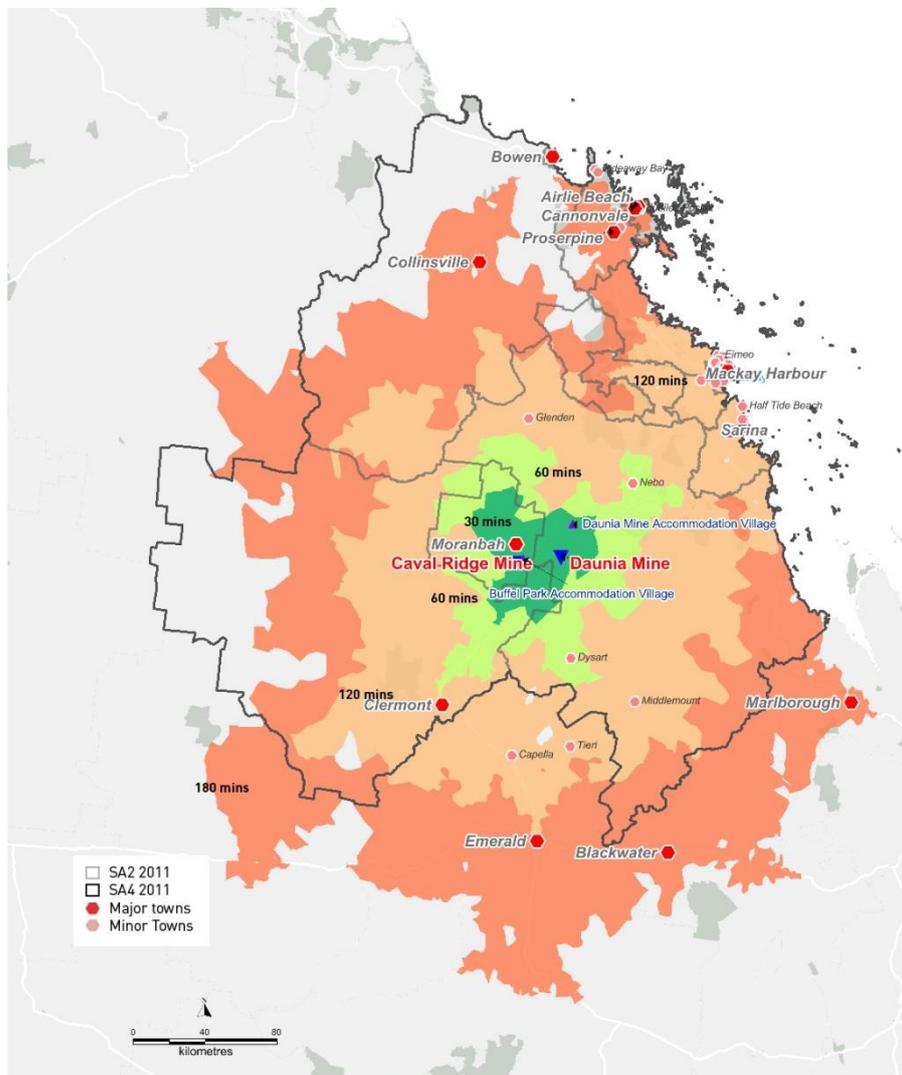
TABLE 9. JOURNEY TO WORK PATTERNS FOR THE MINING INDUSTRY, 2014

Place of Usual Residence	Place of Work		
	QLD (Excluding Mackay)	Mackay (Excluding Moranbah)	Moranbah
QLD (Excluding Mackay)	54,688	3,937	1,184
Mackay (Excluding Moranbah)	2,596	9,329	1,384
Moranbah	351	618	1,922

Source: ABS, 2011

Figure 5 shows the estimated journey times by road to both the Daunia and Caval Ridge mines. Due to the region's remoteness, few roads service the area and so access to Moranbah for work from outside is relatively constrained.

FIGURE 5. ESTIMATED JOURNEY TIMES BY CAR TO DAUNIA AND CAVAL RIDGE MINES



Source: SGS Economics and Planning, 2014

Figure 6 highlights the proximity of Mackay's residents employed in mining to the mine areas themselves, with the majority of people employed in mining coming from either the Moranbah region or neighbouring Broadsound-Nebo area, where the towns of Dysart and Middlemount are located within a two hour drive of the mines and Moranbah. Although Mackay town is the largest in the area and would provide more range of services than many of the rural inland towns, of interest is the relatively low number of people employed in mining, compared to areas such as Broadsound-Nebo and Moranbah.

FIGURE 6. LOCATION OF PERSONS EMPLOYED IN MINING WITHIN MACKAY REGION

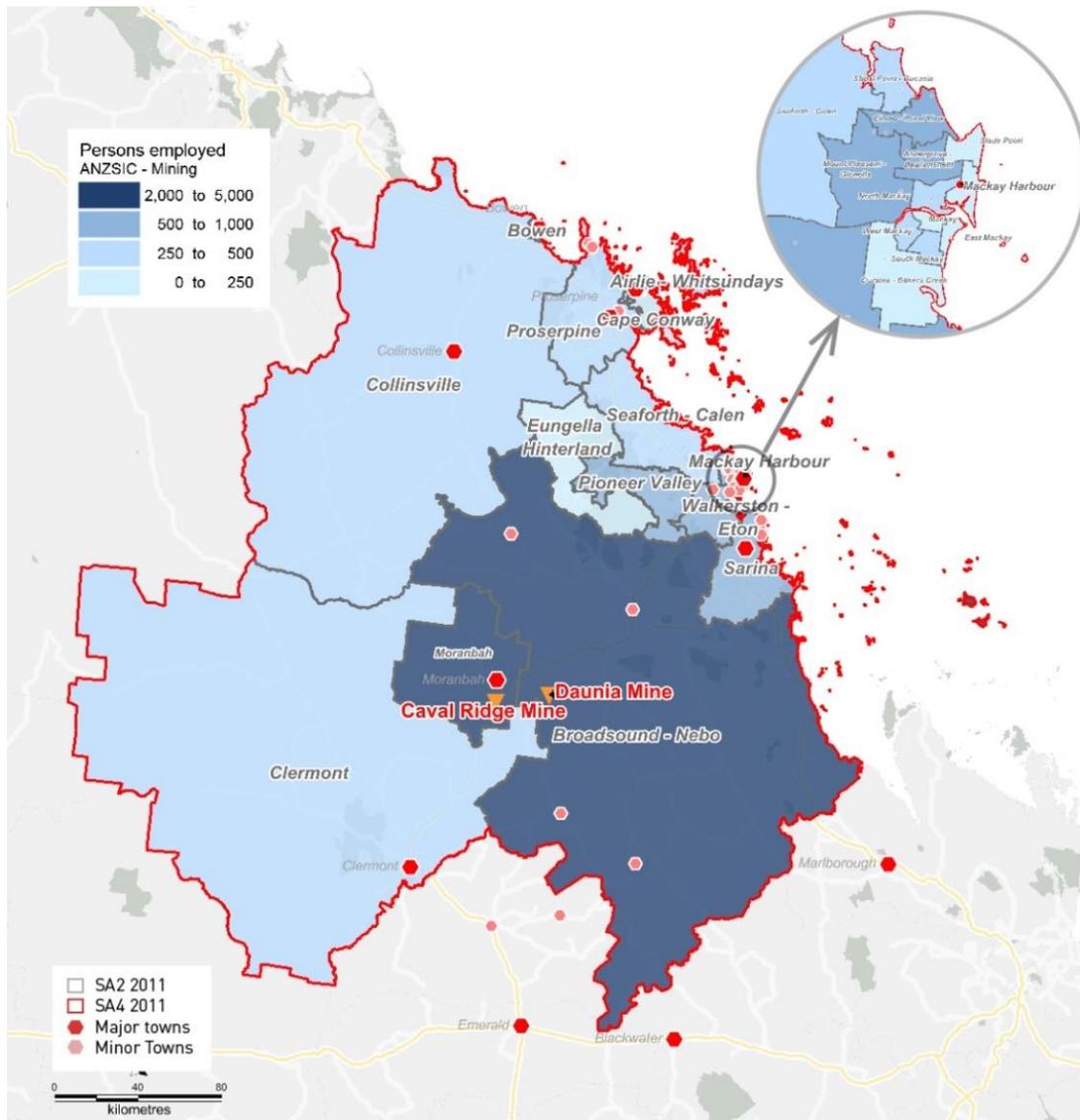
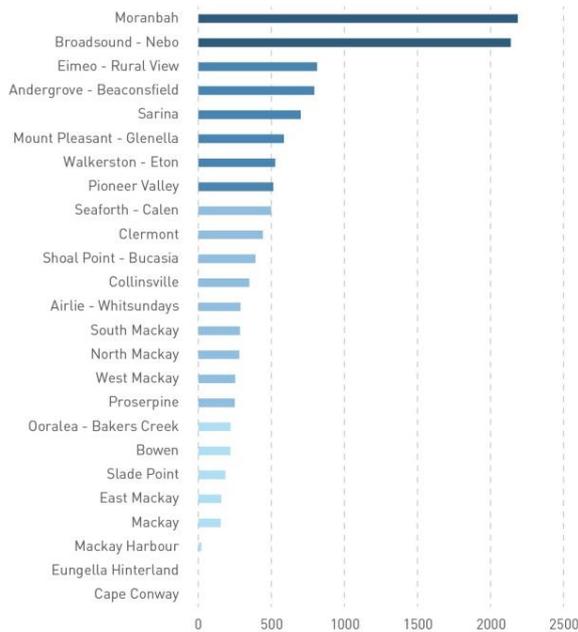


FIGURE 7. LOCATION OF PERSONS EMPLOYED IN MINING WITHIN MACKAY REGION



Source: SGS Economics and Planning, 2014

2.6 Summary and implications

Moranbah’s workforce is heavily driven by the mining industry. Such is the pull of this industry that a number of people across the Mackay region will travel to Moranbah for employment opportunities in that industry. Due to the number of mines operating in the region, the local economy is less diversified than that of Mackay and consequently more vulnerable to mining industry fluctuations.

The community profile of Mackay suggests that a number of residents are willing to invest in the town, through buying property in the area or raising families there. At 60%, the proportion of people living in the area for five or more years affirms this commitment. This, however, is almost certainly driven by access to employment opportunities, most likely in the mining or related industries. Moranbah’s low unemployment levels and relatively specialised workforce profile support this.

3 ECONOMIC IMPACT

3.1 Introduction

This report estimates the direct employment and income effects that the proposed workforce sourcing strategy of 100% FIFO workers for the mines' operations will have on the Mackay economy. In order to do this, it is necessary to develop an alternative scenario which involves some degree of locally-sourced workforce, to compare the economic impact against. This has involved the use of in-house econometric modelling techniques that SGS has developed. This is referred to as an economic impact assessment (EIA).

3.2 Definition of employment scenarios

In order to test the impact that a 100% FIFO operation would have on the economy of Moranbah, a comparative scenario is proposed where a proportion of both the Daunia and Caval Ridge mines' operational workforce (estimated to range between 1,000 and 1,200 FTE jobs) are locally sourced.

A locally-sourced workforce of 30% of the mines' operations has been identified by assessing the recent unemployment figures for both Moranbah and the wider Mackay area. Given that a number of the jobs advertised at the mines required no prior mining experience, it has been assumed that unemployed people with a range of mining and non-mining experience could apply to work at the mines.

To ensure that potential locally-sourced workers at the mines from the Mackay region conformed to current journey-to-work patterns, the number of workers travelling from outside of Moranbah, but within the wider Mackay area were assessed (as shown in Table 9). From this data, it is demonstrated that 13% of those employed in mining in the wider Mackay area travel to Moranbah for work. This was then apportioned to those in the area who could potentially work in the mine operations and added to those unemployed in Moranbah with complementary skills.

This scenario definition process thus provided two scenarios which this report tests for economic impacts:

Scenario 1 (Current scenario): 100% Fly-In-Fly-Out workforce

Scenario 2 (Proposed scenario): 70% Fly-In-Fly-Out workforce + a 30% locally-sourced workforce*

*Sourced from within the wider Mackay SA4 region (refer to Figure 1)

Based on a number of submission documents for the mine's planning approval, such as the Caval Ridge Environmental Impact Statement (BMA 2009) and the Caval Ridge Social Impact Management Plan (2012), as well as through discussions with the CFMEU, it is evident that FIFO employees operating the mines will be located at one of two dedicated FIFO accommodation villages – Buffel Park for Caval Ridge employees and Coppabella for Daunia employees. As a consequence, there is assumed to be no accommodation provided for FIFO workers at these mines within Moranbah.

3.3 Overview of assumptions for estimating economic impacts

When measuring the economic impacts, SGS has assumed that irrespective of where workers are sourced from, the type of mining activity undertaken at the mines is unlikely to differ. Therefore the impacts of the type of mining activities undertaken in the mine have not been analysed in this study.

Rather, it focuses on the impacts that differing amounts of locally sourced workers would have to the local economy, by assuming that the spending profile of FIFO workers is likely to be different compared to those of resident workers (regardless of whether they are existing residents or new residents in the region).

Base case

In order to assess the impact that FIFO workers would have on the local economy, a base case assumption is required to compare scenarios against. This study assumes that if the mine operates a 100% FIFO policy, those unemployed in Moranbah would need to seek work elsewhere, due to the primacy of mining in the local economy, and be forced to move away. It also assumes that FIFO workers come from outside the Mackay region, due to the source community locations operating out of Cairns and Brisbane.

Expenditure profile

Spending patterns of FIFO workers are not easily available. Consequently, this analysis has determined a spending profile of FIFO workers using average Household Expenditure Survey data compiled by the ABS. After profiling spending patterns of households in Queensland based on this data, it is estimated that usual resident households in a typical Queensland local government area spend an average of \$884 per week on items including housing costs, recreation, food and alcohol, clothing & footwear, personal care, medical costs and other miscellaneous expenses in the local economy. As data does not exist at a finer grain, for any given income quintile the household expenditure patterns from the Mackay region exhibits the same expenditure profile as the whole of Queensland.

Occupation distribution

Based on Moranbah's current employment profile, with 63% of the workforce employed in labour, operations or trade occupations, coupled with the nature of job advertisements for the mine operations, it has been assumed in this study that the mines' operational workforce will fall into one of the following three occupations:

- Labourers
- Machinery Operators and Drivers
- Technicians and Trades Workers.

Household type

In order to determine the difference in expenditure patterns between FIFO workers and locally sourced workers, assumptions have been made with respect to likely family type of those employed in the mine and the impact moving from a state of unemployment to employment would have on household expenditure.

Two key assumptions have been made to determine the impact local employment would have on each family type should members of the family be employed in the mines. The first assumes that locally sourced workers would be moving from a position of unemployment or low-paid work into a position of full time employment. The second is that the resultant expenditure uplift for local workers as a result of employment would see a jump up three quintiles with respect to household expenditure. These are outlined more specifically, by household type, in Appendix A .

Categories of expenditure

The ABS Household Expenditure Survey unveils the spending patterns of households in different income quintiles on a number of broad goods and services. Although little data exists on the expenditure profiles of FIFO workers across Australia, a House of Representatives standing committee on regional Australia cited a report¹ which estimated that each resident worker contributes more than six times in regional income compared to a FIFO worker in the region (\$64,000 by a resident worker versus \$10,000 by a FIFO worker). This assumption has been used as a comparator between resident and FIFO workers in the economic modelling undertaken in this study.

The nature of FIFO work, its use of out-of-town accommodation and the structures in place for managing extra-curricular employee activity mean that expenditure patterns of FIFO employees in a local economy such as Moranbah differs significantly to that of a local resident.

This study assumes that irrespective of a FIFO employee's spending propensity, under no scenario would a FIFO worker spend money on the following household goods or services:

- Housing costs
- Domestic fuel and power
- Household furnishings
- Household services

For other goods and services, this study uses a medium spending propensity scenario to apply the Pilbara study's 1/6th expenditure estimation to determine the spending profile of FIFO workers against the Mackay average. This is shown in Table 10.

TABLE 10. SPENDING PROPENSITY OF LOCAL RESIDENTS VERSUS FIFO WORKERS

Goods and services	Resident	FIFO		
		(Low degree of expenditure)	(Medium degree of expenditure)*	(High degree of expenditure)
Current housing costs (selected dwelling)	1	0	0.000	0
Domestic fuel and power	1	0	0.000	0
Food and non-alcoholic beverages	1	0	0.167	1
Alcoholic beverages	1	0.15	0.167	1.5
Tobacco products	1	0.15	0.167	1.5
Clothing and footwear	1	0.05	0.167	0.3
Household furnishings and equipment	1	0	0.000	0
Household services and operation	1	0	0.000	0
Medical care and health expenses	1	0.1	0.167	1.3
Transport	1	0.1	0.167	0.3
Recreation	1	0.1	0.167	0.4
Personal care	1	0.1	0.167	0.3
Miscellaneous goods and services	1	0.1	0.167	0.3

Source: SGS Economics and Planning, 2014

* The Medium expenditure scenario is derived from the 1/6th expenditure estimation.

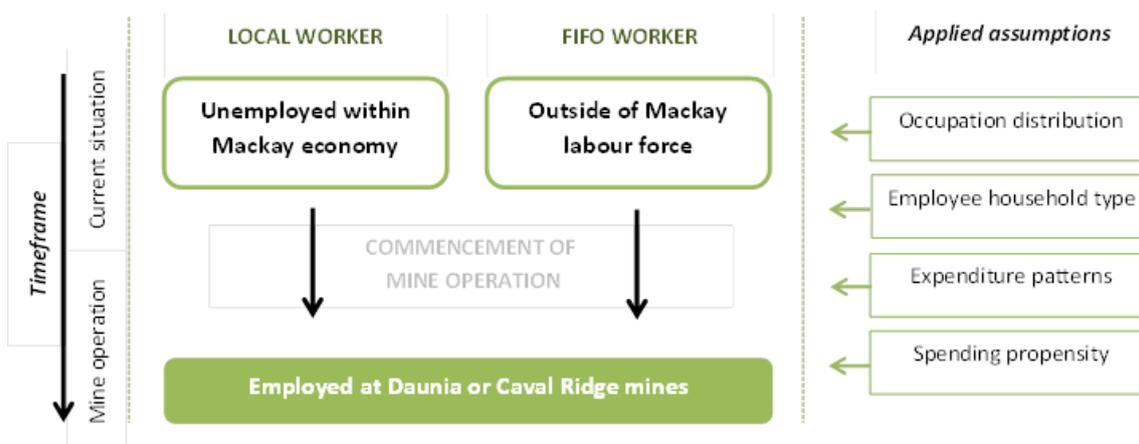
The assessment of a low, medium and high degree of expenditure by FIFO workers is in acknowledgement of the varying degree to which FIFO employees have access to local services and variations in levels of disposable income.

¹ Commissioned by the Pilbara Regional Council to explore FIFO expenditure patterns versus residential populations in the Pilbara region.

Finally, due to a base case of local workers being unemployed, additional expenditure as a result of moving from unemployment to a position of employment has been accounted for in the estimation of local worker expenditure profiles.

The following diagram summarises the process involved in determining expenditure for local residents and FIFO workers.

FIGURE 8. SUMMARY OF EXPENDITURE CALCULATIONS



Source: SGS Economics and Planning, 2014

3.4 Economic impacts

Under a medium expenditure profile, SGS estimates that the direct economic benefit gained by sourcing 30% of the workforce locally is \$14.3 million per annum to the Mackay economy. This would add more than four times the expenditure than would be generated by a 100% FIFO workforce to the regional economy. SGS acknowledges that expenditure profiles vary per household and this range could be from \$11.1 million to \$14.9 million per annum, when comparing the 70% FIFO scenario to the 100% scenario.

TABLE 11. DIRECT HOUSEHOLD EXPENDITURE IN MACKAY ECONOMY

Scenario	Weekly			Annual		
	Low range	Medium range*	High range	Low range	Medium range*	High range
100% FIFO workforce	\$27,383	\$65,290	\$269,091	\$1,423,922	\$3,395,067	\$13,992,733
70% FIFO workforce	\$314,037	\$340,571	\$483,232	\$16,329,906	\$17,709,708	\$25,128,074
Difference	\$286,654	\$275,282	\$214,141	\$14,905,984	\$14,314,641	\$11,135,341

Source: SGS Economics and Planning, 2014

* The Medium expenditure range is derived from the 1/6th expenditure estimation.

There is a clear economic benefit to the Mackay region in a scenario where a proportion of the workforce is sourced locally. Given the limited exposure to expenditure opportunities within a FIFO environment, this expense excludes housing and fuel-related costs. The inclusion of local workers would see an increase in expenditure across all household goods and services, based on a shift from a position of unemployment or low-paid work to work within the mining operations of either Daunia or Caval Ridge.

The difference between a 70% and 100% FIFO workforce scenario and average household expenditure must be made clear. Average household expenditure per year on goods and services depends on which income quintile they are in (Table 12 in the Appendix). The difference highlighted in Table 11 is the *difference* between the two scenarios, which considers the expenditure 'uplift' gained from moving from a position of low or un-employment to a higher level of expenditure due to mining employment.

Under the 70% scenario, it has been assumed that existing residents of the Mackay region would be employed in new operations, rather than all being sourced from outside this regional economy. They would therefore already have an expenditure profile in the region which would increase following employment at the mines. This differs from an expenditure pattern whereby resident households new to an area go from spending nothing to something in the regional economy. As such, the 'difference' figure (which assumes an uplift in expenditure from the second to fifth income quintile) cannot simply be applied pro-rata across 30% of the workforce (330 people) and compared to the average household expenditure (in the fifth quintile) with the expectation of the numbers being the same.

3.5 Other potential economic impacts

A number of other economic issues and benefits to Moranbah stem from the inclusion of local residents in the mines' workforce. These are more difficult to quantify due to the anecdotal nature of their reporting or influence by external factors that make direct attribution to the employment scenarios less certain. They are, however, points that should be considered when considering the economic impacts that the proposal and the alternative scenario have on Moranbah.

The distance of Moranbah from any major regional city, such as Mackay, as well as other towns of similar size with comparable economic offerings, is such that there is a high chance that money earned by locals living in the area will be spent directly within the Moranbah economy (notwithstanding the rise of online shopping). When taken to the SA4 level, there is a high probability that a significant proportion of household expenditure will take place within the Mackay region, simply due to the distances required to travel to places where the offering may be greater.

The targeting of jobs towards Moranbah and Mackay's proportion of the labour force currently unemployed will help to further reduce the region's relatively low unemployment rates. Reducing unemployment helps to reduce social welfare costs. Although it could be argued that this simply pushes the unemployment potential to the source communities of Brisbane and Cairns, these cities have far more diversified economies where work opportunities are greater. This is particularly pertinent for the Moranbah economy as it is dominated by the mining industry and therefore offers fewer employment opportunities outside of this industry.

The potential requirement for contractors employed in the mining operations to also stay at on-site accommodation villages has implications for one of the areas other industries. The accommodation industry employs nearly 4% of people in Moranbah and many of these are within motel services that rely heavily on out-of-town contractors servicing the surrounding mines on a temporary basis. The impact on declining temporary visitors utilising accommodation has seen motels close in other mining towns, such as Middlemount, and motels in the area operating at less than 20% of capacity. With a heavy reliance on mining activity for business, the reduction in working visitors requiring accommodation is likely to continue to place pressure on local accommodation providers.

The emergence of FIFO operations over the past few years has impacted on the type of infrastructure investment local communities receive through nearby mining operations. The standing committee report acknowledges the focus on 'headline' projects such as swimming pools that do not contain maintenance funding streams for future upkeep (p74). Although these facilities and infrastructure projects may be required, the provision to communities of potential future liabilities increases the financial burden that local councils shoulder. Ad hoc planning delivery of such facilities, in lieu of a coordinated infrastructure investment plan, means that local communities do not gain the infrastructure needed to support them.

3.6 Summary and implications

The testing of two scenarios – one with a 100% FIFO workforce and the other with 30% of the workforce sourced locally – presents a significant difference in value to Moranbah and broader Mackay economies. Using the assumption of FIFO expenditure accounting for one-sixth of resident workers, under a 30% locally-sourced worker scenario the Mackay region would see a direct economic benefit of \$14.3 million per annum over a scenario where no local employment took place. This considers differences in expenditure patterns between FIFO and local workers and household profiles that affect expenditure patterns.

SGS recognises the potential for variance when assessing expenditure patterns of differing workforce profiles and thus suggest that this figure is within the upper limit of a range between \$11.1 million and \$14.9 million per year.

There are a number of flow-on effects that restricting local workforce access to the mine operations could have too on the economies of Moranbah and the broader Mackay region. Due to the dominance of mining in the region, many other industries play an ancillary role to the mining industry. Requiring temporary contractors to use the FIFO camp rather than other accommodation options in the region negatively affects the motel industry. This industry has benefitted greatly from the mining boom of the past decade.

There are also broader positive economic impacts that targeting the region's unemployed has on reducing the reliance upon government assistance. The advertising of jobs for both Daunia and Caval Ridge suggest that at least a portion of those jobs offered for the mine's operation require no previous mining experience and could be well suited to being taken up by the region's unemployed. In mining communities, where employment opportunities outside of the industry are limited, this has far-reaching social benefits. These are discussed in the following section.

4 SOCIAL IMPACTS

4.1 Why are social impacts important?

A community's health and wellbeing is enhanced by connections to place, a sense of belonging and relationships established within the community. Social infrastructure provides an important role in providing places for people to meet and interact. It also provides essential services such as health and education. A cohesive community is also the key to a strong local economy, investment and participation in local business and community groups.

4.2 Framing the impact on the community

A number of reports, including the Standing Committee report in FIFO operations, focus on the impacts that they have on regional communities. The scope of this report does not assess the impact of FIFO operations on the town of Moranbah. Rather, it assesses the impacts that arise through excluding local workers from employment at the Daunia and Caval ridge mines.

4.3 Us-versus-Them

Current scenario

The Standing Committee report makes reference to the rise of an 'Us versus Them' mentality across many regional towns in Australia impacted by FIFO operations (p45). This mentality sees local community attitudes towards FIFO camps and workers as predominantly negative. There is a perception that such operations take away local job access and give very little back to the community. This is the case in Moranbah, as the Isaac Regional council's submission to the standing committee's study attests where it highlights the '...sense of being "taken over" by work camps...' that is being felt within the community (p46).

This perception has a negative influence on the town of Moranbah, given the high percentage of Moranbah residents involved in the mining industry. The lack of employment opportunities within the new mines inevitably affects Moranbah's working population, considering that a number of the jobs advertised require no existing mining experience². This adds to the sense of local jobs being lost to outsiders, reinforcing the 'Us versus Them' mindset and exacerbating the negative perception of FIFO operations by locals.

Proposed scenario

Enabling employment of the local workforce within these mines would reduce the negative 'Us-and-them' mentality harboured by the residents towards the mines by being inclusive in its operation and involving the local community.

² In November 2013, a job posting advertised jobs at the Daunia mine that appealed to people new to the industry. The application can be viewed at http://au.indeed.com/m/viewjob?jk=7471e8ca5425a0dd&from=ja&utm_source=j (accessed 17th September 2014)

Assuming that those currently employed locally in other mining operations remained employed once the Daunia and Caval Ridge mines were fully operational, there is not sufficient capacity in Moranbah's unemployed workers to cover all jobs within the new mines. It is accepted, therefore, that due to the remote nature of the mine locations (and of Moranbah), a proportion of FIFO workers would be required to service the estimated 1,000 to 1,200 jobs. Acknowledging the value of the local workforce, however, would help to bridge the gap between the local and remote communities.

4.4 Social cohesion and investment

Current scenario

Under the current arrangement of a 100% FIFO workforce for the two mines, coupled with the primacy of the mining industry within the local workforce, residents unable to find work in the new mines may be forced to move from the area in order to source work elsewhere. The impact that this has on a town with a small population such as Moranbah can be dramatic, especially if forced due to a lack of employment opportunities, as there is little chance of that person being replaced by someone new. With Moranbah's population of just over 9,000, this can have significant flow-on effects through the community, especially if entire families (of which there are 1,150 with dependent children) are forced to move away. This impact is amplified if those moving away are one of those who have lived in the area for five or more years, where they are likely to have some degree of input into such a small community's society.

Such flow-on effects could affect local sports teams (of which the standing committee report makes reference to as a community issue) as well as school groups and local community services such as the State Emergency Services, who may see a decline in local community members participating in voluntary services.

Anecdotal evidence suggests that in order to circumvent the 100% FIFO policy, some local residents are flying from Moranbah to Cairns or Brisbane, where the workforce is sourced from, to then fly back to the mines for work. Although this practice is most likely undertaken by few people, such an extreme approach may become more popular in order for residents to remain in the area.

Even if this circumventing method were to become more common, it would still exclude the 129 single-parent families in Moranbah from working at the mine sites because the requirement to stay in FIFO accommodation during the length of the shift would preclude people who were the sole provider to dependent children.

Proposed scenario

Allowing a proportion of the mine workforce to be sourced locally would not stop families and residents from moving away from Moranbah. Rather, by affording them the opportunity to work at the mine, it increases employment options in the area. Such an opportunity may mean the difference between a resident moving away to source employment elsewhere and staying in the area.

4.5 Impact on housing

Current scenario

Although the estimated workforce at Daunia and Caval Ridge is between 1,000 and 1,200 when fully operational, under 100% FIFO scenario, it would attract no new people into the Moranbah area for work purposes. Few other new mining operations are underway around Moranbah, with the exception of the proposed Red Hill mining lease, due for commencement in 2016 but which also proposed a 100% FIFO workforce (BMA, 2014). These new operations provide no opportunity for new workers to move into the region. This scenario may impact on Moranbah's housing market, with fewer new properties being built and rental property demand reducing as new mine employees locate in the 'source' communities of Brisbane and Cairns rather than opting to relocate.

It was reported in the Australian newspaper in October 2013 that Moranbah suffered the biggest drop in median property prices seen in Australia in the year preceding the article, dropping nearly 40% in value (Allen, 2013). Such significant decreases in value would be affected by the increased prevalence of FIFO operations in the area reducing demand for workers to relocate to regional communities such as Moranbah for work. Although this may ease property prices for locals seeking to buy (in 2012 in Moranbah, the average house was valued at \$346,200, 7.5% above the Australian average), it could place property investors hoping to capture high weekly rents to pay off mortgages under financial pressure if tenants are no longer forthcoming.

Notwithstanding the negative consequences reduced property values would have on some investors, for the broader community this actually presents, in many ways, a positive outcome for Moranbah. In particular, local residents renting or looking to buy in the area may have a reduced barrier to market entry. This is an issue raised in a number of submissions to the committee on the issues of housing affordability on regional mining communities as well as in the Caval Ridge Social Impact Mitigation Plan which acknowledges that 'the ability to attract and retain qualified service workers is constrained due to the high cost of housing...' (BMA, 2012). The proposal to completely separate FIFO workers from the local housing market would decrease the risk of house prices increasing again by levels seen prior to 2012.

However, although rents may come down as a result of decreased demand for rental properties, this would benefit only those employed elsewhere in the region and looking to stay. For people required to move away to access jobs, the reduction in rents is of little consequence. As people leave and are not replaced, it is likely that Moranbah's vacant property numbers would increase, having a negative impact on community identity and perceptions of safety and liveability for Moranbah.

Proposed scenario

Opening the employment opportunities of the two mines up to the local workforce, at least in part, is likely to impact on Moranbah's housing market in various ways. Maintaining the opportunity for people to live in the area and work locally would provide certainty to those looking to stay in or relocate to Moranbah and help to arrest the property slide the area has witnessed over the past year. This may have the negative effect of pricing locals out of the market if prices move back towards peak levels, however this is unlikely given the capacity in the local labour force to fill these jobs.

Increasing demand for rental property prices as a result of new work opportunities may keep rents high, or at least reduce falling rents. Although beneficial for property owners, this may impact upon people in non-mining sectors who work in supporting industries such as the medical or teaching professions who are affected by higher rents.

A major social value that comes from opening up employment opportunities to local residents is the decreased risk of vacant properties cluttering Moranbah's property market. This has the impact of not

only decreasing property values, but also contributes to a sense of community decline and perception of safety for remaining residents. It is accentuated by the relatively small number of properties in the town.

4.6 Summary and implications

There a number of social benefits that Moranbah would experience if a portion of the mines' operating workforce were sourced locally rather than entirely remotely. The negative perception of FIFO operations and workers that has been growing across Australia would be tempered if the local workforce was included. As Moranbah is heavily geared towards servicing the local mining population, any decline in the social and economic structure of the town that occurred whilst 100% FIFO operations were being undertaken at nearby mines would in all likelihood be apportioned, unfairly or fairly, to these mining operations and would have potentially significant goodwill implications for mine operators. With locally-sourced workers, the money they spend within the local economy and any other trickle-down investment by the mine's operation within the town would help to foster more positive connotations with these mining operations.

The value of retaining locals who have invested time and effort into the Moranbah community should not be underestimated. In small regional towns, community cohesion and interaction is vital to longevity. If residents, employed or unemployed, are forced elsewhere to source work, these community binds can quickly unravel, impacting the broader community, through a loss of individuals but also by impacting on the town's physical state, increasing vacancy rates in a small housing market. This outflow would be exacerbated if opportunities to attract new residents are limited. In Moranbah's case, these opportunities are almost exclusively tied to employment.

5 APPENDIX A

5.1 Mackay's gross weekly income expenditure by quintile

Due to information on household expenditure existing at a state level, these average income expenditure figures for the Mackay region reflect the Queensland averages.

TABLE 12. AVERAGE WEEKLY EXPENDITURE ON GOODS AND SERVICES BY GROSS HOUSEHOLD INCOME QUINTILES FOR MACKAY, QLD

	Lowest	Second	Third	Fourth	Highest	All households
Average weekly expenditure						
Current housing costs (selected dwelling)	\$105.52	\$127.91	\$151.98	\$144.97	\$154.27	\$135.72
Domestic fuel and power	\$0.84	\$1.03	\$0.97	\$1.32	\$1.49	\$1.13
Food and non-alcoholic beverages	\$94.23	\$133.18	\$188.86	\$239.13	\$317.93	\$194.35
Alcoholic beverages	\$10.11	\$22.43	\$29.92	\$40.82	\$53.32	\$31.32
Tobacco products	\$9.24	\$10.80	\$19.78	\$15.68	\$8.17	\$12.90
Clothing and footwear	\$12.51	\$24.73	\$33.42	\$47.38	\$75.53	\$38.52
Household furnishings and equipment	\$26.29	\$38.82	\$55.57	\$68.24	\$117.89	\$60.92
Household services and operation	\$38.00	\$37.14	\$47.58	\$61.64	\$79.46	\$52.56
Medical care and health expenses	\$36.30	\$25.81	\$80.68	\$43.36	\$56.03	\$47.33
Transport	\$48.42	\$103.43	\$129.31	\$190.53	\$325.92	\$158.50
Recreation	\$41.85	\$68.87	\$75.51	\$111.66	\$148.88	\$88.90
Personal care	\$8.49	\$13.73	\$21.34	\$29.12	\$41.44	\$22.76
Miscellaneous goods and services	\$12.33	\$26.18	\$33.73	\$58.66	\$121.64	\$49.64
Total goods and services expenditure	\$444.15	\$634.06	\$868.66	\$1,052.50	\$1,501.98	\$894.56

Source: ABS, 2011

5.2 Impact on household types

Assumptions have been made for each household type regarding the impact that moving from a state of unemployment or a relatively low income to employment in one of the two new mines will have on expenditure patterns. These assumptions are as follows:

- The potential locally-sourced workers are currently unemployed or earning a relatively low income
- If the potential worker is part of a couple family, employment in the mine will move their household income from the second quintile to the fifth income quintile
- If the potential worker is part of a group household, employment in the mine will move their household income from the second quintile to the fifth income quintile
- If the potential worker is either a lone person or a lone parent, employment in the mine will move their household income from the lowest quintile to the fifth income quintile
- If the potential worker is part of any other household type, employment in the mine will move their household income from the second quintile to the fifth income quintile.

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