



## BBCG Project Housing Impacts Study



BHP Billiton Mitsubishi Alliance  
October 2012



This Report has been prepared for:  
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October 2012

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## Executive Summary

In August 2010, the Coordinator-General provided conditional approval to the Caval Ridge Mine Project. The Caval Ridge Mine project forms part of a larger body of development work being developed by BHP Billiton Mitsubishi Alliance (BMA) called the Bowen Basin Coal Growth (BBCG) Project. The BBCG Project was designated a Project of State significance for Queensland and BMA was required to produce an Environmental Impact Assessment.

Among the conditions imposed, the Coordinator-General required BMA, per the amended Condition 18(f) of his Report, to:

*“...undertake a BBCG Project Housing Impacts Study (including the CRM and Daunia Mine) which will provide an analysis of the impacts of each component of the BBCG project on the housing market in Moranbah or surrounding areas.”*

As part of the Coordinator-General’s requirements for the Caval Ridge Mine, BMA commissioned CChange Sustainable Solutions Pty Ltd (CChange) to prepare the Bowen Basin Coal Growth BBCG Project Housing Impacts Study and Plan. This report constitutes the BBCG Project Housing Impacts Study. The BBCG Project Housing Plan is provided in a separate document. Terms of Reference for this Plan are being completed in consultation with the Moranbah BCN.

The Study sought to provide an understanding of the current housing and related contexts in Moranbah and determine the level of ‘at risk’ low to moderate income non-resource households in Moranbah. In addition, the Study was required to determine BMA’s impact on the demand for low to moderate income non-resource housing in Moranbah from the Caval Ridge Mine and Daunia projects such that a fair and equitable contribution to affordable housing could be determined. Options to fulfil the contribution were required.

### Key Findings

Information and analyses presented in the report have shown that the growth being experiencing in Moranbah due to the extensive coal mining operations in the Bowen Basin is impacting on its housing market. An inflated housing market can have wider impacts on the economic and social environments, and data and information produced as part of this commission suggests that there are negative impacts on housing occurring in Moranbah as the result of cumulative growth in the resources industry.

Key findings of the report included that:

- The housing market in Moranbah is highly inflated and influenced by the resource sectors’ expansion and contraction in employment, which impacts on a number of areas in Moranbah, including:
  - The ability for non-resource industries to secure employees, particularly in the service sector;
  - People choosing to live further away from their work place;
  - The ability for local industries to get trades workers given the combination of the high wages in the resource sector and high rental / housing prices in Moranbah;
  - The inability for community and emergency services to keep pace with demand in some instances; and,
  - The unfortunate impacts on individuals’ and families’ well-being from housing stress, which can lead to relationship issues, breakdown and general unsocial behaviour.
- In 2006, OESR estimated that there were at least 17 per cent of non-resource low to moderate income households paying high rents, 8 per cent of non-resource households paying moderate rents and 25 per cent of non-



resource households paying low rents, who are at risk of experiencing housing stress. Together, these accounted for 88 households. In addition, there were 85 households that indicated they paid 'subsidised rents' that were considered at risk of housing stress. In total, 173 non-resource households in Moranbah were 'at risk', which accounts for around 8 per cent of the total number of households in Moranbah.

- However, it is acknowledged that there is likely to be latent demand for further affordable housing in Moranbah.
- BMA is a major driver of growth in the Region, but they are not the only driver. Full time equivalent population forecasts produced by OESR indicate that BMA employees and their dependents accounted for around 30 per cent of total population in 2011, and BMA estimates that an additional 25 to 30 percent of the full time equivalent population contract to BMA. Depending on the population scenario that results, these proportions are likely to remain stable or increase marginally by 2018.

### **A Framework for Determining Reasonable Contributions to Affordable Housing**

A framework for determining the likely impacts on the demand for non-resource housing associated with BMA's mining operations for Caval Ridge Mine and Daunia was discussed in this report. This framework determined the indirect impact associated with the direct employment of the construction and operational workforces of the Caval Ridge Mine and Daunia mining operations. A probable proportion of the overall indirect employment was then attributed to Moranbah based on local spend information where possible. A weighted average of employees per households was noted and the indirect employment was converted to a ratio of affordable housing units required for every direct employee in the BMA operations.

The overall result of the analysis indicated that if:

- 1 affordable dwelling was provided for every 90 construction workers in BMA's Daunia and Caval Ridge Mine; and,
  - 1 affordable dwelling was provided for every 50 operational workers in BMA's Daunia and Caval Ridge Mine,
- BMA's indirect impacts on the non-resource low to moderate housing demand would be mitigated.

### **BMA's Contributions to Affordable Housing**

BMA's contributions to housing for non-resource low to moderate households are being delivered through a range of mechanisms, including:

- A commitment of \$5 million to the Isaac Affordable Housing Trust, which is likely to yield around 13 units of housing;
- Provision of substantial subsidies (approximately \$986,000, in FY12 and F13) to support housing for six community service providers in Moranbah, including:
  - Moranbah District Support Services;
  - C&K Childcare;
  - Simply Sunshine Childcare;
  - Gryphon Psychology;
  - Moranbah Ambulance; and
  - Moranbah Early Learning Centre;
- Relinquishment of 3 houses leased from the Department of Public Works and Housing so that reallocation to Queensland Police and/or Queensland Health staff could occur.

Thus, in total, BMA has committed approximately \$6 million to affordable housing, and will have assisted at least 22 households: 13 non-resource families through the Isaac Affordable Housing Trust contribution, plus another 3 households through relinquishment of Department of Public Works and Housing, plus assisting at least 6 other households in Moranbah in 2012 and 2013 through rental subsidies.

In addition, there are a variety of housing and accommodation initiatives being progressed by BMA to ensure that their direct operations do not result in further stress on the housing market in Moranbah. These include:

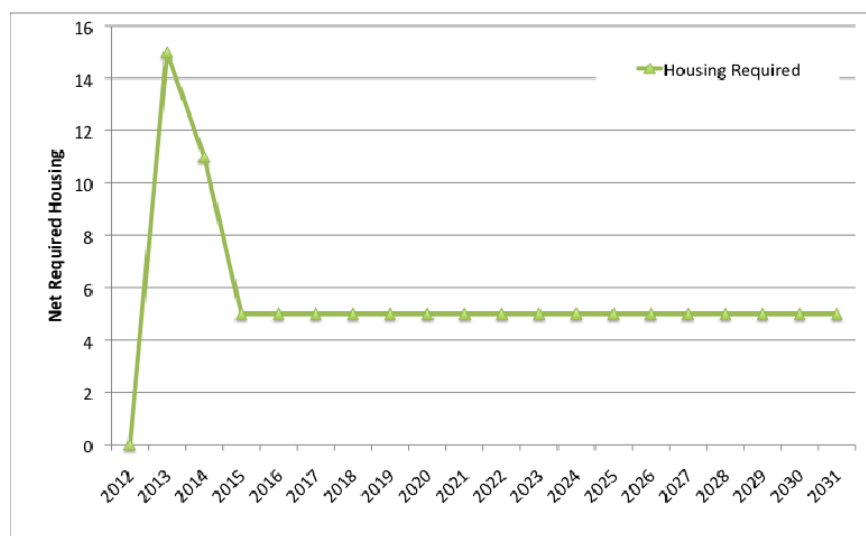


- The construction of 2 villages to house construction and operational workers for their Caval Ridge Mine and Daunia operations;
- The planned delivery of further dwellings across Bowen Basin communities to accommodate direct employees – 400 dwellings to the end of 2017;
- Upgrading of houses in Moranbah;
- Working with the IRC to align housing and urban renewal initiatives; and,
- Meeting with ULDA and IRC to continue to share information about housing initiatives and potential opportunities.

### BMA’s Required Contributions

Taking into account the employment roll out of the Caval Ridge and Daunia mines, plus the \$5 million (or 13 dwellings) already committed to Isaac Affordable Housing Trust by BMA, the 3 dwellings relinquished to DPWH already, and the 6 community organisations’ households assisted through the 2012 and 2013 financial years, application of the ratios indicated that a further contribution required by BMA of up to 15 dwellings during the construction period was required. This modelled contribution decreased to 5 dwellings over the operational period. This required affordable dwellings roll out is shown in Figure A below:

**Figure A: BMA’s Contribution to Affordable Housing (net of existing contributions)**



Source: CChange Analyses, based on expected employment roll out provided by BMA

Sixty affordable housing levers were noted and assessed for their application in mitigating BMA’s indirect impact on the affordability of non-resource housing. The options that were considered applicable to BMA in mitigating their impact on the housing market in Moranbah included:

- Relinquishing Department of Public Works and Housing dwellings, and/or,
- Providing a monetary contribution to Isaac Affordable Housing Trust; and/or,
- Being a funding partner with other developers to encourage affordable housing options; and/or,
- Providing a direct rental subsidy, particularly for the construction period.

The options are summarised overleaf.





**Table A: Options to Mitigate Impacts on Affordable Housing associated with BMA's activities**

Type of Contribution		Options	Comments
Supporting Cost Effective, Not for Profit Providers	Relinquish Department of Public Works and Housing (DPWH) dwellings	15 Dwellings	The peak demand (during construction) is estimated at 15 dwellings. Relinquishing 15 dwellings would be in excess of BMA's requirement to mitigate their impacts from CRM and Daunia, as only 5 dwellings are required to mitigate impacts for the longer term (throughout the operational period). Should 5 dwellings be provided to cover the operational period, an additional 10 would be required in 2013 and an additional 6 in 2014, but only for those years.  This option of relinquishment of DPWH's properties is considered most suitable for Moranbah, as these dwellings could easily add to the existing supply of affordable housing. Given that the need for affordable housing is immediate, this option would be the fastest way to increase supply. The relinquishment options would require DPWH to either ensure that the housing was directed towards households in need of affordable housing (as standard definitions of eligibility for public housing may not apply in Moranbah), or that these dwellings (or equivalent value) were
		5 Dwellings handed over, plus an additional 10 during construction period - 2013 and 2014 (and negotiate 10 back after construction period)	Although this option is possible, it is not considered in the best interests of the community for BMA to negotiate back housing that can better assist the public realm. An alternative, if BMA prefers not to exceed mitigation requirements, is to relinquish 5 DPWH dwellings and provide rental subsidies for the construction period for the additional 10 dwellings in 2013 and 6 dwellings in 2014 (see direct rental subsidy option below).
	Monetary Contribution to Isaac Affordable Housing Trust	Contribution to Isaac Affordable Housing Trust	Monetary contributions to the Isaac Affordable Housing Trust have occurred. \$5 million has been committed, with \$3.5 million already handed over, and the remaining \$1.5 million to be provided by 2016. As noted in Section 7.1, this contribution is equivalent to the provision of approximately 13 dwellings.
Funding Partner	Funding Partner with other developers, plus arrangements with housing provider to manage housing.	Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction	Management of affordable housing is not BMA's core business, and therefore this option would need to have negotiations with appropriate housing managers. Given that Isaac Affordable Housing Trust is already in existence, the options in the preceding section are considered preferable. The options here, under 'Funding Partner with Other Developers' are not considered optimal.
		Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction, with the agreement to have 10 returned to BMA after construction period	
Direct Subsidy	Direct Rental Subsidy	Direct Rental Subsidy for construction period (10 dwellings in 2013, 6 dwellings 2014). Plus relinquishment of 5 DPWH dwellings in 2013.	This option could work in tandem with the relinquishment of 5 dwellings back to DPWH should BMA not want to hand over the 15 dwellings identified as required at peak construction.  It is noted that over the past 3 years BMA has provided housing subsidies to a range of organisations in Moranbah. This has supported key workers housing for organisations such as Moranbah and District Support Services, C&K Childcare, Simply Sunshine Childcare, Gryphon Psychology, Moranbah Ambulance, Moranbah Early Learning Centre, Moranbah Medical. In the Financial Years of 2012 and 2013 the value of housing subsidies has been approximately \$986,000 and includes subsidising dwellings for key workers in 6 organisations.

Source: CChange Sustainable Solutions Pty Ltd



The first option, relinquishing 15 Department of Public Works and Housing dwellings to either a community housing provider or the Isaac Affordable Housing Trust, to manage the dwellings as affordable housing over the longer term is the preferred option for BMA's additional contributions as:

- This option exceeds BMA's required contribution to mitigate impacts on low to moderate non-resource households emanating from BMA's activities associated with Daunia and Caval Ridge Mine (as only 5 dwellings are required post 2015, and during 2013 and 2014 an additional 10 and 6 dwellings respectively are required).
- This option expands the Department of Public Works and Housing dwellings portfolio and allows an affordable housing manager to provide dwellings to people in need, which is in line with the intentions of most of the Department of Public Works and Housing's dwelling portfolio; and,
- This option ensures that the supply of affordable housing is increased immediately and without placing additional pressure on the other parts of the rental market, as those families currently utilising the DPWH dwellings will be rehoused in purpose built BMA housing once their leases over the DPWH dwellings expire.

The construction and operational workforces of the Caval Ridge and Daunia mines are being housed through accommodation villages. Other housing initiatives are also being pursued by BMA to prevent direct impacts on housing availability in Moranbah.

The benefits to a community from ensuring that a range of housing options is adequately provided cannot be underestimated. A housing market that is tending towards equilibrium can have marked improvements on the economic, social and cultural environments when compared to one under stress. In particular, adding to the affordable housing supply can assist in creating a more competitive

environment, and lowering of housing costs can lead to increased wellbeing through:

- Higher levels of disposable income post accommodation costs for individuals and families, which can aid in reducing stress and a number of other social impacts;
- Higher probabilities for some to enter homeownership;
- More accessible accommodation for a larger number of people; and,
- The ability for people from a variety of backgrounds to access secure housing.

As well as bringing wellbeing benefits, lowering of artificially high accommodation and housing costs also has wider economic benefits, as local industries are better able to attract and retain key workers, which can in turn improve the supply of services and, in turn, ensure that existing and future industries' and communities' needs are being met.

## Recommendations

Noting all the outcomes in the BBCG Housing Impacts Study, it is therefore recommended that:

- The following ratios be adopted as the basis for determining BMA's required contribution to affordable housing for the Daunia and Caval Ridge Mine projects;
  - 1 affordable dwelling is provided for every 90 construction workers in BMA's Daunia and Caval Ridge Mine; and,
  - 1 affordable dwelling is provided for every 50 operational workers in BMA's Daunia and Caval Ridge Mine;
- BMA's considerable contribution to affordable housing in Moranbah to date (approximately \$6 million in 2012-2015 and relinquishment of 3 DPWH dwellings already) be recognised;
- The overall additional affordable housing contribution from BMA is 5 dwellings over the operational period and an additional 10 dwellings in 2013 and 6 dwellings in 2014 to account for the construction period, which combined peaks at 15 dwellings in 2013; and,



- To meet, and indeed exceed, the additional affordable housing contribution, BMA relinquish 15 Department of Public Works and Housing dwellings as soon as practicable. Those families currently residing in the DPWH dwellings will be rehoused in either vacant dwellings owned by BMA or dwellings being built by BMA.

Furthermore, it is recommended that the framework for determining affordable housing contributions (with varying assumptions as appropriate) is adopted for all other major projects commencing in resource rich areas<sup>1</sup>.

## Conclusions

In conclusion, the need to ensure that housing markets in all communities are tending towards equilibrium is vitally important. Ensuring that there is diversity in product and price points will result in a more productive and enjoyable region for all. It is also important that the market continues to be monitored to ensure that any intervention does not undermine investment and takes account of market dynamics. There is already evidence of prices of housing easing and rents dropping over the past few months. By adopting the recommendations here, BMA will be able to provide a fair and reasonable contribution such that a more balanced housing market can result in Moranbah.

However, BMA's contribution alone will not combat the affordability issues in Moranbah, and it is not BMA's role to do so. It is important that any constraints to the market operating are removed to enable private investment to support the development of further housing options in the area. It is also essential that cumulative impacts from other major projects impacting on population growth in the Region are addressed and that contributions are made by the project proponents. Government and community sectors will also continue to play important roles in the delivery of affordable housing.

<sup>1</sup> Collecting further primary data would assist in refining the framework, particularly in the areas of understanding how resource employees spend their wages, and the extent to which locally sourced inputs of operations impact on Moranbah. The framework is flexible enough that it could be applied to any major project in a resource rich area. However, assumptions used would need to be tailored to the region in question.



# 1 Introduction

In August 2010, the Coordinator-General provided conditional approval to the Caval Ridge Mine Project. The Caval Ridge Mine project forms part of a larger body of development work being developed by BHP Billiton Mitsubishi Alliance (BMA) called the Bowen Basin Coal Growth (BBCG) Project. The BBCG Project was designated a Project of State significance for Queensland and BMA was required to produce an Environmental Impact Assessment. The BBCG Project is described briefly in Section 1.1.

Among the conditions imposed, the Coordinator-General required BMA, per the amended Condition 18(f) of his Report, to:

*“...undertake a BBCG Project Housing Impacts Study (including the CRM and Daunia Mine) which will provide an analysis of the impacts of each component of the BBCG project on the housing market in Moranbah or surrounding areas.”*

As part of the Coordinator-General’s requirements for Caval Ridge Mine, BMA commissioned CChange Sustainable Solutions Pty Ltd (CChange) to prepare the BBCG Project Housing Impacts Study and Plan. This report constitutes the BBCG Project Housing Study. The BBCG Project Housing Plan is provided in a separate document. Terms of Reference for this Plan are being completed in consultation with the Moranbah BCN.

## 1.1 The BBCG Project

The BMA Bowen Basin Coal Growth Project involves BMA coal mining operations in the northern section of the Bowen Basin, near Moranbah, Queensland. The Project involves the production of additional coal products through the development of new coal mining operations, including Daunia Mine and Caval Ridge Mine that are currently under construction. Construction of Caval Ridge Mine began in March 2012, and the first supply of coal is expected in 2014.

Coal will be exported via the existing Hay Point and/or Dalrymple Bay coal terminals, with potential to export via Abbot Point coal terminal following construction of the Northern Missing Link rail line.

BMA is a long term member of the Bowen Basin community and is committed to the Moranbah community and its surrounds. The BBCG Project will contribute significantly to local and regional economies through direct and indirect employment and investment expenditure, input to community facilities and services, and BMA are dedicated to ensuring that they make fair and equitable contributions to housing low to moderate non-resource worker households.



The BBCG Project is expected to directly contribute significantly to the State's economy across all project elements. The Caval Ridge Mine and Daunia components are expected to employ a combined peak of approximately 2,760 construction workers and 1050 operational workers. Both projects will employ an up to 100% remote workforce for operations.

It is noted that BMA has already committed contribution of \$5 million dollars to the Isaac Affordable Housing Trust to provide low to moderate non-resource worker housing (affordable housing) in the region, plus a range of other contributions to housing in the Region. The analyses presented here determines what constitutes a reasonable contribution by BMA to assist affordability of dwellings for non-resource low to moderate income households given BMA's activities in the Caval Ridge and Daunia mines. Options for fulfilling this requirement are discussed.

## 1.2 Purpose of the BBCG Housing Impacts Study and Plan

The purpose of BBCG Project Housing Impacts Study and Plan was to:

- Provide an understanding of the current housing and related contexts in Moranbah;
- Determine the level of 'at risk' low to moderate income non-resource households in Moranbah based on the most recent data available (at the time of writing the 2006 ABS Census was the most recent complete data);
- Determine BMA's impact on the demand for low to moderate income non-resource housing in Moranbah from the Caval Ridge Mine and Daunia projects; and,
- Determine a fair and equitable response such that BMA can meet its responsibility in mitigating impacts associated with housing low to moderate income non-resource workers and their operational workforce for Caval Ridge Mine and Daunia project.

The full Terms of Reference for the Housing Impact Study and Plan is provided in Appendix 1. In summary, in fulfilling the commission, CChange was required to:

- Prepare a socio-demographic profile for Moranbah, benchmarked against the Mackay Isaac and Whitsunday (MIW) planning region (previously termed the Whitsunday Hinterland and Mackay (WHAM) planning region), and South East Queensland (SEQ) (the combined Brisbane/Moreton Statistical Division area) where relevant [requirement 1];
- Comment on the current short stay workforce in the area, including noting those workers attributable to BMA's operations, and those workers attributable to 'other' major projects in the area [requirement 2];
- Provide a commentary on the current housing and accommodation supply in Moranbah [requirement 3], and include in this a description of the accommodation arrangements for BMA's personnel (direct employees and contractors) for the MIW region [requirement 6];



- Analyse the population and socio-demographic projections for Moranbah to the year 2018, projections for Isaac Regional Council to 2031 and projections for MIW and SEQ region to 2031. In the analysis for Moranbah, comment on growth driven by BMA and others was required [requirement 4];
- Determine the housing needs of low to moderate income, non-resource industry workers in Moranbah for the year 2006 [requirement 5];
- Assess and describe the impacts on housing market that can be attributable to BMA and others in the region, including discussions on how negative impacts can be mitigated [requirement 7]; and,
- Describe options for BMA to address their impact on low to moderate income non-resource worker housing, and their operational workforce [requirement 8].

It is emphasised that the report addresses Caval Ridge Mine's and Daunia Mine's impact on housing for non-resource workers, and it is not intended to address the cumulative impacts of other major projects occurring in the Region.

## 1.3 Data Sources

The Terms of Reference specified that the Office of Economic and Statistical Research (OESR) was to prepare the majority of the data for commission. This included the preparation of socio-demographic information and projections, as well as the assessments associated with 2006 housing needs for low to moderate income non-resource workers in Moranbah. The information produced is included in the report OESR (2012) *Data to inform development of Moranbah Housing Study for BBCP Project* November 2011.

OESR's report includes much vital information on the sources, assumptions and techniques underpinning the data included and the forecasts produced. Where this information is considered important to understanding the parameters of the data, forecasts, and/or analysis of the information OESR's information has been directly quoted in this report. It is noted that OESR's report should be read in conjunction with this Study.

As OESR prepared the data on which this study was to be based in 2011, most of the data included was from the 2006 ABS Population and Household Census (as this was the latest information available at the time of writing for OESR). Where possible and appropriate, CChange has also considered the first release of the 2011 ABS Population and Household Census data (released in June 2012). It is noted that at the time of writing only a limited component of the 2011 ABS Population and Household Census results was available. In addition, to verify and expand on some of the data available for Moranbah, CChange conducted consultation with a variety of stakeholders across the Region. Consultation occurred with real estate agents, retailers, business owners, community service providers, Council, and the ULDA. Furthermore, Queensland employment multipliers derived from ABS State Accounts Data were sourced from SGS Economics and Planning Pty Ltd and were used as one



of many inputs into the method to determine a fair and equitable contribution to affordable housing.

## 1.4 Limitations

Employment in the resource sector is subject to change at short notice, depending on a range of factors, such as commodity prices, labour availability and external demand. The information utilised in this report was current as per the timeframes indicated, but it is noted that changes have occurred since the data was compiled and the report initially drafted. Changes to BMA projects that impacts on Moranbah include:

- In response to the challenging external environment, the Peak Downs expansion has been delayed. This delay will reduce direct demand for housing;
- Cessation of production at Norwich Park, which has led to an increase in available workers for other BMA operations. These employees have access to houses in Dysart; and,
- A focus on accommodating BMA staff in BMA-owned houses, in favour of leasing from the private market, which, as noted in Section 4.2, has led to an increase in the availability of private rental stock, together with decreases in speculation and evidence of downward pressure on rental costs.

As noted in Section 1.3, where possible, consultation with a range of stakeholders was utilised to update information.

It is also acknowledged that the method upon which the fair and reasonable contribution to housing was based, utilised Queensland multipliers as one of many inputs, and that State level multipliers have limitations. Given that multiplier analysis assumes a 'static' state, multipliers can over-estimate the impact of projects through not accurately accounting for the supply side effects of activity. To ensure that the possible 'over-estimation' did not unnecessarily skew the analysis, the multipliers were used as a starting point only for determining a reasonable contribution towards affordable housing from BMA for their BBCG project, and other assumptions were made to 'correct' the potential over-estimation. Given that there is no empirical evidence to determine the 'actual' impacts of a particular project in Moranbah, the multiplier analysis is considered to be a reasonable starting basis. Furthermore, that the multiplier analysis may 'over-estimate' impacts errs on the side in favour of the provision of affordable housing. Given that there is latent demand for affordable housing in Moranbah, the slight favouring of affordable housing provision is not considered unreasonable.

In the absence of empirical evidence, other assumptions were also made when determining a fair and reasonable contribution to affordable housing. However, all assumptions made were considered to be conservative and, if anything, in favour of the community and the provision of affordable housing. All assumptions and their bases are discussed in Appendix 4.



## 1.5 Structure of the Report

Following the introductory section, this report is divided into a further eight sections (nine sections in total):

- **Section 2** outlines major projects occurring in the vicinity of Moranbah and discusses their likely impacts on population growth for the Moranbah area. Population forecasts of equivalent full time residents as produced by OESR are analysed and presented and discussions of permanent residents and non-worker residents are included. BMA's impact on likely population growth in Moranbah is discussed;
- **Section 3** outlines key socio-demographic and socio-economic characteristics of Moranbah, which includes a discussion of population, age-sex profiles, income, occupation, education, industry, labour force and job containment statistics for 2006 as produced by OESR. Where possible, 2011 ABS census information for Moranbah has also been included. This section highlights key differences between Moranbah and the MIW and SEQ regions and shows the major impact the resource sector has on population characteristics.
- **Section 4** discusses Moranbah's housing market in terms of dwelling types and tenures, mortgage and rental payments and sales prices for land, detached dwellings and units. The information presented illustrates a stressed housing market in Moranbah, and the number of 'at risk' households (those low to moderate households paying a high proportion of their income on rents or mortgages) as determined by OESR and consultation with key stakeholders in the community is presented. The implications of Moranbah's stressed housing market are discussed.
- **Section 5** focuses on BMA's workforce and its current housing and accommodation arrangements. Future housing expectations regarding operational and construction workforces are discussed.
- Overall housing demand and supply are discussed in **Section 6**. Household projections as prepared by OESR are analysed and the current and likely future housing and accommodation supply discussed. Demand and supply are then compared and the overall gap noted.
- **Section 7** outlines a method to determine a fair contribution towards affordable housing for non-resource workers, and applies this to the BMA situation for the Caval Ridge Mine and Daunia project. BMA's responsibility given the framework is discussed and its contributions to date netted from the requirement. A statement of further contributions from BMA is provided.
- Options to meet BMA's required contribution are outlined in **Section 8**. This provides a number of scenarios that could meet BMA's obligations either singularly or in tandem.
- The report is concluded at **Section 9**, and overall recommendations provided.

The report is supported by a number of appendices. These include:

- Appendix 1: Terms of Reference;
- Appendix 2: Broad Overview of Major Projects likely to impact on Moranbah in the foreseeable future;





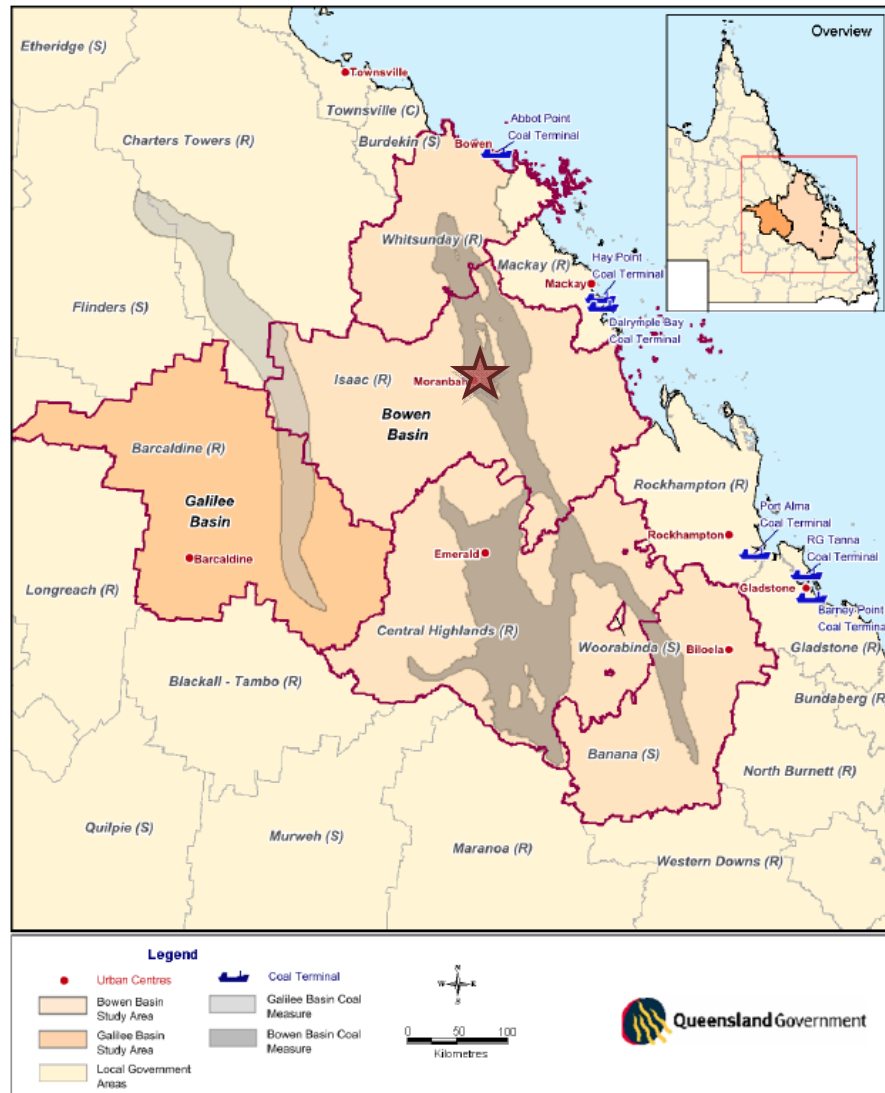
- 
- Appendix 3: Checklist regarding the socio-demographic and socio-economic profile as required by the Terms of Reference; and,
  - Appendix 4: Assumptions and Method used to determine BMA's required contribution to Non-Resource Low to Moderate Income Dwellings.



## 2 Major Projects in Moranbah and their Likely Impacts on Population Growth

Moranbah, located 200km south west of Mackay in Central Queensland (refer Figure 1), is experiencing significant growth due to the extensive coal mining operations in the Bowen Basin Region. Established in 1971 as a purpose built town in the northern part of (the then) Belyando Shire to accommodate employees of the Goonyella and Peak Downs Mines, Moranbah is the largest town within Isaac Regional Council and is considered to be the main service centre of the Region. Moranbah is classified as a Major Centre in the Draft MIW Regional Plan and its Major Centre role is expected to be strengthened into the future<sup>2</sup>.

**Figure 1: Context Map for Moranbah**



Source: OESR Bowen and Galilee Basins Population Report, 2011 (April 2012)

<sup>2</sup> DIP, Draft Mackay Isaac and Whitsunday Regional Plan, 2011



A number of significant projects, listed below in Table 1 and shown graphically in Figure 2, are fuelling or likely to fuel the growth pressures on Moranbah and surrounds. Information sourced from OESR and the projects' EISs and other available information indicate that if these projects progress as many thousands of workers are likely to be required during peak times for construction and operation of the projects.

Moranbah has two distinct groups of residents – those termed permanent residents (or simply residents), and those termed non-resident workers. Residents are people who classify Moranbah as their 'usual place of residence'. Non-resident workers are those people who reside in Moranbah when on shift at their workplace, but who note that their usual place of residence is elsewhere in the Region, State or Australia. Non-resident workers are often also called Fly-In/Fly-Out (FIFO) or Drive-In/Drive-Out (DIDO) workers as they access Moranbah for work through either flights or vehicles. They commute to the region (often over long distances) for their work shifts and then generally return to their usual place of residence on their days or weeks off.

Taking into account the natural growth of the resident basis and those workers likely to reside in Moranbah when on shift in the Region, OESR's analyses presented in Section 2.2 indicate that, if all projects proceeded, at particular times during these projects' expected lifespan up to 8,000 additional full time equivalent residents on the 2011 basis could be present within or in close proximity to Moranbah over the years to 2018. This indicates that the full time equivalent population could increase up to 70 per cent over a 7 year period from the 2011 basis.

At 2011, the full time equivalent population in 2011 was 12,350, and included 8,790 permanent residents. This indicates that in 2011 permanent residents accounted for the majority of the population (71 per cent). As per OESR's forecasts, permanent residents are expected to continue to constitute between 63 per cent (high series) and 70 per cent (low series) of the total full time equivalent population to at least the year 2018. Forecasts prepared by OESR are discussed further in section 2.2.

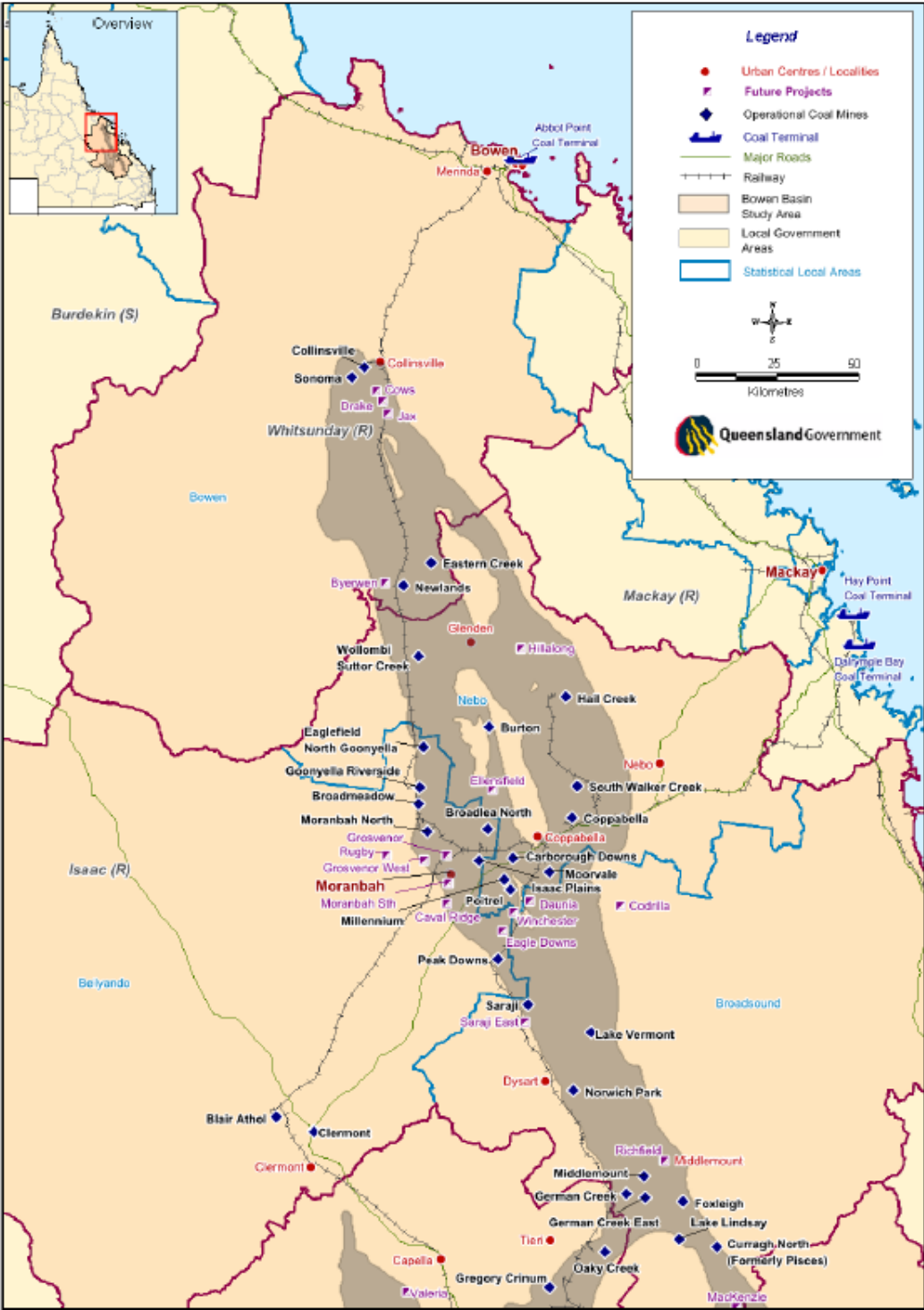
This section briefly describes the major projects that may impact on Moranbah and outlines the role that BMA plays in the Region. Population forecasts prepared by OESR are outlined and a description of current impacts arising from the major projects is briefly described. Detailed descriptions of the major projects can be found in Appendix 2.

## 2.1 Major Projects in the Region, including BMA's Activities

There are many major projects either starting construction, expanding or under consideration that may potentially impact on Moranbah. As can be seen in Figure 2, there are many more projects in the broader Bowen Basin (refer Figure 2). Together, these projects will require thousands of construction and operational workers.



Figure 2: Existing Operations and Future Projects, Northern Bowen Basin (June 2011)



Source: OESR – Bowen and Galilee Basins Population Report, 2011

**Table 1: Summary of Overall Existing and Potential Major Projects in the Moranbah**

Name	Resource Owner / Manager	LGA	Nearest Town
<b>Existing Operations</b>			
Broadlea	Vale Australia Pty Ltd	Isaac	Moranbah
Broadmeadow	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Burton	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah, Glenden, Coppabella
Carborough Downs	Vale Australia Pty Ltd	Isaac	Moranbah, Coppabella
Eaglefield/North	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah
Goonyella			
Goonyella Riverside	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Isaac Plains	Vale Australia Pty Ltd, IP Coal Pty Ltd	Isaac	Moranbah
Millennium	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah
Moranbah North	Anglo American Metallurgical Coal Pty Ltd	Isaac	Moranbah
Peak Downs	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Poitrel	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
<b>Potential Operations</b>			
Arrow Energy Bowen Basin Gas Project	Arrow Energy Pty Ltd	Isaac	Moranbah
Arrow Energy Bowen Pipeline	Arrow Energy Pty Ltd	Isaac, Gladstone	Moranbah, Gladstone
Carmichael Rail Project	Adani Mining Pty Ltd	Isaac	Clermont and Moranbah
Caval Ridge	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Caval Ridge Expansion	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Connors River Dam to Moranbah Pipeline	Sunwater Limited	Isaac	Moranbah, Nebo
Daunia	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Dyno Nobel Moranbah Explosives	Incitec Pivot Pty Ltd	Isaac	Moranbah
Eagle Downs Project	Eagle Downs Coal Management Pty Ltd	Isaac	Moranbah
Eaglefield / North	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah
Goonyella			
Eaglefield Expansion Project	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah
Ellensfield Coal Project	Vale Australia Pty Ltd	Isaac	Moranbah
Goonyella Riverside	BMA (BHP Billiton Mitsubishi Alliance)	Isaac	Moranbah
Goonyella to Abbot Point Rail Project	BMA (BHP Billiton Mitsubishi Alliance)	Isaac, Whitsunday	Moranbah, Bowen
Grosvenor Mine	Anglo American Metallurgical Coal Pty Ltd	Isaac	Moranbah
Grosvenor West	Carabella Resources Ltd	Isaac	Moranbah
Isaac Plains	Vale Australia Pty Ltd, IP Coal Pty Ltd	Isaac	Moranbah
Millennium Expansion Project	Peabody Energy Australia Coal Pty Ltd	Isaac	Moranbah
Moranbah South Mine	Anglo American Metallurgical Coal Pty Ltd	Isaac	Moranbah
Moranbah to Alpha Pipeline Project	Sunwater Limited	Isaac	Moranbah, Clermont
Rugby Coal Project	Diamond Creek Coal Pty Ltd	Isaac	Moranbah
Winchester South	New Hope Corporation Limited	Isaac	Moranbah

Source: OESR – Bowen and Galilee Basins Population Report, 2011



It is important to note that the number of construction workers and operational workers for each of the projects in the region cannot simply be added together to determine the overall workforce figures likely to impact on Moranbah. The reason for this lies with the differences between the *estimated non-resident workforces* of resource industry projects and the *population of non-resident workers on-shift* living in the area at any given point in time. As noted by OESR:

*“[the estimated non-resident workforces of resource industry projects] is based on OESR’s surveys of resource industry workforces, both current and future, and is essentially an estimate of the non-resident component of the industry workforce for projects in the local area. However, only a proportion of the total non-resident workforce is present in the local area at any time, so a more appropriate measure of the population effect is an estimate of those who are on-shift and living in the local area.*

*Most mining operations work two 12 hour shifts per day, which requires that two shifts are present in the local area at a given point in time whilst the third is resting outside of the local area.*

*The number of non-resident workers on-shift is derived from OESR’s annual Survey of Accommodation Providers, which counts all non-resident workers living in local accommodation, including construction workers and other non-company employees.*

*OESR’s Survey of Accommodation Providers also picks up incidental non-resident workers (ie those not directly employed by a mining company or first tier contractor), as well as self-employed contractors. These are regarded as indirect (flow-on) workers, who are not included in company-provided workforce data. This residual forms the basis for projecting the non-resident indirect local employment component of future operations in the area. When combined with the projected resident population, the projected number of non-resident workers on-shift forms the basis for projecting OESR’s Full-Time Equivalent (FTE) population”.*

The following section outlines the estimates of the full time equivalent populations for Moranbah given the current and expected projects in the area.

## 2.2 Moranbah’s Population Forecasts

As required by the Terms of Reference, OESR produced population and socio-demographic forecasts for Moranbah to the year 2018 as well as forecasts for the MIW and SEQ regions from 2011 to 2031. High, medium and low forecasts were determined and these included information on resident and non-resident worker populations. Important assumptions included in the method used to prepare the forecasts are explained below in Section 2.2.1 and the resultant forecasts are provided in Section 2.2.2.



## 2.2.1 OESR's Method to Prepare Forecasts

As noted by OESR in their report, the projections take into consideration:

- *“Reported changes to the resident and non-resident workforces of expanding resource industry operations and future projects, including associated infrastructure projects (for BMA and other proponents);*
- *Natural increase occurring in the resident population (births minus deaths), and*
- *Likely changes to dependant numbers, based on analysis of likely churn in BMA's workforce arising from retirements during the projection period”.*

Other important considerations regarding the projections as noted by OESR are included below:

*Projections of the non-resident workforce take into account the impacts of temporary construction workforces as well as existing and future operational workforces for resource operations and projects. Given the uncertainty regarding the timing and scale of workforces for future projects, the time horizon for the projections has been constrained to 2018. In keeping with the terms of reference for this project, OESR has modelled possible changes to Moranbah's population based on advice from BMA regarding the future size, composition and age of workforces for existing mines (Broadmeadow & Goonyella Riverside and Peak Downs), as well as the Caval Ridge expansion project. Information regarding non-BMA resource operations and future projects has also been incorporated into the projections, based upon advice from the proponents about the size and residency status of their workforces.*

*OESR's projections assume that changes to the workforces of existing operations and future projects will have differing impacts on the resident and non-resident worker populations of Moranbah, according to the accommodation strategies utilised by project proponents. Overall, there are not significant differences between the three scenarios when it comes to the resident population of Moranbah. Given the relatively short timeframe for the projections (to 2018) and the likely predisposition of future projects towards non-resident operational workforces, this is to be expected. However this is not the case for the non-resident workforce projections, which demonstrate that much of the future growth associated with resource industry development will impact on the non-resident population.*

*Users of these projections should note that the cumulative non-resident workforce present in Moranbah is likely to grow significantly during the study period. Moranbah's existing non-resident worker population will be boosted by large numbers of temporary construction workers engaged in the expansion of existing mines, development of new resource projects including coal seam gas, and construction of associated infrastructure. The cumulative impact of these construction workforces on top of the area's existing FIFO/DIDO operational workforces is likely to be considerable but relatively short-term, and will diminish as new projects become operational. This is not apparent from the OESR projections, which only cover the period to 2018.*



*Some construction workforces for future projects, particularly those associated with the construction of rail corridors, gas field and pipelines, may or may not impact directly on the town of Moranbah, depending on the final location of worker camps. OESR's low series projections assume that these will have a minimal direct impact on the town itself (ie that all camps for these projects will be located outside of the immediate vicinity of Moranbah and will not directly contribute to growth in the town's non-resident workforce. This does not exclude the possibility that such impacts will occur within the Isaac Regional Council area). The low series projections do however take into consideration the non-resident construction and operations workforces of BMA's Bowen Basin Coal Project, so the difference between the low series and the other projection scenarios largely reflects changes to the non-resident population arising from non-BMA activities.*

*The medium series projections assume that the operational workforces of Caval Ridge, Caval Ridge expansion and Goonyella projects will be 100 per cent non-resident, as per advice from BMA [that the non-resident workforce will be up to 100 per cent]. Other non-BMA projects that OESR has identified in Moranbah, including those which have not yet secured approval, are assumed to proceed as per the workforce and accommodation arrangements reported to OESR. The medium series projections also factor in the non-resident workforces of rail corridors, gas field and pipelines excluded from the low series.*

A high series was also included, and this reflected a scenario where the equivalent of 30 per cent residential workers was contemplated for BMA's operations. Given recent approvals for a 100 per cent non-resident workforce, this scenario is now not relevant.

## 2.2.2 Expected Population in Moranbah to 2018

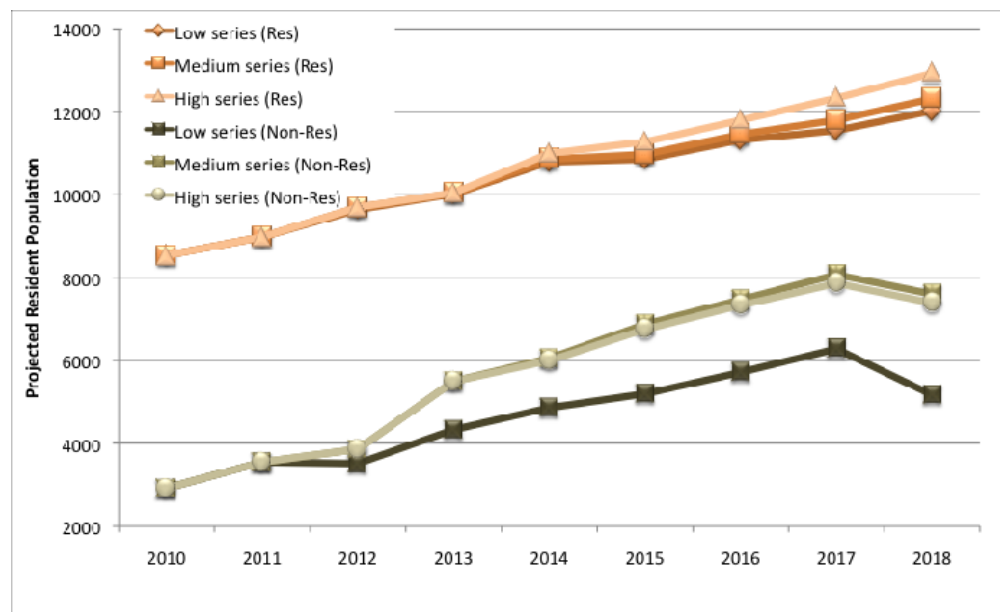
The outcomes of OESR's population forecasts are shown below in Figure 3. From this figure it can be seen that the resident population is likely to remain considerably higher than the non-resident population throughout the period to 2018.

Natural increase and migration to the region on a permanent basis is likely to result in Moranbah's permanent residents growing from 8,790 in 2011 to between 12,015 and 12,922 in 2018. Resource and associated industrial activities in the Region is likely to see the population of non-resident workers increase from 3,560 in 2011 to between 5,168 and 7,387 in 2018. In total, Moranbah's equivalent full time population is expected to be between 17, 183 and 20,309 by 2018.





**Figure 3: Projected Resident and Non-Resident Worker Populations, Moranbah (2010 – 2018)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Notwithstanding that the absolute numbers of projected residents are likely to continue to outweigh non-resident workers, the proportional increase of non-resident workers on the 2011 basis is substantial. While resident populations are expected to increase between 36 and 46 per cent between 2011 and 2018, should the medium series projections result, non-resident workers are expected to increase by around 130 per cent from the 2011 basis under these scenarios. The low series forecasts for non-resident workers in 2018 would result in a 56 per cent increase on the 2011 basis.

In comparative terms, growth expectations for the resident populations<sup>3</sup> of Isaac Region, MIW and SEQ are likely to be lower than Moranbah, even over a marginally longer time period:

- Isaac Region estimated population growth between 2011 and 2021 is expected to be between 27 and 46 per cent on the 2011 basis;
- MIW's growth between 2011 and 2021 is expected to be between 22 and 36 per cent; and,
- SEQ's growth between 2011 and 2021 is expected to be between 16 and 28 per cent.

<sup>3</sup> OESR did not produce population forecasts for resident and non-resident workers for the Regions of Isaac, MIW and SEQ. As such, only resident populations can be quoted.



### 2.2.3 BMA's Impact on Moranbah's Population Growth to 2018

Through consultation with BMA, OESR was able to estimate the impact BMA is likely to have on overall population growth in Moranbah. OESR prepared forecasts for resident and non-resident worker populations showing BMA's contribution to the categories via employees and their dependents. The results of the forecasts are displayed in Figures 4 to 6.

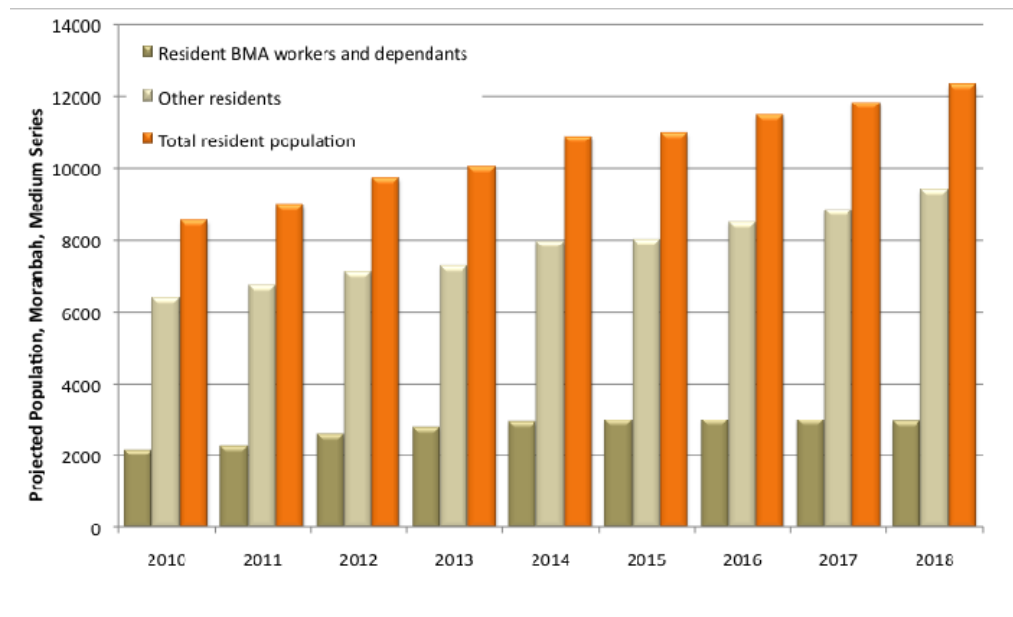
These figures show that:

- At 2011, BMA's workers and dependants constituted 25 per cent of the resident population in Moranbah. This proportion is expected to remain about throughout the forecast period. At 2018, the medium series indicates BMA's resident workers and family members would constitute 24 per cent of all resident populations in Moranbah (refer Figure 4).
- At 2011, BMA accounted for 46 per cent of all non-resident workers on shift in Moranbah. In 2018 this is expected to decrease to between 39 to 41 per cent (high and medium series respectively) of all non-resident workers on shift. During the forecast period, the highest proportion of non-resident workers attributable to BMA is in 2017 at 50 per cent (medium series) (refer Figure 5).
- Should many of the projects expected in the region not progress, the low series indicates that the proportion of non-residents attributable to BMA could be up to 60 per cent (refer Figure 5).
- Overall, when the employment figures are converted to equivalent full time populations (either resident or non-resident on shift), BMA employees, contractors and their dependents are likely to account for between 30 and 35 per cent of all residents in Moranbah in 2018.

However, as well as BMA employees, BMA have a considerable number of contractors that take up a component of the population. Although not included in OESR's calculations (and thus not shown in the figures below) BMA estimate that contractors account for around 25 to 30 per cent of the full time equivalent population. Together then, BMA employees, contractors and their dependents accounted for around 55 to 60 per cent of the population at 2011. These proportions are likely to remain the same in 2018, or increase slightly (by no more than 4 percentage points). As noted earlier, although these proportions show that BMA are indeed a significant player in Moranbah, there are other drivers of demand in the area.

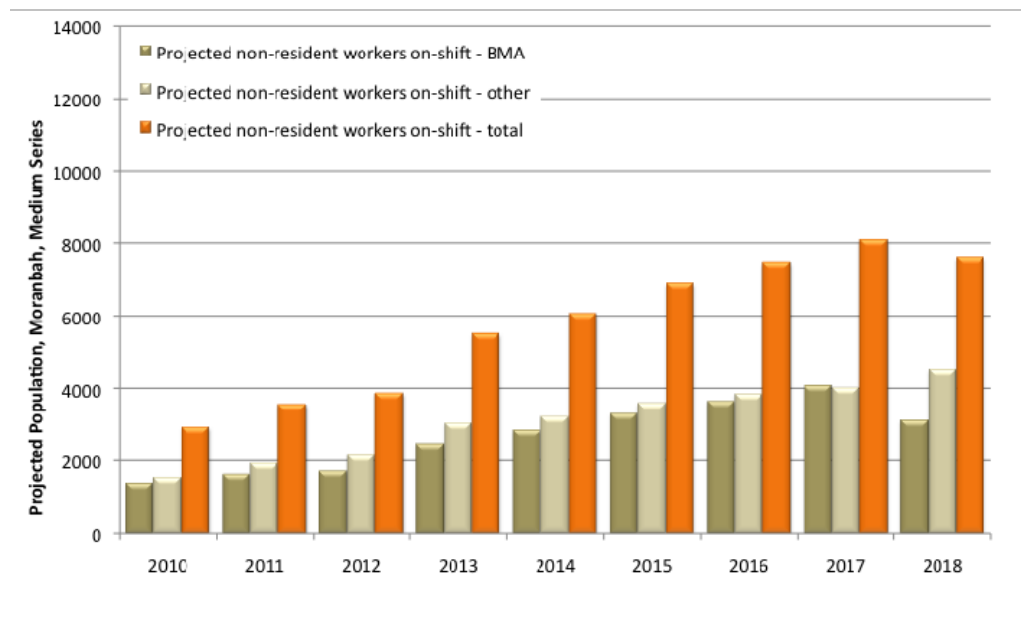


**Figure 4: Projected Resident Populations for BMA and Others in Moranbah, Medium Series (2010 – 2018)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

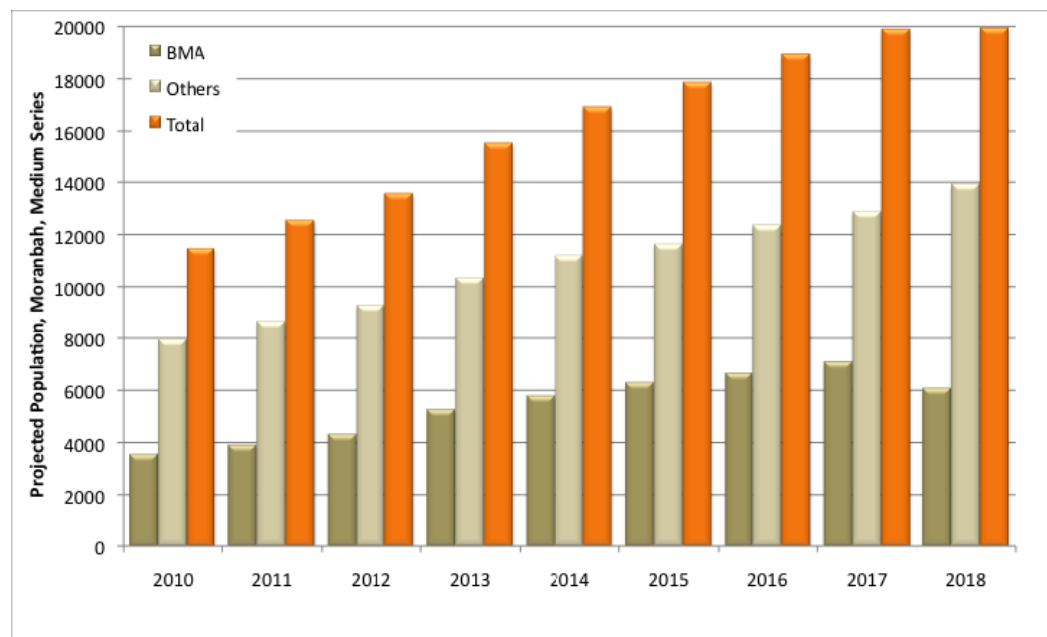
**Figure 5: Projected Non-Resident Worker Populations for BMA and Others in Moranbah, Medium Series (2010 – 2018)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



**Figure 6: Projected Total Populations for BMA Workers and their Families and Others in Moranbah, Medium Series (2010 – 2018)**



Source: OESR, Data to inform development of Moranbah Housing Study for BCCP Project November 2011

## 2.3 Summary: Moranbah's Drivers of Population Growth

In summary, there are major projects currently impacting on Moranbah, and many more expected to occur in the future. At least 20 significant projects may commence in the vicinity of Moranbah over the next three to five years, which combined could see an injection of billions of capital expenditure and the commencement of many thousands of construction and operational jobs. Taking into account those on shift, together with natural increases in the population, the equivalent full time population in Moranbah is expected to be between 17,183 and 20,309 by 2018 (from 11,450 in 2011). Throughout the forecast period permanent residents are expected to outnumber non-resident workers in Moranbah's population.

BMA is and will continue to be a considerable player in the Region, but they are not the only major driver of population growth. In Moranbah, BMA employees, contractors and their dependents are likely to account for between 30 and 35 per cent of all residents (permanent residents and non-resident workers) and contractors to BMA were estimated to be an additional 25 to 30 per cent. Thus, over 40 per cent of the remaining population in Moranbah is driven by other industry influences.



## 3 Socio-Demographic and Socio-Economic Characteristics of Moranbah

A key component of CChange's commission was to prepare a socio-demographic and socio-economic profile for Moranbah, referenced against the MIW and SEQ regions. This section summarises key characteristics for Moranbah, and Appendix 3 provides a checklist against the Terms of Reference to ensure each element has been included. Graphs and commentary on the elements not discussed here are included in the Appendix<sup>4</sup>.

In addition to analysing OESR's data provided as part of the study, CChange also referenced the first release of the 2011 ABS Population and Household Census. Furthermore, OESR's Bowen and Galilee Basins Population Report, 2011 provided valuable information regarding overall populations and accommodation types for this section and Section 4.

In the absence of any detailed demographic characteristics on non-resident workers, this section also includes comparisons between 'as enumerated' and 'usual residents' information from the 2011 ABS Census. These comparisons provide indicative characteristics of the 'visitors' to Moranbah on Census night. Although some of these visitors might be visiting the region for personal or business reasons, it is likely that many of the visitors capture the non-resident workers. Thus the comparison of information is an important insight (but not exact data) into a key component of Moranbah's non-resident population.

### 3.1 Socio-Demographic Information

#### 3.1.1 Key Population Statistics

On the 2011 Census night, the ABS Population and Household Census indicated that 8,966 people were permanently residing in Moranbah and a further 3,664 persons were 'visitors' to the area. Thus, a total of 12,056 persons were 'enumerated' in Moranbah in the 2011 Census information (refer Table 2).

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<sup>4</sup> It is noted that there are 3 elements of the Terms of Reference not commented upon in this section, but are included in the Appendix.

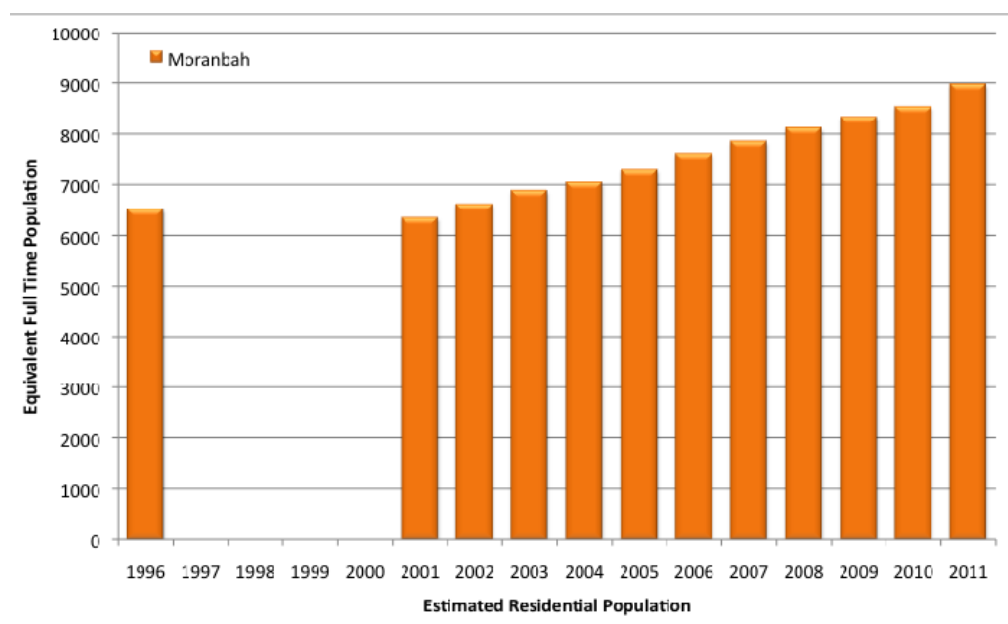
**Table 2: Summary of Key 2011 Population Statistics, Moranbah**

<b>Usual Residents</b>	<b>Males</b>	<b>Females</b>	<b>Total Persons</b>
At home (b)	4,615	3,777	8,392
Elsewhere in Australia	361	213	574
<b>Total Usual Residents</b>	<b>4,976</b>	<b>3,990</b>	<b>8,966</b>
<b>As Enumerated</b>	<b>Males</b>	<b>Females</b>	<b>Total Persons</b>
Count of persons in private dwellings	4,772	3,934	8,706
Count of persons in other dwellings	2,999	351	3,350
<b>Total Enumerated (a)</b>	<b>7,771</b>	<b>4,285</b>	<b>12,056</b>
<b>Estimated Non-Residents (a)-(b)</b>	<b>3,156</b>	<b>508</b>	<b>3,664</b>

Source: ABS First Release, 2011 Population and Household Census

These figures align very closely with OESR's count of estimated residential population and total non-resident workers on-shift for 2011<sup>5</sup>. In 2011, OESR indicated that 8,790 persons were resident in Moranbah in 2011, and 3,560 were non-resident workers on-shift<sup>6</sup>. Thus over 71 per cent of the equivalent full time population in Moranbah were permanent residents in 2011.

Figure 7 below shows the resident population in Moranbah, where available, from 1996 to 2011. Although the population dropped marginally between 1996 and 2001, it has been steadily increasing since 2001.

**Figure 7: Equivalent Full Time Population, Moranbah (1996 – 2011)**

Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, ABS 2011 Census, First Release

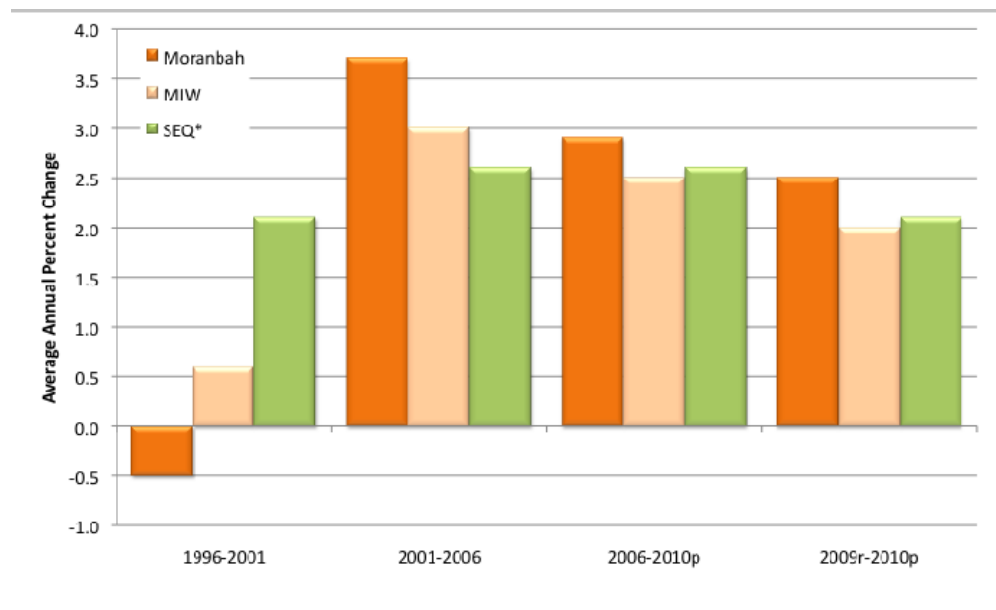
<sup>5</sup> This comparison is used solely to add support to OESR's estimate of non-resident workers. It is noted that the subtraction of usual residents from 'as enumerated' does not exactly equate to 'non-resident' workers as the figure would also include tourists, people in the area for business and people visiting friends and relatives.

<sup>6</sup> OESR, (2012) Bowen and Galilee Basins Population Report, 2011



The average annual population change rates (refer Figure 8) reiterates the steady increase in population in Moranbah from 2001 onwards. Figure 8 shows that from 2001 onwards, Moranbah has experienced considerably stronger growth than the MIW and SEQ regions.

**Figure 8: Average Annual Population Change Rates, Moranbah, MIW and SEQ (1996 – 2010)**

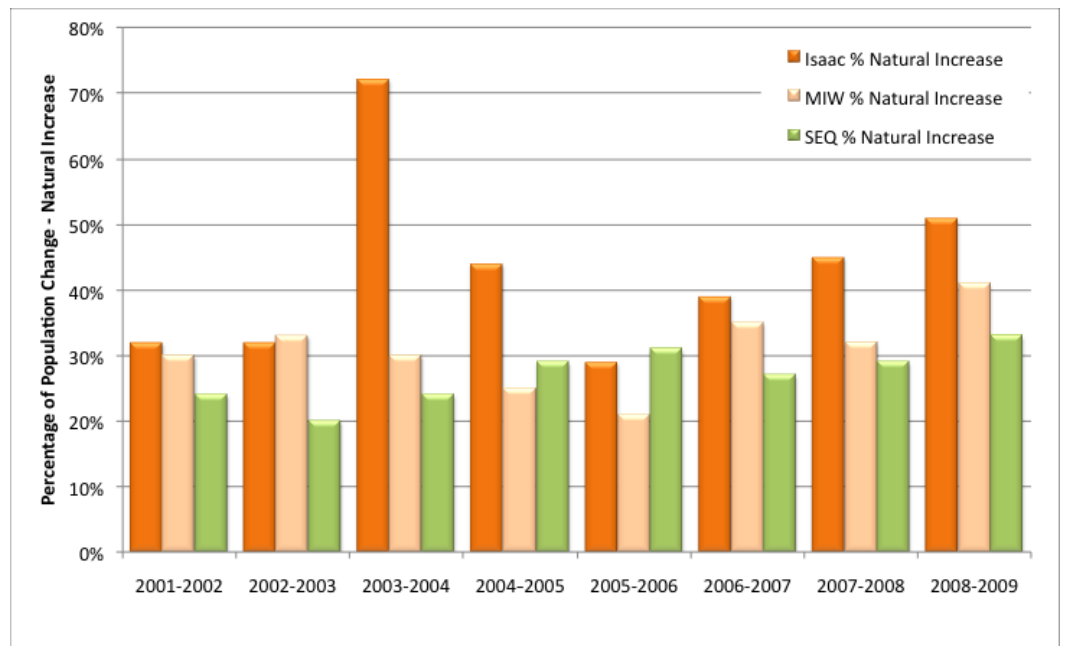


Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

The proportion of population growth attributable to natural growth and migration in Isaac Region, MIW and SEQ is shown in Figures 9 and 10 respectively. These figures show that while around 60 to 80 per cent of the population increases in MIW and SEQ regions have been associated with migration, the fluctuations in Isaac are much more pronounced and sporadic. In 2003-04 migration accounted for less than 30 per cent of population growth, whereas in 2001-2003 and 2005-2006 migration accounted for around 70 per cent of growth. Anecdotal information sourced through consultation with key stakeholders in the Region suggests that these fluctuations are very much tied with the resource projects in the Region at any given time.

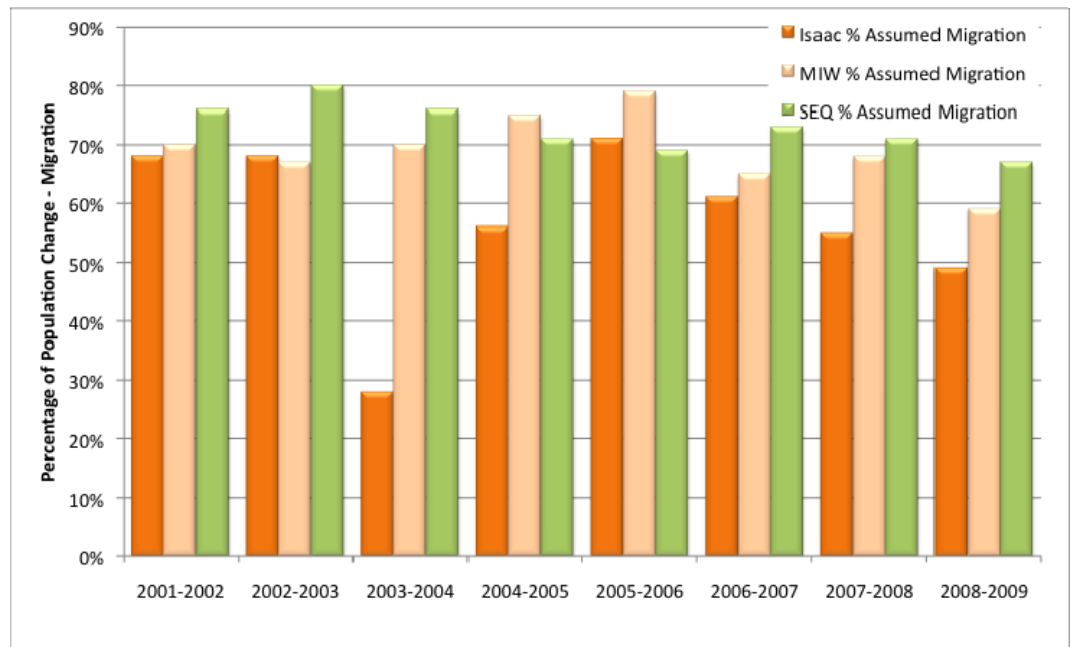


**Figure 9: Proportion of Natural Increase in Population Growth, Moranbah, MIW and SEQ (2001 – 2009)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

**Figure 10: Proportion of Assumed Migration in Population Growth, Moranbah, MIW and SEQ (2001 – 2009)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



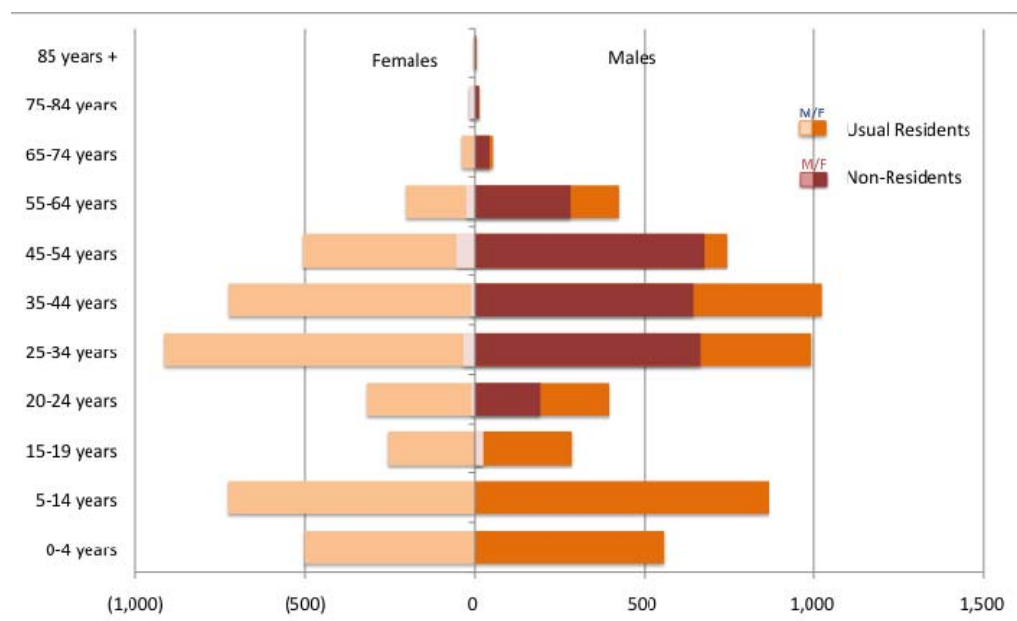


### 3.1.2 Age-Sex Profiles

Information in Table 2 shows that the male to female ratio for those nominating themselves as 'usual' residents in Moranbah was 55 per cent (male) to 45 per cent (female) in 2011. The Queensland proportion of males to females in 2011 was approximately 50 per cent to 50 per cent. The proportion for 'as enumerated' was 64 per cent (male) to 36 per cent (female) in 2011. Using the estimated non-resident information from Table 2, the male to female ratio for non-resident workers in Moranbah is 86 per cent (male) to 14 per cent (female). This is not surprising given that the resource sector workforce is commonly associated with high levels of male employment.

An indicative age-sex profile for Moranbah's usual residents versus its approximate 'non-resident workers' is shown in Figure 11. As can be seen in the figure, males aged 25 to 54 are particularly prevalent in the Non-Resident category.

**Figure 11: Age-Sex Profile for Moranbah's Usual Residents and Non-Resident Workers (2011)**



Graphing the age-sex profiles for Isaac, MIW and SEQ shows marked differences between the regions. Comparisons of Figures 12, 13 and 14 show that there are more males and females aged 10-14 and 25-44 in Isaac compared to the other two regions, and less people aged 45 and over. SEQ has the highest proportion of persons aged 65 and over, and both SEQ and MIW show increasing proportions of older people from 1996 to 2010. Alternatively, Isaac's proportion of people aged 45 and over was less in 2010 than 2001. Isaac's age-sex profile is indicative of a population that has a high and active workforce, with many family households. These characteristics are reinforced in Sections 4.2 below.



Figure 12: Age-Sex Profile for Isaac Region (1996 - 2010)

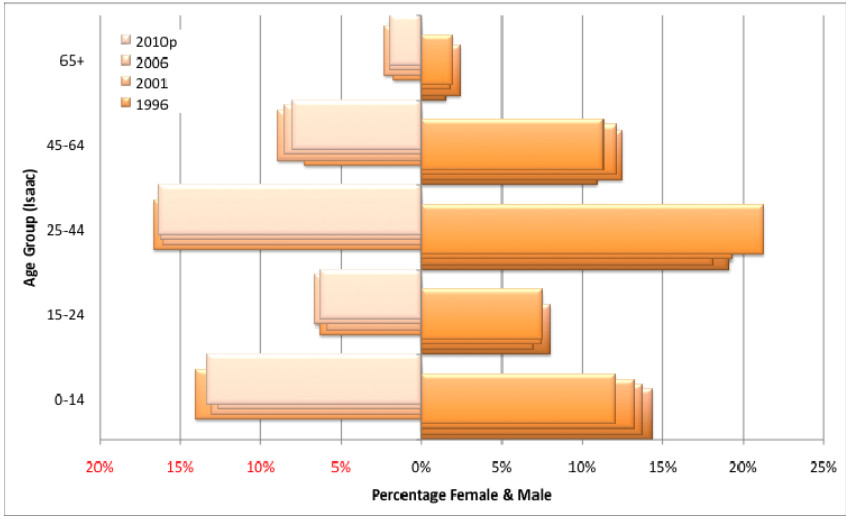


Figure 13: Age-Sex Profile for MIW Region (1996 - 2010)

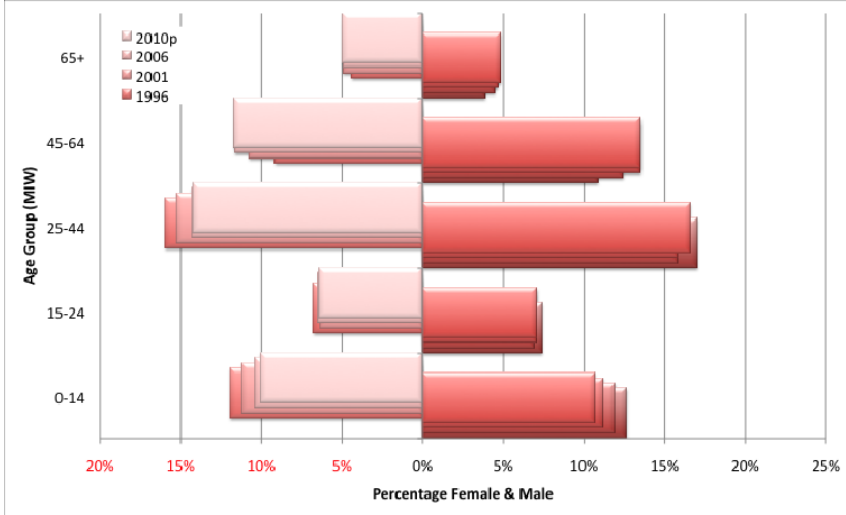
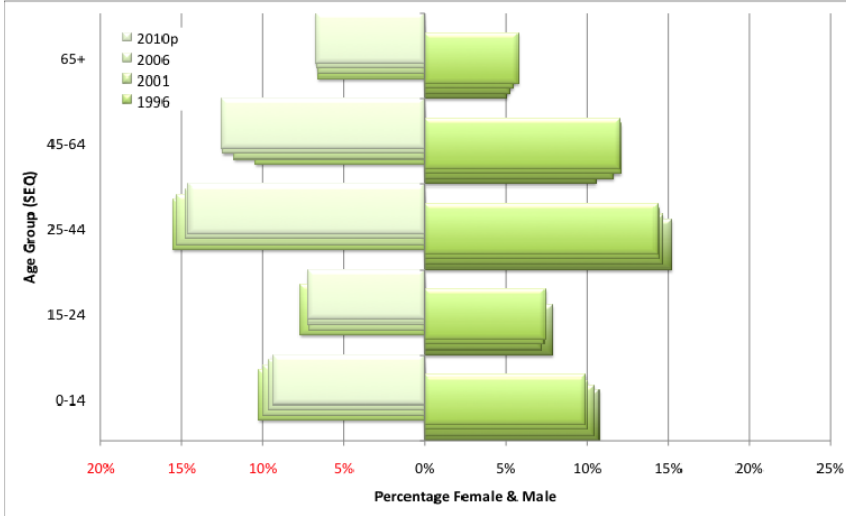


Figure 14: Age-Sex Profile for SEQ Region (1996 - 2010)



Source: OESR, Data to inform development of Moranbah Housing Study for BCCP Project November 2011



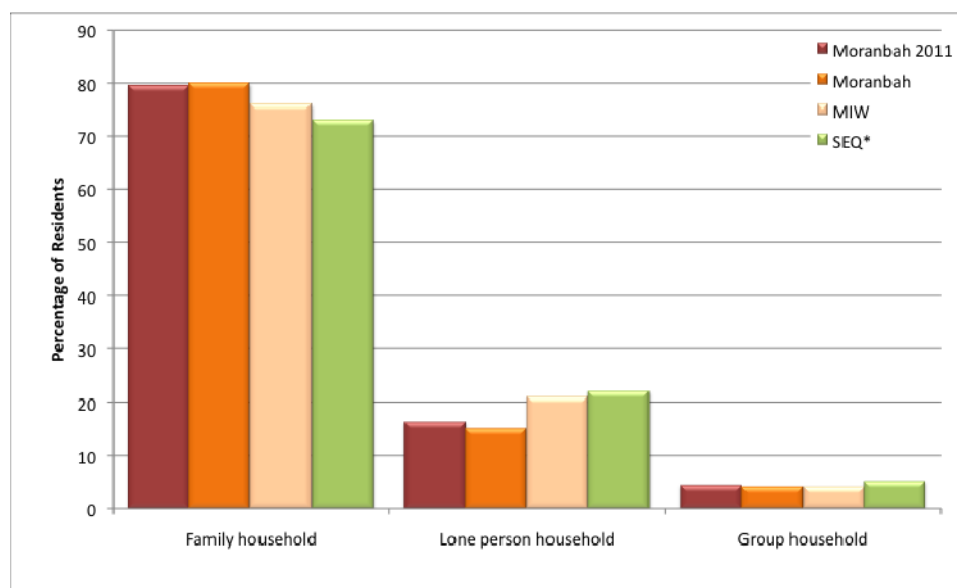
### 3.1.3 Household Structure

Family households account for the majority of household types in Moranbah's usual residents. In 2006 and 2011, over 80 per cent were family households, which was a higher proportion than MIW and SEQ's (76 per cent for MIW and 73 per cent for SEQ). In 2011, 70 per cent of family households in Moranbah had 3 or more persons resident. Despite some recent press indicating otherwise, most people consulted acknowledged that only a small proportion of Moranbah's population were single people, and that Moranbah was a great place to raise a family. In the Isaac Community Plan consultation process (2011), almost all (98 per cent) of participants said they had chosen to live in the Isaac Region for community, health, lifestyle and liveability reasons. As noted in the SIMP for Caval Ridge Mine, key aspects valued by residents included:

- Strong community spirit;
- A casual, relaxed lifestyle with family and sporting associations at its centre;
- A wide range of sporting facilities, and a more limited range of community centres;
- The highly valued 16 bed hospital, police, ambulance and fire stations; and
- A range of local retail services.

Through the consultation for the BBCG Project Housing Impact Study it was acknowledged by all that maintaining Moranbah as a great community to raise a family was vitally important. In this regard, every effort to ensure that the presence of families was supported by appropriate and affordable housing, facilities and employment opportunities was considered to be essential.

**Figure 15: Household Type, Moranbah, MIW and SEQ (2006 data, plus 2011 for Moranbah)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Population and Household Census



## 3.2 Socio-Economic Assessment

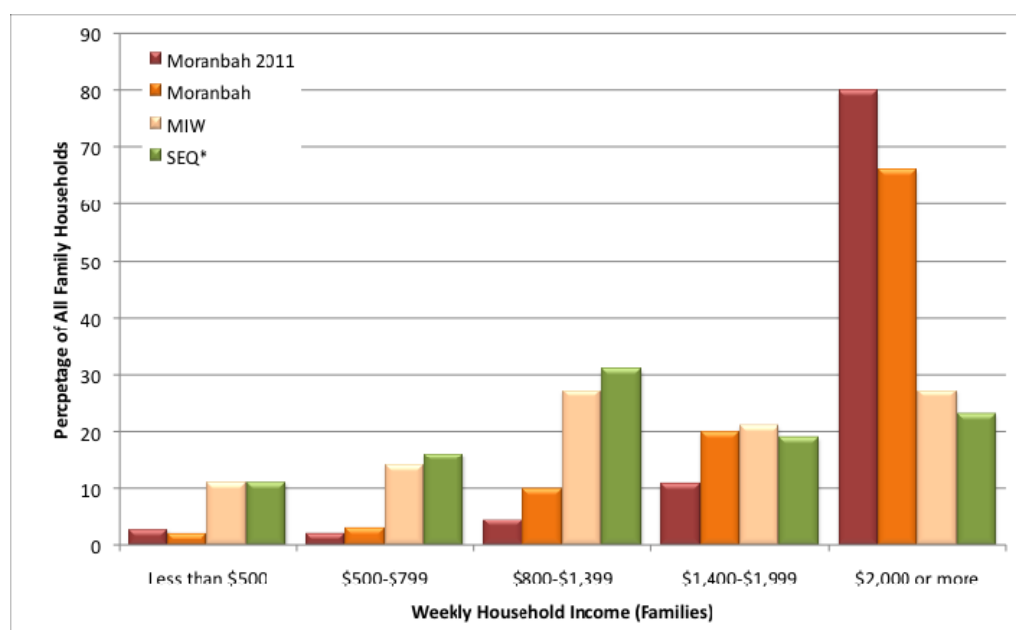
Income, occupation, education, industry, labour force, and job containment statistics were analysed as part of the socio-economic profiling of Moranbah. The results of these analyses are discussed below. Most of the graphs below include information for 2006, as per the OESR data provided. Where possible, 2011 census information for Moranbah has also been included.

### 3.2.1 Income

Figures 16 and 17 below shows the weekly household income for families, and the weekly individual incomes for Moranbah (2011 and 2006), MIW (2006) and SEQ (2006). From these figures it can be seen that incomes in Moranbah are considerably skewed towards high incomes when compared to the other regions. In 2006 around 66 per cent of Moranbah's families had a weekly income of \$2000 or more, and by 2011 this had increased to 80 per cent. By comparison only 27 per cent of MIW's residents and 23 per cent of SEQ's residents had an income of \$2000 or more in 2006.

Figure 18 clearly shows the marked difference between 2011 median incomes for families, individuals and households in Moranbah when compared to the median across Queensland.

**Figure 16: Weekly Household Income, Moranbah, MIW and SEQ (2006 data, plus 2011 for Moranbah)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Population and Household Census

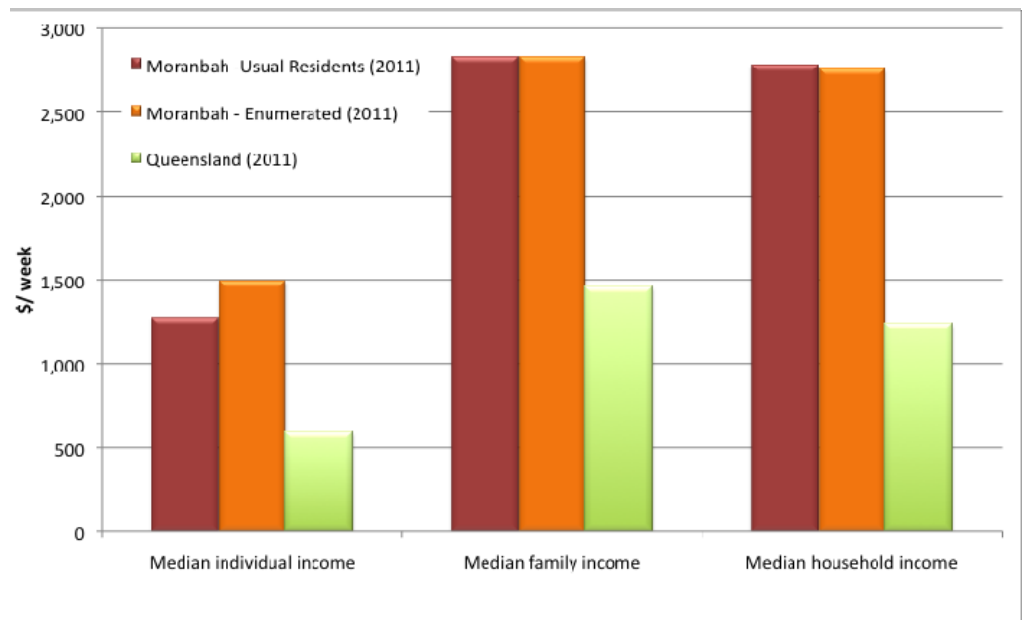


**Figure 17: Weekly Individual Incomes, Moranbah, MIW and SEQ (2006 data, plus 2011 for Moranbah)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Population and Household Census

**Figure 18: Median Incomes, Moranbah and Queensland 2011**



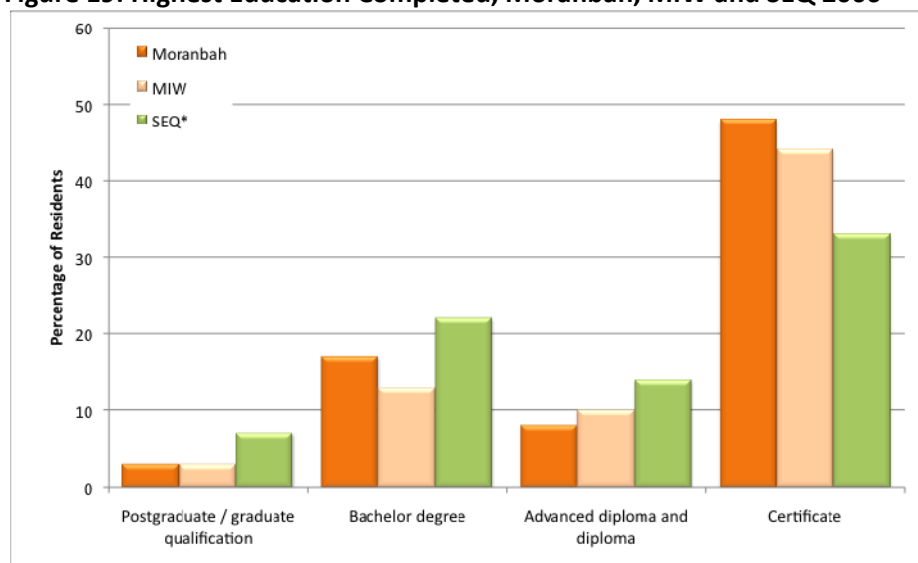
Source: First Release ABS 2011 Population and Household Census



### 3.2.2 Occupation and Education

The figures overleaf show the breakdown of occupations in Moranbah, MIW and SEQ by age-group. Comparison of these figures clearly shows the dominance of major resource projects in Moranbah through the large proportions of technicians and trade workers, and machinery operators and drivers in the area in 2006. Review of education qualifications (see Figure 19) supports this finding with 48 per cent of the population holding certificate qualifications (MIW's and SEQ's proportion of certificate qualifications are 44 per cent and 33 per cent respectively). Interestingly, Moranbah also has a larger proportion of Bachelor qualified persons when compared with MIW (17 per cent versus 13 per cent).

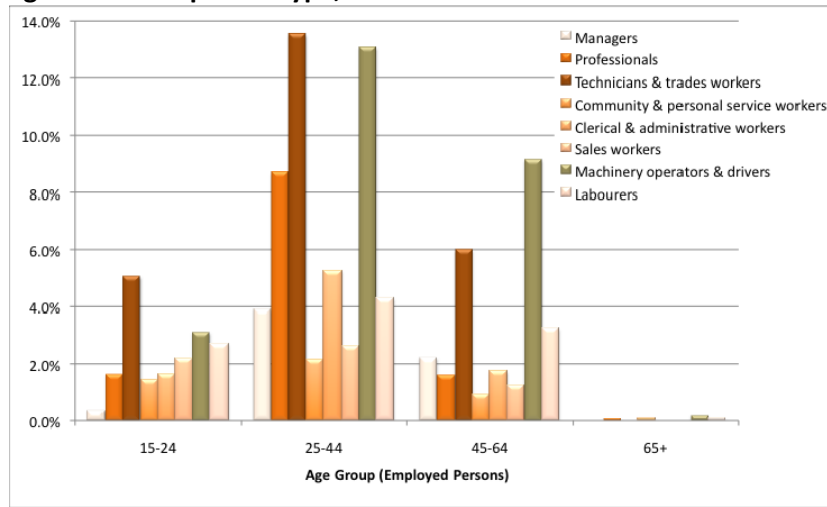
**Figure 19: Highest Education Completed, Moranbah, MIW and SEQ 2006**



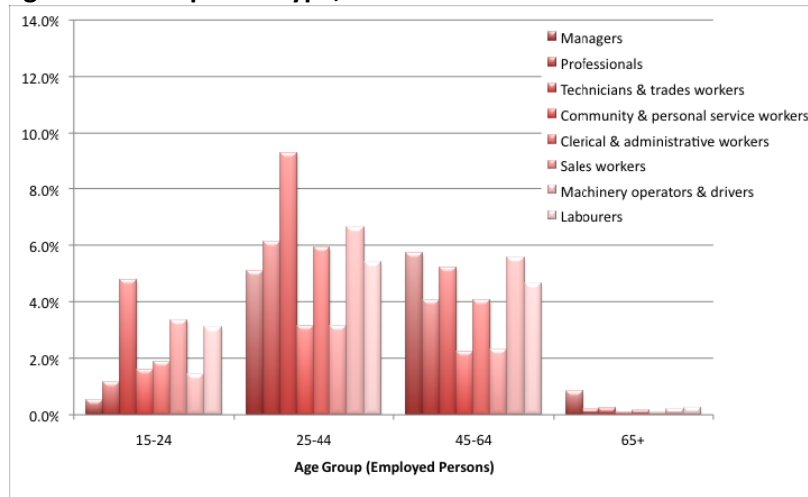
Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



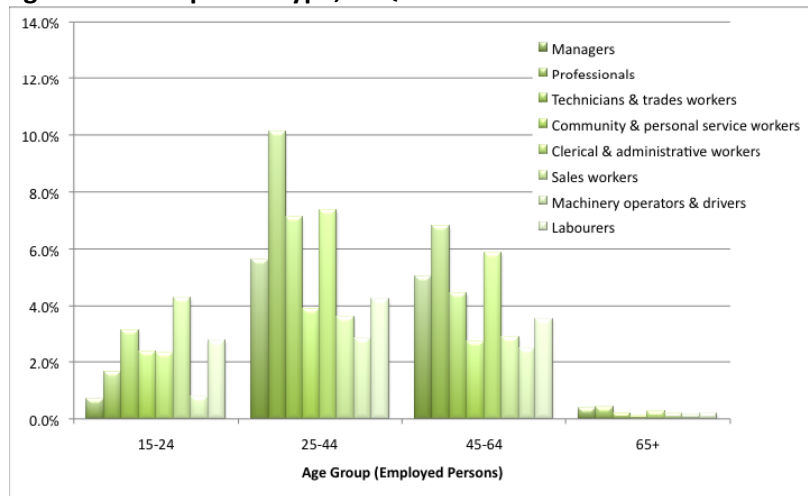
**Figure 20: Occupation Type, Moranbah 2006**



**Figure 21: Occupation Type, MIW 2006**



**Figure 22: Occupation Type, SEQ 2006**



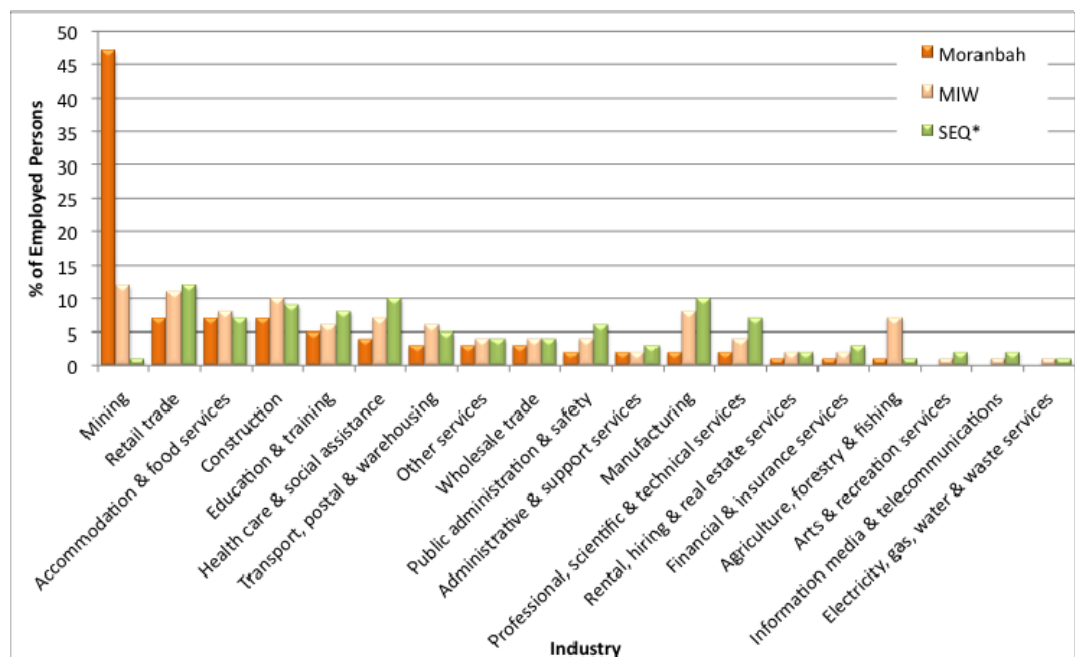
Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



### 3.2.3 Employment by Industry

As would be expected, Moranbah's employment is dominated by mining. Over 47 per cent of all employed persons nominated this category as their industry sector in 2006 (refer Figure 23). The comparative statistic for MIW and SEQ was 12 per cent and 1 per cent respectively. Nonetheless, in 2006 there were still representations from most other industries in Moranbah, albeit small employment numbers, with the exception of arts and recreation services, information, media, telecommunications and electricity, gas, water and waste water services.

**Figure 23: Employment by Industry, Moranbah, MIW and SEQ 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Through stakeholder consultation it was noted that since 2006 there had been five retail businesses close. Included in this was the Moranbah shoe and dress shop – Bollywood, fruit and vegetable store and a food outlet. Consultation identified that a lack of affordable housing is constraining business growth in Moranbah but that this is not the only reason associated with the closures. Consultation with key stakeholders in the community indicated that many of the closures were due to personal reasons and/or the ability for land owners to secure a better return associated with converting their premises from retail to commercial uses. Nonetheless, even those businesses still operating indicated that often their hours of trade was restricted due to the inability to obtain the required number of staff (which was associated with the inability of non-resource sector staff being able to afford to stay in Moranbah due to the unaffordable nature of many of the dwellings).

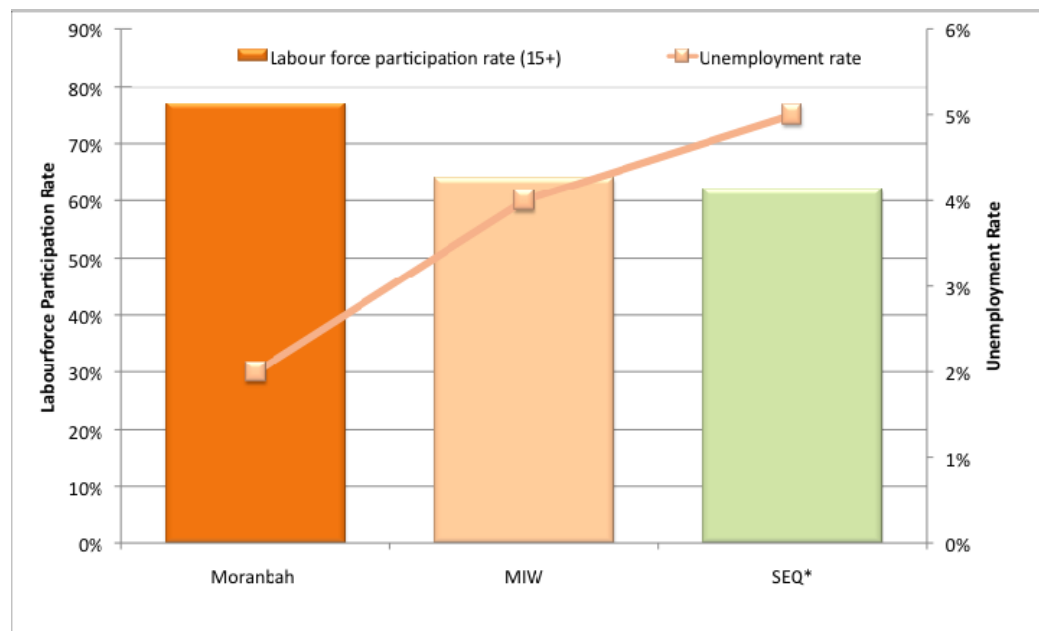




### 3.2.4 Labour force

The labour force participation rate in Moranbah in 2006 was higher than both MIW and SEQ (77 per cent for Moranbah, versus 64 per cent for MIW and 62 per cent for SEQ). The unemployment rate in Moranbah in 2006 was 2 per cent (MIW 4 per cent, SEQ 5 per cent), and anecdotally it is reported that the 2011 Census is likely to indicate that there was near full employment in the area (1 per cent unemployment in Moranbah).

**Figure 24: Labour force and Unemployment, Moranbah, MIW and SEQ 2006**



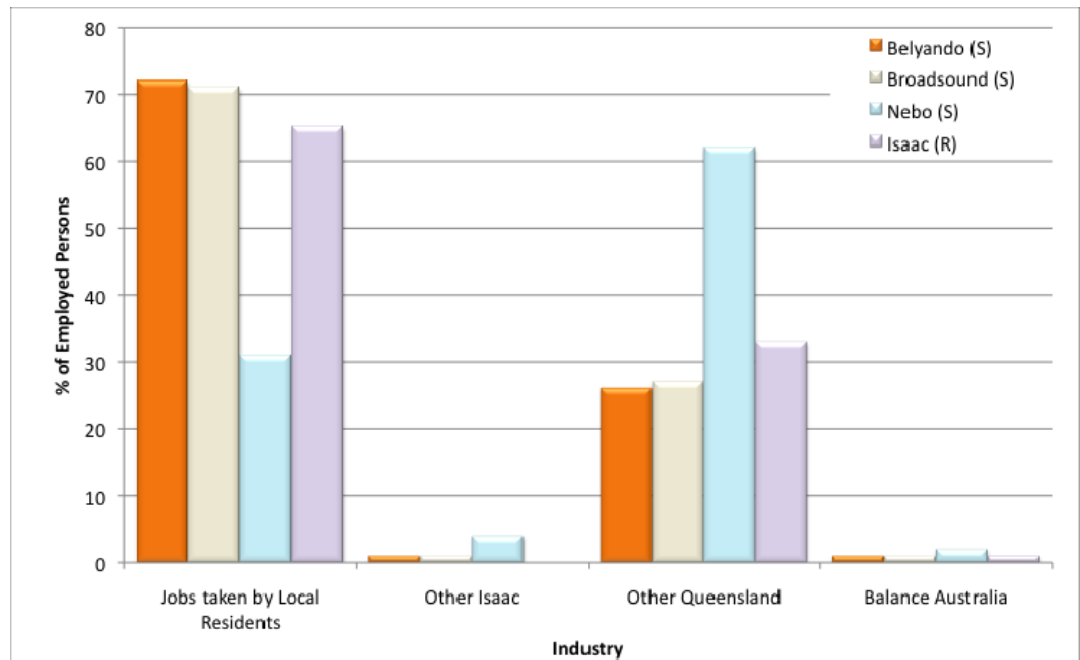
Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

### 3.2.5 Job Containment

Job containment is the proportion of an area's workforce that is usually resident within the area. OESR provided 2006 census information for Belyando, Broadsound, Nebo and Isaac Regions. As can be seen in Figure 25 overleaf high job containment rates are found in all these areas, with the exception of Nebo. For Belyando, approximately 72 per cent of all people working in the area reside within the area. The majority of the remaining proportion (26 per cent) nominated their usual residences within 'other Queensland'. This information broadly correlates with the information in Section 3.1.1., which indicated that over 71 per cent of the full time equivalent population are permanent residents in Moranbah and approximately 29 per cent are non-resident workers.



**Figure 25: Job Containment, Belyando, Broadsound, Nebo, Isaac, 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

### 3.3 Summary and Implications of Moranbah's Profile

As was shown in Section 1 Moranbah was established as a mining town back in the 1970s, and Section 2 indicated that the current and future drivers of Moranbah's population are largely associated with the major resource projects being progressed. This section has highlighted the 2006 and, where possible, 2011 socio-demographic and socio-economic characteristics of Moranbah, which reinforces Moranbah's association with mining.

In summary this section indicated that:

- The current population of 12,056 (Census 2011) consists of approximately 70 per cent permanent residents and 30 per cent non-resident workers (OESR data)
- The forecast proportion of non-resident workers in the area is expected to remain around 30 to 38 per cent by 2018;
- Resident population has seen steady growth since 2001, which has far outstripped SEQ and MIW in terms of average growth rates. However, the proportion of migration to Moranbah has been very much impacted by the extent to which major projects have been occurring in the Region;
- Overall, the population of Moranbah has marginally more males to females (55 per cent versus 45 per cent). However, when singling out the likely non-resident workers, the split becomes very heavily skewed towards males (86 per cent versus 14 per cent), particularly in the 25-54 age groups;
- Family households account for the majority of household types in Moranbah's usual residents. In 2011, over 80 per cent of households were families, and of



these 70 per cent had 3 or more persons resident. Despite some recent press indicating otherwise, most people consulted acknowledged that a considerable proportion of Moranbah's population was families, and people consulted noted that every effort to ensure that this remains would be beneficial for the town.

- When compared with SEQ and MIW, Moranbah had proportionally more people in the age groups of 25-44 and 10-14 in 2011. This indicated a large proportion of young families in the region (as noted above), as well as a high proportion of people in their working prime. Labour force participation information shows that proportionally more people are actively in the workforce in Moranbah when compared to MIW and SEQ. Similarly so, unemployment was extremely low at 1 per cent in 2011;
- Income in Moranbah is concentrated in the very high incomes for both households and individuals (\$2000+ / week). An even higher proportion of households and individuals in Moranbah had very high incomes in 2011 when compared with 2006;
- There is a concentration of technicians and trades persons, as well as machinery and operators in Moranbah, which correlates with the high proportion of mining and construction businesses that dominate the industry sectors. This is also reinforced by the high proportion of certificate qualified individuals in Moranbah;
- A higher proportion of professionals aged 25-44 live in Moranbah when compared to MIW and SEQ, and this correlates to the relatively high proportion of degree qualified persons in Moranbah; and,
- A very high proportion of jobs in the Belyando region are taken up by persons resident in the area.

The dominance of the resource sector in the community is highly visible in Moranbah. Despite some recent media, the implication of this does not need to equate to a negative imposition on the community, particularly when the area itself was founded on mining. Consultation noted many positives and associated with the dominance of the resource sector in Moranbah. Positives included:

- A diversity of employment positions on offer in the Region;
- Additional expenditure flowing into the community;
- Potential for expansion of businesses and industry; and,
- If planned correctly, the potential for a higher level of goods and services to be produced locally.

However, based on data and stakeholder input conducted throughout this commission, there are also some negatives associated with the strong influence of the resource sector including the inability of the Region being able to respond quickly to housing and service provision that require a level of planning and intervention and the difficulty non-resource industries have in employing key workers partly due to the erosion of affordability in the housing market. This in turn can lead to a number of other issues, which are further discussed in the next section, Section 4.



## 4 Moranbah's Housing Market

### 4.1 Dwelling Types & Tenure

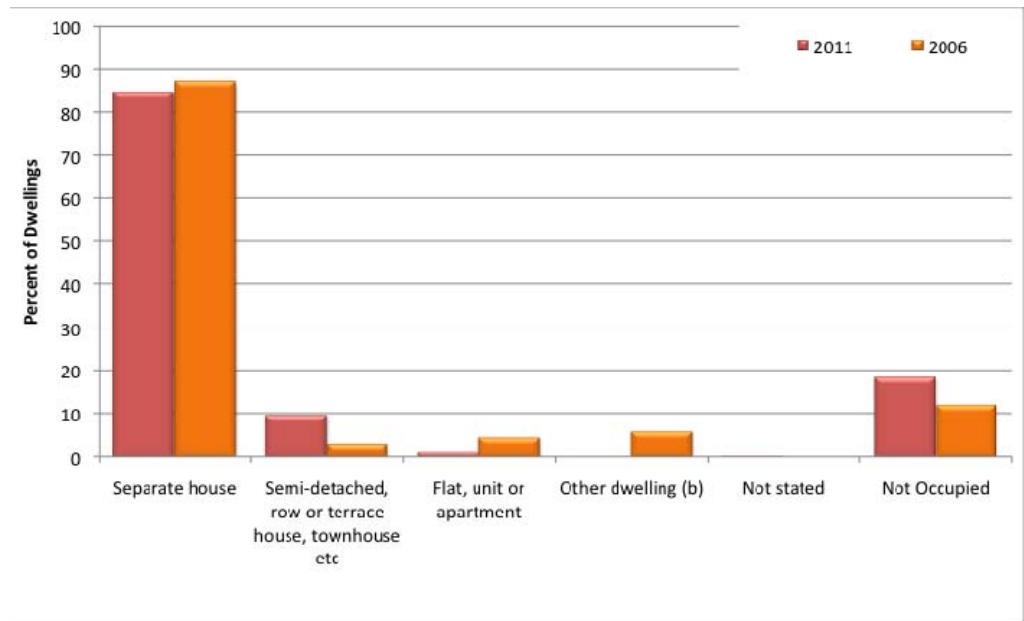
In 2011, based on the ABS Population and Household Census there were 3,198 total private dwellings in Moranbah. Approximately 18 per cent of these were unoccupied. This is a relatively high proportion as the comparable figure for unoccupied dwellings across Queensland as a whole in 2011 was 10 per cent. This is not surprising given that the Census only records private dwellings as unoccupied where the Census Collector can confirm that the occupants were away on Census night. This may include houses where the occupants were either at work or staying elsewhere on Census day. Where the Collector is not able to determine occupancy and there is no other information received, then the dwelling will be treated as occupied. Since many of Moranbah's mining population have a second home in coastal or other regions and live there while off-shift, the high number of unoccupied dwellings at any point in time is not unusual.

Figure 26 shows the types of dwellings in Moranbah over 2011 and 2006. In both census years the occupied dwelling stock was dominated by separate houses (85 per cent and 87 per cent respectively for 2011 and 2006). Interestingly, however, the proportion of semi-detached, and townhouses has tripled over the 5 year period to 2011. The detached housing and 'other' housing approvals for Belyando SLA, shown in Figure 27, indicates that there was a large increase in the number of 'other' housing approvals between 2006 and 2008, and a smaller increase between 2009 and 2010. Notwithstanding the proportional increase of townhouses, the combination of townhouses and flats and units in Moranbah has only increased a few percentage points to 11 per cent in 2011 (from 7 per cent in 2006)<sup>7</sup>.

<sup>7</sup> Looking at the number of dwellings classified as 'semi-detached, row or terrace house, townhouse etc' versus those classified as 'flat, unit or apartment' in 2006, it would seem that respondents to the Census may have included themselves in the 'flats' category but then 'townhouse' category in 2011. In 2006, there were 141 'flats' in Moranbah, and in 2011 only were only 30. It is unlikely that flats have been demolished and rebuilt as other dwellings over the 2006-2011 period. However, it is noted that no demolition information was able to be obtained to verify this statement.

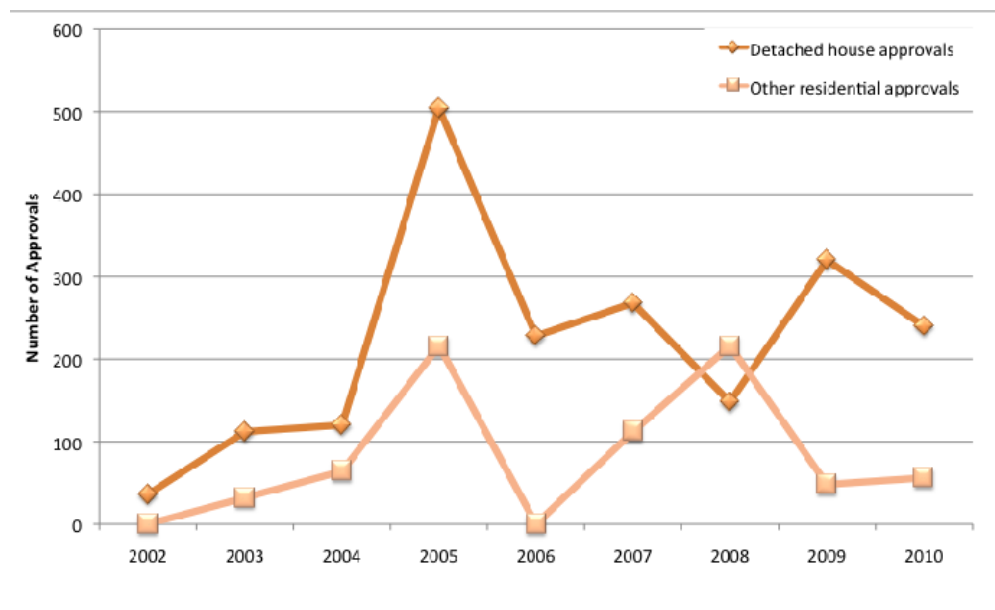


**Figure 26: Dwelling Type, Moranbah 2006 and 2011**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Population and Household Census

**Figure 27: Approvals for houses and other residential, Moranbah 2002 - 2010**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



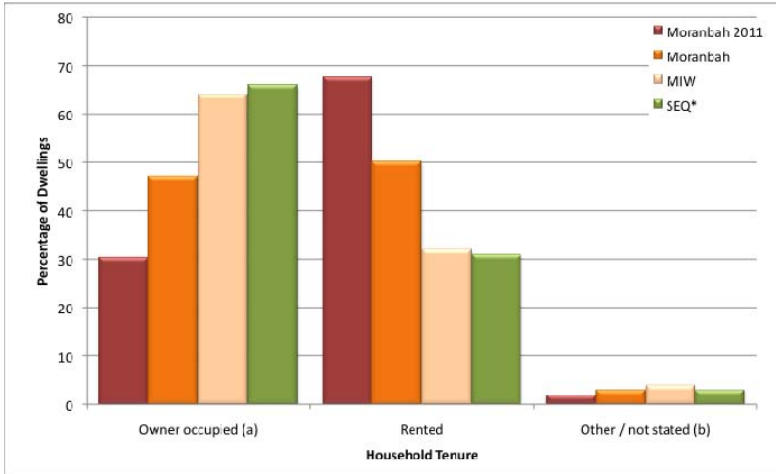
Although the owner-occupier market accounted for roughly half of the dwelling stock in Moranbah in 2006, more recent information from the 2011 Census indicates that 2 in 3 dwellings are now rented (refer Figure 28). The proportion of owner occupied houses in Moranbah, and indeed across Belyando (refer Figures 28 and 29) is much lower than the MIW and SEQ Regions. Belyando has had a lower proportion of owner occupied housing than MIW and SEQ for at least the last 15 years. The level of decrease in this housing tenure in Moranbah is noteworthy, with the proportion of 'fully owned' dwellings decreasing considerably from 2001 to 2006<sup>8</sup>. Discussions with real estate agents and other stakeholders indicated that given the high house prices in Moranbah over recent years, there has been a trend for people (and particularly persons nearing retirement) to sell their homes and leave the Region. Stakeholders commented that the result of this is that only a small proportion of people are aging in place in Moranbah, which can lead to the erosion of community spirit and community knowledge. Comparisons to age-sex information and occupation by age group for 2006 indicate that there is indeed a dearth of people aged 65 + in Moranbah. It is acknowledged that decisions about moving away from an area can include a plethora of reasons, such as the presence of health facilities, family reasons, lifestyle choices, and not just the price one can get for selling their dwelling.

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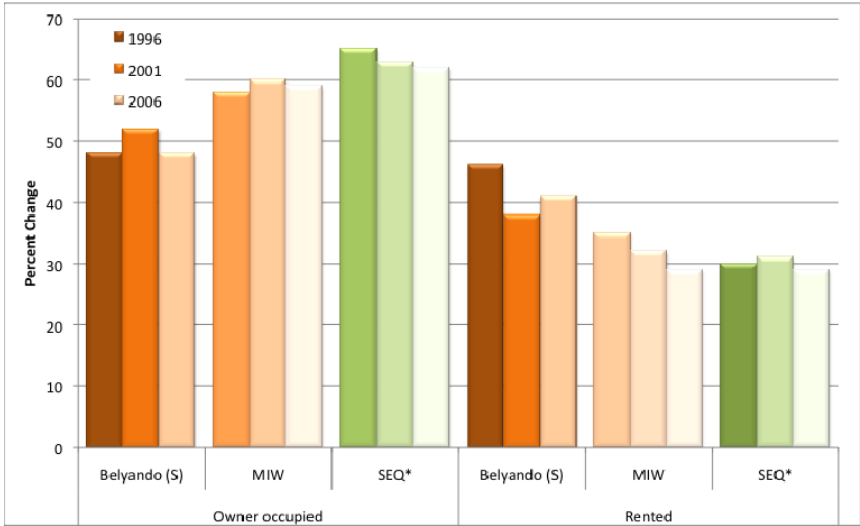
<sup>8</sup> It is noted that the proportion of 'being purchased' has increased somewhat in Belyando from 2001 to 2006, but not enough to offset the decrease in fully owned dwellings.



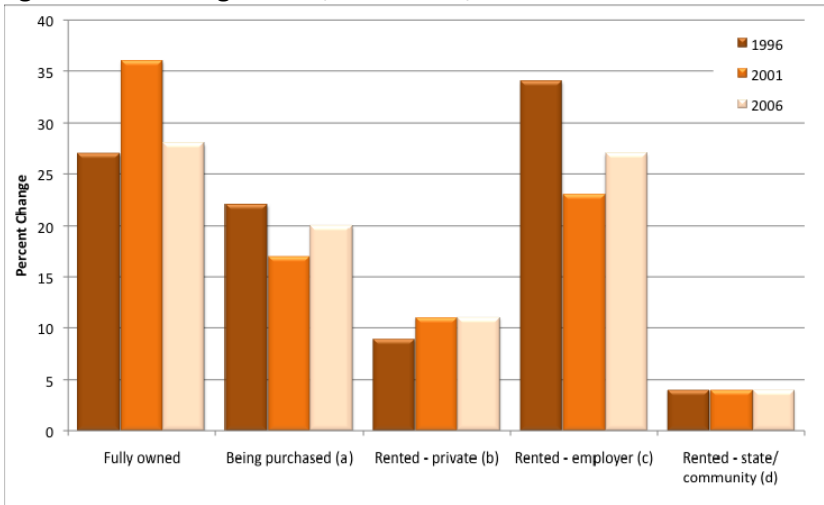
**Figure 28: Dwelling Tenure, Moranbah, MIW and SEQ (2006, 2011 Moranbah only)**



**Figure 29: Dwelling Tenure, Belyando, MIW and SEQ, 2006**



**Figure 30: Dwelling Tenure, Moranbah, 1996 - 2006**

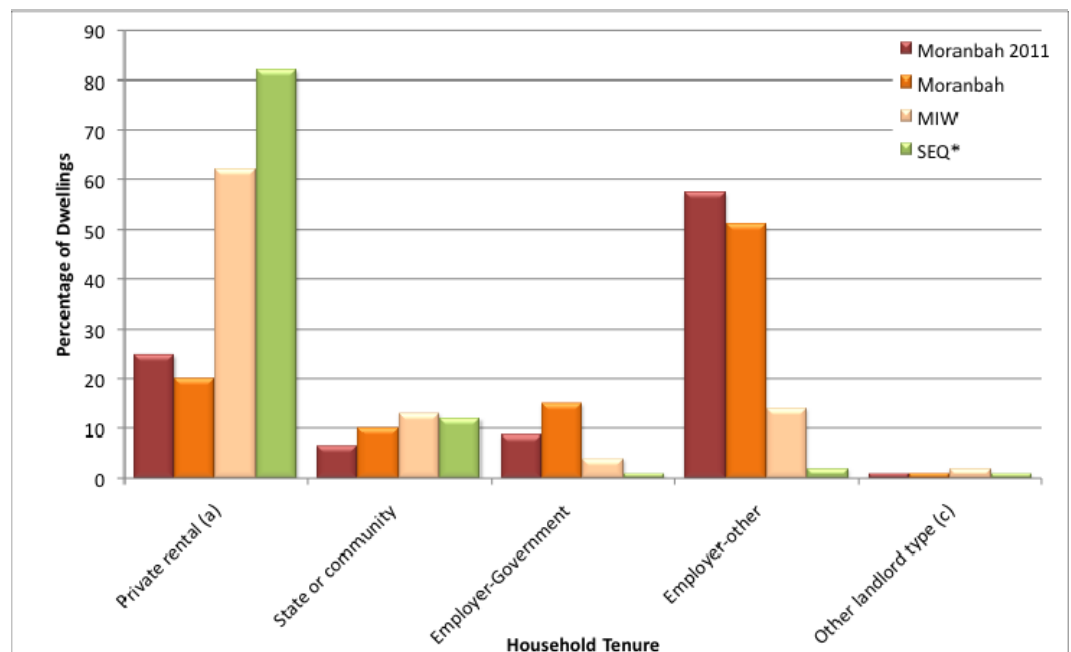


Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Census Data



The housing tenure for Moranbah is shown in Figure 31. As can be seen in the figure, there were increases in the proportion of dwellings rented from employers and private rentals between 2006 and 2011. The proportion of both these categories in 2006 was vastly different to the MIW and SEQ regions.

**Figure 31: Dwelling Tenure, Moranbah, MIW and SEQ (2006 and 2011 Moranbah only)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

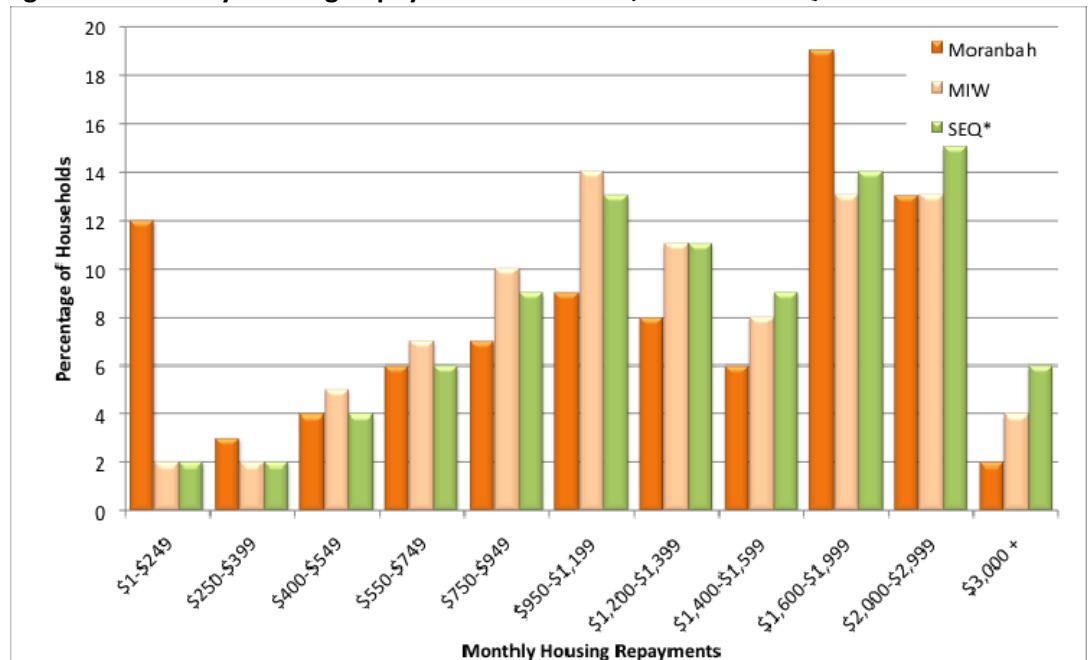
## 4.2 Mortgage and Rental Payments

Monthly housing repayments for 2006 are displayed in Figure 32. This figure shows that there are high proportions of people paying under \$250 per month and between \$1,600 and \$1,999 per month on their mortgage when compared to MIW and SEQ. A relatively small proportion pay above \$2,000 per month when compared to the MIW and SEQ regions (15 per cent in Moranbah versus 17 per cent in MIW and 21 per cent in SEQ).





**Figure 32: Monthly Housing Repayments Moranbah, MIW and SEQ, 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Weekly rents in Moranbah for 2006 and 2011, however, show a similar picture to mortgage repayments with regard to a polarisation between high and low rentals. In both 2006 and 2011 many people were paying very low rents (under \$100 per week), and many others paying very large rents (over \$450 per week). The proportion of private renters paying over \$450 per week increased in between 2006 and 2011.

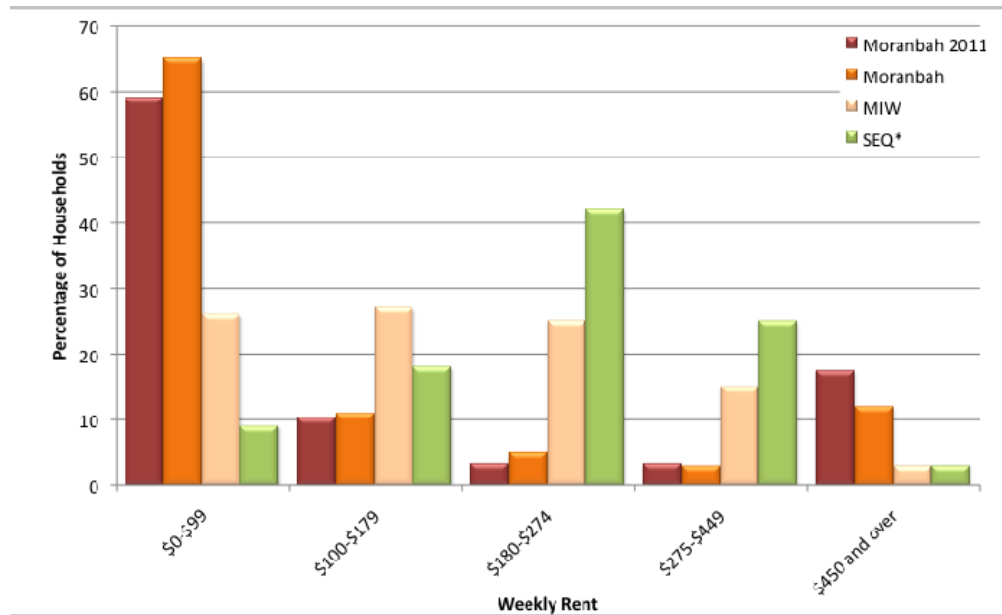
The considerable proportion of households paying low rents is mainly due to the subsidised nature of housing for experienced by many resource workers – this is supported by information in Figure 34 overleaf, which shows that over 80 per cent of ‘other landlord’ and ‘land lord not stated’ categories had rents of below \$100 per week in 2006. Although not depicted, this was similar in 2011, albeit with a marginally decreased proportion of those paying less than \$100 per week rent. Figure 34 also shows that 50 per cent of the households renting State or community owned housing paid less than \$100 rent per week in 2006.

Consultation with real estate agents indicated that in June 2012, 3 bedroom houses were being rented for around \$800 to \$1000 per week and up to \$1,500 per week, but that the prices were decreasing. Very few units were available, but duplexes were more common. Around \$800 per week is commonly asked for a 2 bedroom duplex, and up to \$1,700 per week for a 3 bedroom duplex. The real estate agent indicated that when the demand is outstripping supply, prices can be even higher and many people offer more than advertised price. In late 2011, typical rental prices for houses were higher at \$1200 per week for a 2 bedroom dwelling, \$1800-\$2200 per week for a 3 bedroom dwelling, \$2500-\$3000 per week for a 4 bedroom dwelling and around \$3200/wk for a 5 bedroom dwelling. It was noted that the market’s main dwelling type includes 3-4 bedroom dwellings, although some 5 and 6 bedroom dwellings exist.



The real estate agent indicated that at June 2012 the market was less inflated than it had been in the past. The real estate agent consulted indicated that BMA were not signing leases presently, and that this was having a downward impact on rental prices and that higher levels of stock was available. In April 2012 the number of rentals available in Moranbah was estimated at 138, which was substantially higher than those available in late 2011.

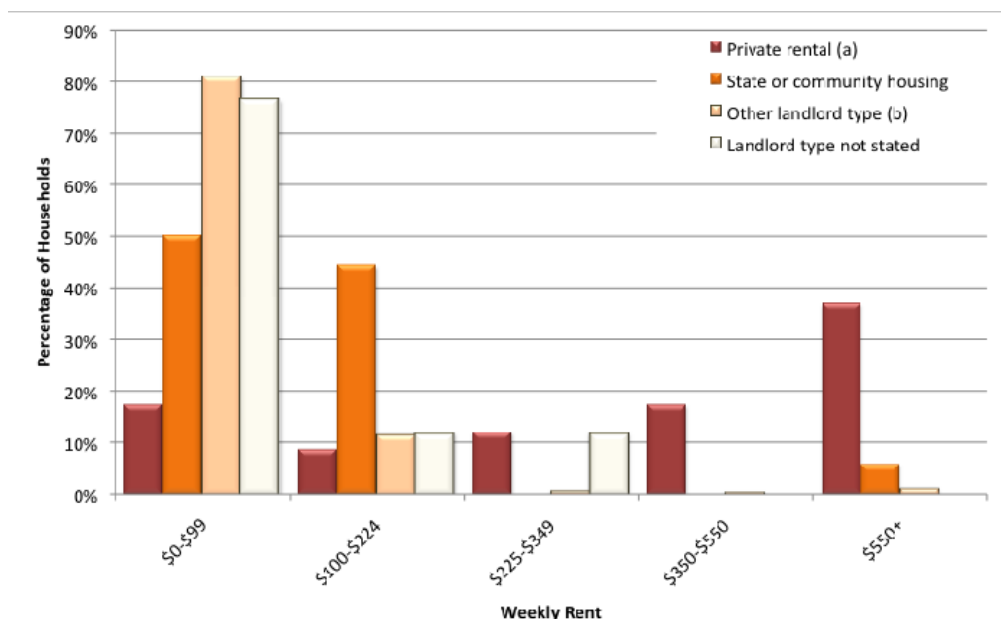
**Figure 33: Weekly Rent, Moranbah, MIW and SEQ (2006 and 2011 Moranbah only)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011, First Release ABS 2011 Population and Household Census



**Figure 34: Weekly Rent by Tenure, Moranbah, 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Other comments made by real estate agents indicated that:

- Rentals are the main driver of the housing market in Moranbah. Over the last 3-5 years, the vast number of buyers in Moranbah had been investors from across Australia. The real estate agent consulted indicated that they had not sold a property to an owner occupier for at least 2 years.
- Although in late 2011 rental properties that were available were taken up very quickly, at the time of writing the turnaround time was much slower. At June 2012 it was estimated that across Moranbah the number of rentals available was around 140, which was over double the number from the year before. Most people consulted indicated that the market had been going up and down since the start of 2012, but that they expect it to bounce back, particularly when rentals returned to a less inflated price. The real estate agent commented that BMA are currently not signing any new leases and that is creating downward pressure on rent prices.
- Although the vast majority of rental terms for dwellings are for 12 months, some companies requested 4 year fixed rate terms when supply was tight. In late 2011, few owners were willing to take up options for longer term leases as they believed the market would rise from their already inflated positions. However, the situation may change now that the market has been in fluctuation for the first six months of 2012.
- In general terms, mining companies constituted the largest proportion of renters (40%); large contractors also take up a substantial proportion of the rental market (25%); and small contractors and individuals account for 20 per cent and 15 per cent respectively.

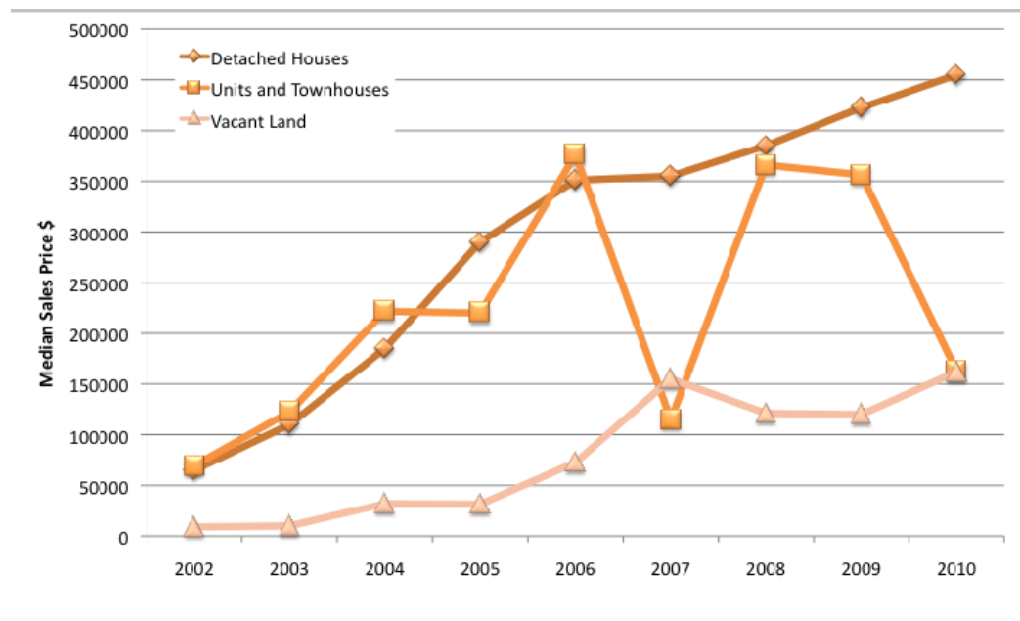


## 4.3 Sales Prices and Volumes

Median house prices have increased significantly over the last 10 years in Moranbah. As can be seen in Figure 35 below, both the median sale price of a house was around \$75,000. By 2010, this had increased to \$450,000 and in March 2012 the median house price was \$800,000. Consultation with real estate agents indicate that prices change rapidly in Moranbah and it is likely that the average house price in Moranbah has decreased somewhat since March probably to around \$500,000 - \$590,000.

Median unit/townhouses prices in Moranbah have also been on the increase in a general sense, but have displayed much more volatility than house prices. It is noted, however, that the number of sales for units is much lower than for houses (less than 50 unit/townhouses sales per year since 2002), and as such the median price is likely to be more erratic. Like houses, in 2002 median unit prices were \$75,000, and in 2008/9 was around \$350,000. However, in 2010 median unit prices were back to \$150,000. According to a real estate agent in Moranbah, in January 2012 a typical price of a well built, attractive 3 bedroom townhouse was \$635,000. One bedroom units in a new complex in early 2012 were sold for around \$385,000. These units sold quickly and are now being used for short term accommodation. As was noted for houses, the real estate agent indicated that unit prices have deflated somewhat since the start of 2012 and are likely to be much lower than the January figure.

**Figure 35: Median Sales Prices, Moranbah, 2002-2010**



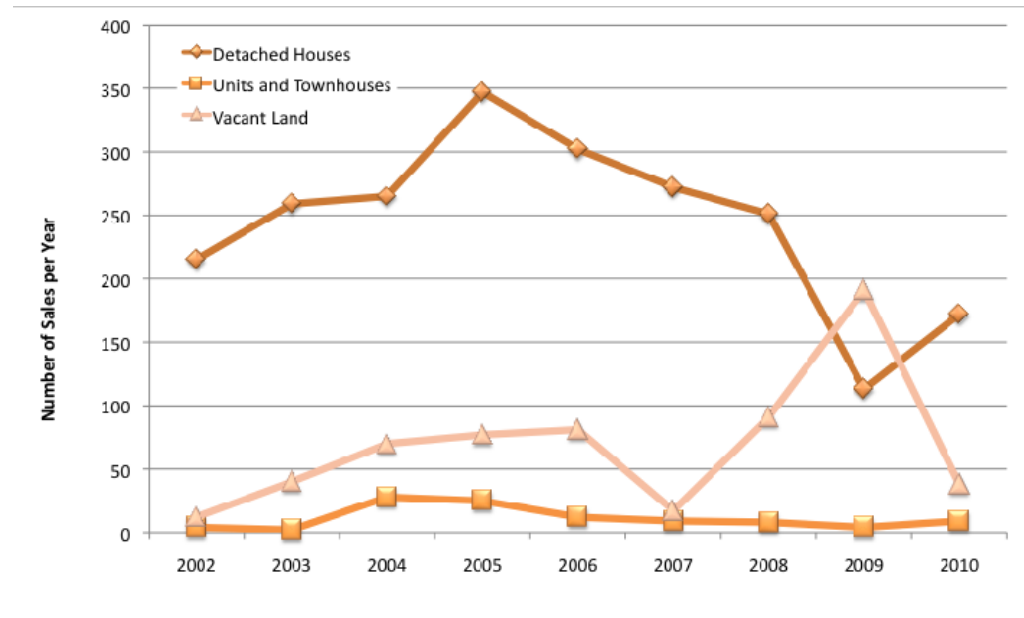
Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Median prices for vacant land in Moranbah have been on the rise since 2002, but as can be seen in Figure 35, apart from 2009, sales volumes have been below 100 per year. Real estate agents indicated that vacant land would be in high demand if it was available in Moranbah. There are plans to increase the number of lots available to



the community, and this is discussed in Section 6. In 2010 the median vacant land price was the same as that for units/townhouses - \$150,000.

**Figure 36: Volume of Sales, Moranbah, 2002 - 2010**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

According to Moranbah's real estate agents consulted, in late 2011 and the start of 2012, turnover times for houses and units on the market was very quick and could literally be less than a day. Currently over 95 per cent are taking a couple of months to sell, and a small proportion even longer.

In terms of demand, the real estate agent indicated that there is a need for both units and houses in Moranbah. The agent noted that many in the non-resident workforce did not want the maintenance associated with houses. Diversity of choice and a level of supply that met demand was indicated as critically important.

#### 4.3.1 Estimated Non-Resource Households 'at risk' of Housing Stress

Housing stress is a term used to describe a situation whereby members of a household are spending a high proportion of their income on housing costs (either mortgage or rental payments) at the expense of other essential goods and services. The impacts are 'stress' on the household, which in turn can create social and economic problems. Issues cited through experience in other areas in Australia and verified through consultation for Moranbah's situation included:

- The difficulty of attracting staff in the non-resource industry sectors due to the high cost of living. This was a critical issue that impacted on industries attempting to support the requirements in Moranbah's residents and non-



residents. It was reported that local businesses are finding it very difficult to get service staff such as cleaners and waiters due to the high rents in town. An example of an employer taking back their investment property to provide their staff with housing was noted;

- Given the high cost of housing in the area, some people consulted indicated that workers are choosing to live further away from their workforce. This assists in driving down the proportion of low to moderate households in the Region and also has other social consequences. Driver fatigue was cited as contributing to many road accidents due to people feeling they need to drive for considerable lengths of time before and after a 12 hour shift in order to find accommodation;
- The ability to get tradesmen is made very difficult due to the resource sector attracting many of the workers. Even those wanting to be 'locally' employed in non-resource positions are not able to due to the high rental costs and relatively lower wages in non-resource sector positions;
- The inability for community and emergency services to keep pace with demand was perceived as an increasing concern. Although it was noted that the medical centre was increasing its number of doctors available, generally services felt they were stretched and understaffed for the levels of demand<sup>9</sup>.
- The pressures of paying high rents can influence workers to work longer hours where available and/or have second jobs. This can impact on the number of volunteers in a community, and the participation in community events, which can both negatively impact community spirit.
- Housing stress can have unfortunate impacts on individuals and families well-being, and this can impact on their relationships, as well as their ability to retain employment. Consultation with community service operators in Moranbah indicated that demand for crisis housing service and public housing has increased over the past 12 months and waiting lists have at least doubled. Current waitlist times for public housing are around 12 to 18 months, and due to the wait times it was indicated that many people in need do not even try to apply. Community service representatives indicated that once people are in the public housing system they stay there for much longer than in the past. Two to 3 years ago it was not uncommon for people to exit the housing within 3 to 6 months.

To determine the number of households that were 'at risk' of housing stress in Moranbah community, OESR produced cross-tabulated data that showed 'low to moderate' income households by 'high, moderate, low and subsidised' rent levels.

Given that there is no universally accepted definition of 'low to moderate' income households, OESR chose the upper limit for 'low income' to approximate the cut-off point for receipt of statutory benefits by a working family prior to 2006 (that is, Family Tax Benefit A, which was less than \$500 per week in 2006). The lower limit for the "Out of scope" classification (that is, those who were earning more than a

<sup>9</sup> It was highlighted that being understaffed was, in part, due to the State Government not recognising the 'visitors' to Moranbah on census night as legitimate residents (albeit non-resident workers). Currently, staffing requirements are based on the numbers of usual residents only, which as has been seen in this report under-estimates the full time equivalent population



moderate wage) was determined based on eligibility for the National Rental Affordability Scheme (NRAS) (just over \$1,700). Thus, low income households were classified as those earning up to \$500 per week, and moderate income households were those earning between \$500 and \$1,699 per week.

OESR also defined 'subsidised', 'low', 'moderate' and 'high' rents for the purposes of this report. The definition of 'subsidised rent' was applied to those that were paying less than \$100 per week for rent. Although it was acknowledged that this was a relatively arbitrary division OESR noted that:

*“examination of BMA'S rental database and the RTA data suggests that many mining company employees who rent housing would fall into this category. Since most mining company employees and persons associated with mining related industries are assumed to receive some form of housing assistance or subsidy, they are not included in the 'at risk' category used in this analysis”.*

The above definitions for income and rent levels were applied to all those considered to be in the basic and advanced services. That is, mining and related industries were excluded.

Industry groupings for basic and advanced services are shown below.

Industry of employment grouping	
ANZSIC Division	Broad industry grouping
Administrative and Support Services	Advanced services
Financial and Insurance Services	Advanced services
Information Media and Telecommunications	Advanced services
Professional, Scientific and Technical Services	Advanced services
Rental, Hiring and Real Estate Services	Advanced services
Accommodation and Food Services	Basic services
Agriculture, Forestry and Fishing	Basic services
Arts and Recreation Services	Basic services
Education and Training	Basic services
Electricity, Gas, Water and Waste Services	Basic services
Health Care and Social Assistance	Basic services
Other Services	Basic services
Public Administration and Safety	Basic services
Retail Trade	Basic services
Wholesale Trade	Basic services
Construction	Mining & related industries
Manufacturing	Mining & related industries
Mining	Mining & related industries
Transport, Postal and Warehousing	Mining & related industries
Inadequately described, Not applicable, Not Stated, Overseas visitor	To be excluded

Although this provides information about those non-resource households that are 'in need' of more affordable housing, OESR acknowledged that that not all people in the



mining industry (e.g. apprentices, part time workers and sub-contractors) received high incomes, and some did not receive a subsidised dwelling.

Furthermore, OESR acknowledged that while using 'industry of employment' to exclude mining and related industries will, at an aggregate level, enable the identification of the bulk of workers employed in high-paying resource sector jobs, it is imperfect as there may be another person within the household that is employed in the resource or related sector. OESR note that the classification of a household to an industry of employment is based on the **primary** reference person of that household only. As such, 'subsidised rents' was identified as a separate category on the basis that the industry of employment category is insufficient to adequately identify and remove resource sector workers from the sample. As OESR noted:

*"Because the industry of employment data is based on a household reference person, it was considered to be insufficient to identify resource sector workers, on the basis that the reference person may have a partner or other member of the household employed by the resource sector. The income variable is used to identify high income households whose income offers the greatest housing choice. This group is expected to include some households with connection to the resource sector, but may not adequately identify some of the remaining resource-linked households, particularly single-income households. As these persons may be receiving subsidised housing, be it through rental subsidies or accommodation in company owned housing, the subsidised rent category was considered necessary to differentiate out all households renting well below market levels. This differentiation should exclude the remaining resource-linked households, as well as any households receiving other heavily-subsidised housing such as social housing".*

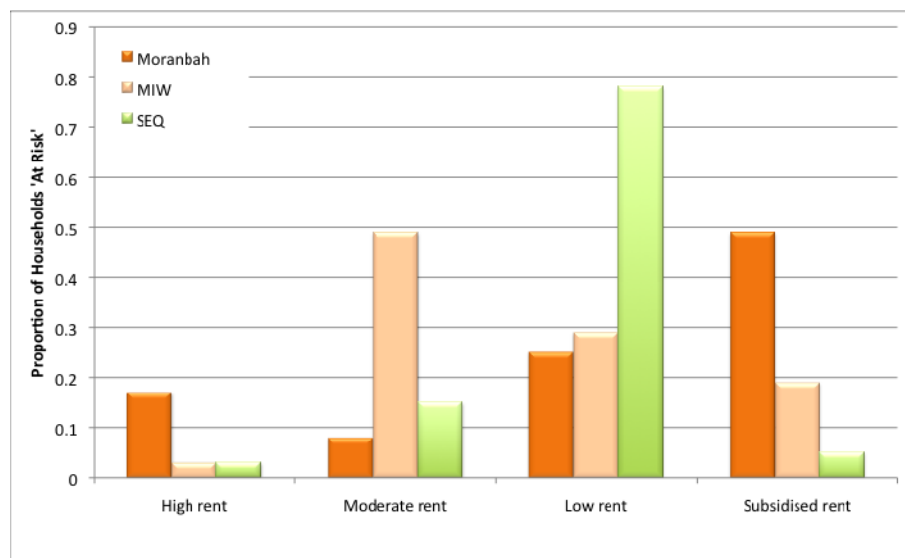
Figure 37 shows the results of the analysis. As can be seen from the graph, in Moranbah approximately 17 per cent of households paying high rents, 8 per cent paying moderate rents and 25 per cent paying low rents were classified 'at risk' of housing stress. Interestingly nearly 50 per cent of non-resource households living in subsidised housing are also paying moderate rent, and are therefore deemed at risk of housing stress. In total, these proportions account for 173 households. Overall, the proportion of households 'at risk' of housing stress in Moranbah was 28 per cent.

Statistics for the MIW and SEQ region indicated more households there were 'at risk' of housing stress when compared with Moranbah. Furthermore, most of those 'at risk' in the wider regions were in the low to moderate rent categories. In MIW, nearly half of people paying moderate rents and nearly 30 per cent of those paying low rent were likely to be 'at risk' of housing stress in 2006, but very few who are paying high rent were likely to be in housing stress. For SEQ, the lower the rent being paid by a household the higher the proportion of households being 'at risk' of housing stress. The overall proportion for those households at risk in MIW and SEQ were 65 and 72 per cent respectively.





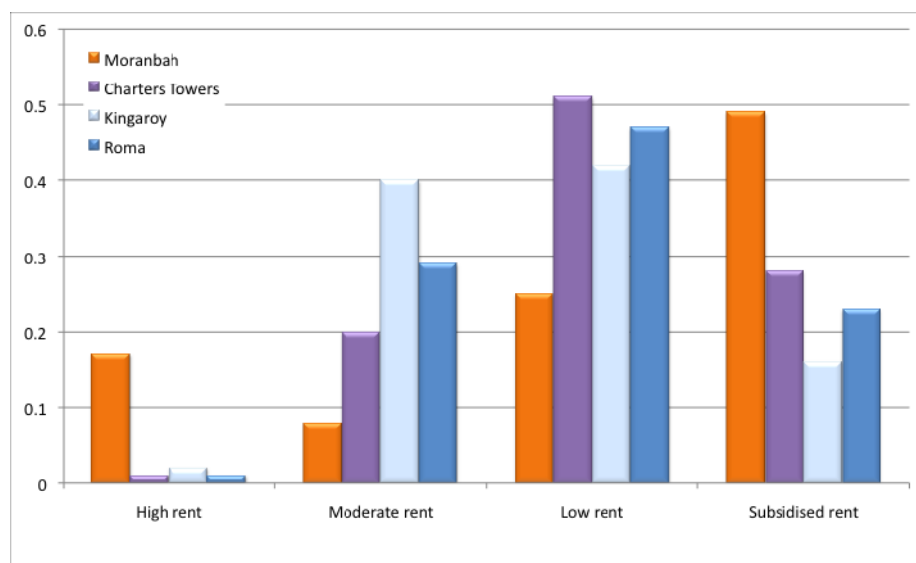
**Figure 37: Proportion of Non-resource Households ‘at risk’ of Housing Stress by Rent category, Moranbah, MIW and SEQ, 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

OESR also produced the same cross-tabulated data for a selection of discrete urban communities within Queensland that recorded similar populations to that of Moranbah. This included Charters Towers, Kingaroy and Roma. These towns were chosen because of their discrete nature and inland locations (and thus not proximate to metropolitan areas). In 2006, the population of Charters Towers was 8,972, the population of Kingaroy was 8,853 and the population of Roma was 6,524.

**Figure 38: Proportion of Non-resource Households ‘at risk’ of Housing Stress by Rent category, Moranbah, Charters Towers, Kingaroy, Roma, 2006**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



While the information on these towns provides interesting comparisons, it is noted that they are not strictly comparable with Moranbah. The extensive agricultural sector in the towns, and the much lower proportion of mining and related industries in the areas, increases the proportion of low to moderate income earners in these areas when compared with Moranbah. Nonetheless, it is interesting to note the outcomes of the analysis:

- In 2006, low to moderate income households accounted for 28 per cent of all non-resource industry households in Moranbah, whereas between 70 and 80 percent low to moderate industry income non-resource households were recorded in Charters Towers, Kingaroy and Roma.
- Mining accounted for 45 per cent of employment in Moranbah, which was considerably more than the other areas being compared.

What the very low proportion of non-resource low to moderate income households in Moranbah may indicate, however, is that the town is likely to be under-served with regard to key worker facilities and services. Consultation supported this proposition, indicating that workers in the service industries (sometimes termed 'key workers') were very difficult to attract and retain in Moranbah due to the unaffordable nature of much of the housing - if workers were not able to secure housing, many of them do not remain employed in Moranbah and leave town.

In 2011, 52 per cent of the broader Mackay Statistical Division's households were low to moderate income earners. Tending towards an average between Mackay's proportion and Moranbah's proportion is likely to be beneficial for Moranbah as it would represent a much higher component of population employed in service industries. Given this, when determining a fair and reasonable contribution towards low to moderate income non-resource houses for BMA in the Moranbah region, the Mackay Region's proportion of low to moderate income households was used to ensure the latent need for non-resource workers housing in Moranbah was considered.

#### 4.4 Summary and Implications of Moranbah's Housing Market

Together with the consultation completed for the report, many indicators discussed in this section show that the housing market in Moranbah is in stress. House and unit prices are highly inflated, and although there was a flattening of the rental prices in recent months (2012), the assessments of households 'at risk' of housing stress in 2006 indicate that there was an immediate (and highly likely under-represented) need for more affordable housing. It is noted that the proportion of households 'at risk' households of housing stress is quite low in Moranbah for those households paying low and moderate rents when compared to the other regions chosen by OESR for comparison. However, the proportion of low to moderate income earners in Moranbah is around half that of the wider Mackay region's proportion (28 per cent versus 52 per cent in 2011). Thus, the under-representation



of the households 'at risk' of being in housing stress in the moderate and low rent categories is likely to be due in part to:

- The dominance of mining (and hence generally higher incomes for many more households in Moranbah compared to other regions); and/or,
- The unavailability of low and moderate renting options; and/or
- A component of employment in low to moderate income sectors (such as service industries) not being able to be met because of the difficulties in getting affordable housing for workers.

If the housing market in Moranbah was tending towards equilibrium, the proportion of low to moderate income workers is likely to be closer to the wider Mackay region's proportion. If this was the case, and the absolute numbers of those working in the mining and related sectors remained as they are, the services sector would need to have a higher number of employed people than it currently does. Under the current housing supply situation, if further people were employed in the services sector, it is likely that Moranbah's proportion of households 'at risk' would increase given that the housing prices are highly inflated and private rents very high. The analyses here plus the consultation outcomes indicated that an immediate need for an increase in the supply of affordable housing is apparent. This needs to be addressed as a priority should the maximum benefit be gained for the economy and community of Moranbah.



## 5 BMA's Workforce and Housing / Accommodation Arrangements in Moranbah

The Terms of Reference required that analyses of how BMA's workforce is accommodated be completed as part of this commission. This section outlines:

- An introduction to BMA's operations and approach to housing their workforce;
- BMA's workforce characteristics;
- The number of dwellings owned and leased by BMA for their workforce;
- Tenure of the dwellings hosting BMA's workforce;
- The dwelling structure of premises owned and leased by BMA; and,
- The capacity and number of single person quarter's premises owned by BMA in Moranbah and surrounding regions.

The information presented here was current at 2010 unless otherwise stated.

### 5.1 BMA's Approach to Housing their Workforce

BMA provides housing for employees of residentially-based operations who choose to live in towns and do not access have to housing in town.

Employees at existing operations have access to the following housing assistance options:

- Rental assistance for both BMA owned and non-BMA owned houses.
- \$45,000 paid up front towards the purchase of an existing residence;
- Up to \$60,000 paid up front towards the construction of new residence (pro-rata and non-repayable if the employee stays with BMA for 10 years);
- 50 per cent interest subsidy for 10 years on a loan up to \$300,000; and
- Capital guarantee for 10 years on the cost of a dwelling.

Around 1,097 dwellings built or owned by BMA have been subsequently sold to BMA employees (as part of BMA home ownership schemes), including 260 employees who have benefitted from the scheme in the past five years.

At January 2012, the value invested by BMA in Moranbah in houses, land and other community infrastructure was estimated at \$969 million. As described in Section 6.3.1, BMA is developing further dwellings in Moranbah to provide increased housing options for its workforce. As noted in the Caval Ridge Change Request 4 report, BMA estimates it has been responsible for the construction of over 62% (approximately 1,750 out of 2,800) of Moranbah's residences.

BMA's housing includes a mix of dwelling types, including 3-5 bedroom family housing, and units and town houses for couples and singles. Examples of housing recently built by BMA for employees are shown in Figures 39 and 40.



**Figure 39: New Family Housing in Moranbah**



**Figure 40: Townhouse Development Dysart**



## 5.2 BMA's Employees and Contractors

### 5.2.1 BMA's Operations near Moranbah

BMA's mining operations in the vicinity of Moranbah are currently undertaken at the Goonyella, Broadmeadow, and Peak Downs mine sites. The location and production capacity of the three mines is as follows:

- **Goonyella Riverside:** Goonyella Riverside produces over 14 million tonnes per annum of high quality hard coking coal. The mine is located 30km north of



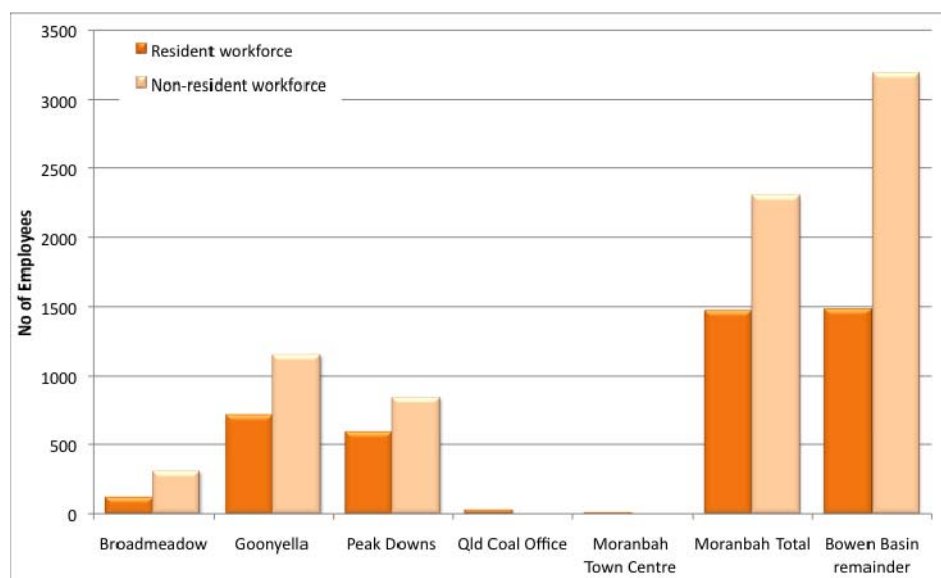
Moranbah and 190km south west of the Hay Point port facilities. It is the northern most of the mines operated by BMA in the Bowen Basin.

- **Peak Downs:** Peak Downs is a large, open-cut mining operation, which was developed in the early 1970s. The first coal was mined in April 1972. Today, Peak Downs has a production capacity of nine million tonnes per annum of high quality coking coal. Peak Downs Mine is located 30km south of the town of Moranbah and 195km south west of the Hay Point port facilities.
- **Broadmeadow:** Broadmeadow is a punch longwall underground operation on the Goonyella Riverside lease, which commenced longwall mining in August 2005 and has the capacity to produce over three million tonnes per annum of high quality hard coking coal. Broadmeadow is located 30km north of Moranbah and 190km south west of Mackay.

Moranbah also accommodates workers for BMA's Central Queensland Office.

Figure 41 below shows the number of workers (BMA employees and contractors), by residency status, in the different BMA projects across Moranbah as well as the number of BMA workers in the remainder of the Bowen Basin at July 2010. The total BMA workforce (including contractors) as determined by OESR based on information provided by BMA for 2010 was 3,767, with 39 per cent being resident and 61 being non-resident. As can be seen in Figure 41, a higher proportion of workers are resident in Moranbah when compared with BMA's projects in the remainder of the Bowen Basin (31 per cent of BMA workers were resident in the remaining part of the Bowen Basin in July 2010 and 39 per cent in Moranbah).

**Figure 41: Number of BMA Resident and Non-Resident by Project, July 2010**

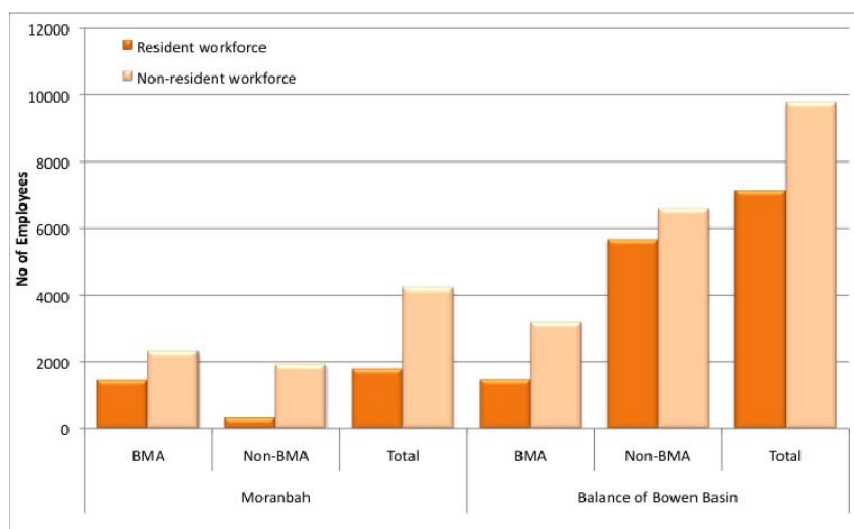


Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

Figure 42 indicates that BMA employees account for around 62 per cent of mining employment in Moranbah. The figure shows the proportion of Moranbah's workers by BMA and 'non-BMA' projects.



**Figure 42: Number of BMA Resident and Non-Resident Employees, July 2010**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

### 5.3 BMA's Workforce Housing

As at July 2012, there were 2,209 BMA employees based in Moranbah, and of these, 1,608 employees (73%) were housed in BMA dwellings or accommodation villages. The number of employees does not equate to the number of houses required, as many employees own houses in Moranbah (some through the BMA Home Ownership Scheme), some live with family (parents or partners also working for BMA), and some units accommodate more than one worker.

BMA-provided stock at July 2012 included 909 dwellings owned or leased by BMA, of which 76% were houses and 24% were units or apartments.

BMA housing provision and the type of housing for employees is summarised for each of the Moranbah-based operations in Table 3.

**Table 3: Moranbah Operations Employee Housing**

Operations	Employees	Houses	Units	SPV	Total
Peak Downs	895	293	101	205	599
Goonyella/Riverside	959	284	80	287	651
Broadmeadow	310	103	37	173	313
CQO	45	9	2	34	45
<b>Total</b>	<b>2,209</b>	<b>689</b>	<b>220</b>	<b>699</b>	<b>1,608</b>

From 2013, there will also be the choice of fly-in-fly-out employment at Daunia and Caval Ridge Mines. As noted in Section 6 the accommodation villages in the vicinity of Moranbah (including existing villages and those under construction) have

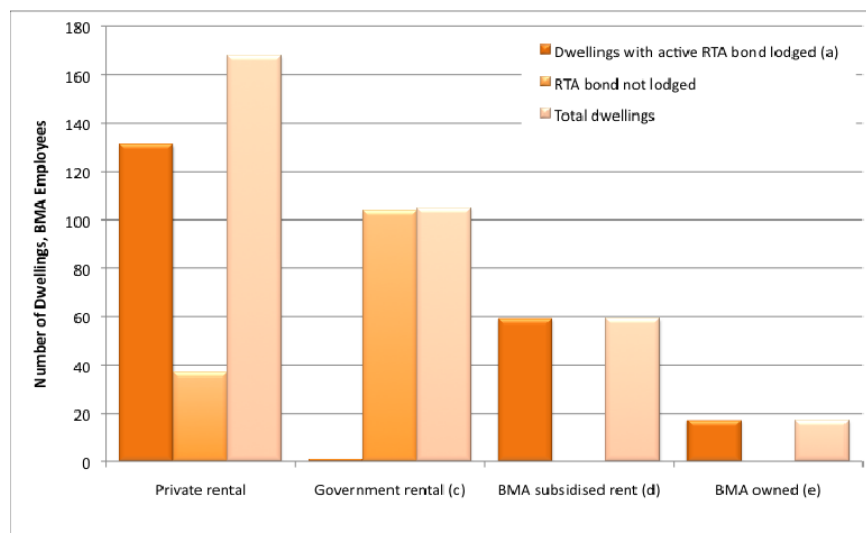


sufficient capacity to readily accommodate all the non-residential workers relating to the Daunia and Caval Ridge Mines.

BMA's workforce is accommodated in a variety of dwelling types, as well as a variety of dwelling tenures. OESR identified that BMA employee housing accounted for around one third of active rental bonds in July 2010. At that time, 47 per cent of dwellings leased by BMA were privately rented and approximately 16 per cent were subsidised dwellings (refer Figure 43). The vast majority of BMA dwellings owned or leased were houses (70 per cent, or 628 dwellings) (refer Figure 44). This had changed to 76% in 2012 in accordance with employee needs.

Interestingly in 2010, 105 employees were accommodated in government rental houses. That BMA lease government housing is a historical consequence of an early 'workers housing' agreement between the Government and the (then) Utah Coal company. In the early 1970s around 305 houses were constructed by the former Queensland Housing Commission for use as worker housing for Utah Coal and other employees living in Moranbah. Some of that housing stock is now utilised by DHPW and community providers as social housing, but a portion is still leased by BMA<sup>10</sup>. In July 2012 BMA had leases over 88 Department of Housing and Public Works dwellings.

**Figure 43: Type of Dwelling Tenure utilised by BMA Employees, July 2010**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

In July 2010, BMA owned 624 dwellings in Moranbah, which represented approximately 20 per cent of all dwellings in the community. A further 273 dwellings were being leased by BMA in July 2010. As noted, the majority of dwellings either

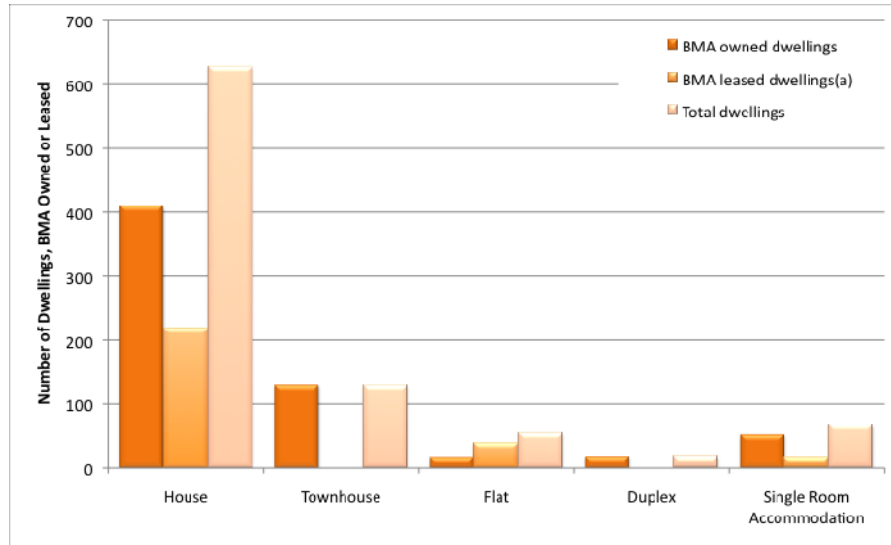
<sup>10</sup> Coordinator-General's Department, 1978. Urban Development in Central Queensland resulting from Mining and Industrial Activities 1961-1976. Coordinator-General's Department, Brisbane.





owned or leased by BMA were houses, but townhouses, flats, duplexes and single room accommodation were also utilised<sup>11</sup>.

**Figure 44: Type of Dwelling utilised by BMA Employees, July 2010**

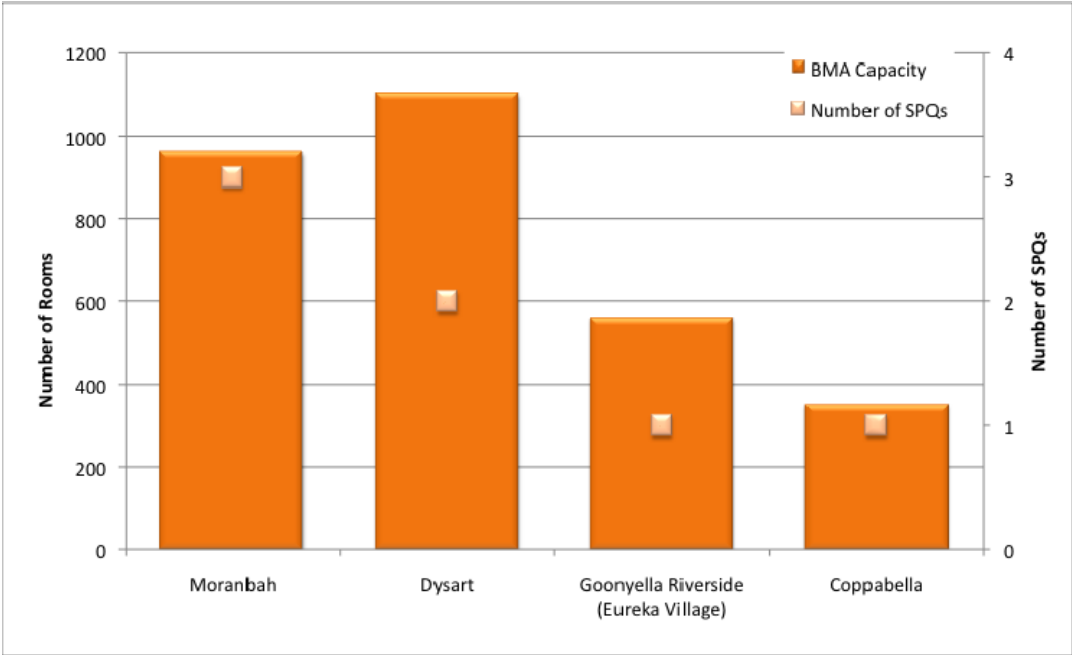


Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

In 2009, BMA owned 7 single person quarters’ facilities across the Bowen Basin with a capacity of 2,970 rooms. The capacity in Moranbah was around 960 rooms in July 2009. Once BMA’s villages are finalised (BMAAV and BPAV) there is likely to be up to an additional 3,200 rooms available in BMA accommodation facilities near Moranbah, for a total of up to 4,160 rooms by 2013.

**Figure 45: Single Persons Quarters and their Capacity, July 2009**

<sup>11</sup> It is noted that the numbers in this paragraph do not represent rooms or beds provided by BMA. That is, one SPQ may house many employees.



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



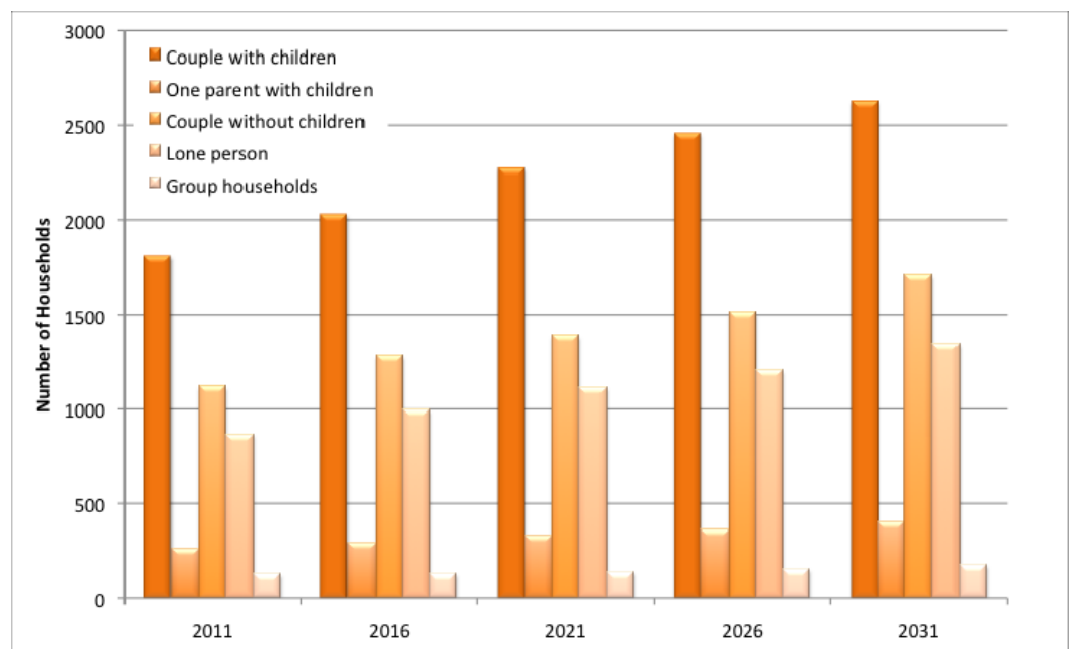
## 6 Housing Demand and Supply in Moranbah

### 6.1 Likely Housing Demand in Moranbah

As part of the Terms of Reference, OESR prepared forecasts of households expected to live in the Statistical Local Area (SLA) of Belyando over the period 2011 to 2031. Figures 44 to 46 provide the outcomes of these forecasts. Household and dwelling projections prepared by OESR were from the latest edition of the Household and dwelling projections (2010). This publication includes projections of households and dwellings to 2031 in Queensland. Data is presented in this section are for the Statistical Local Areas of Belyando, the Mackay-Isaac-Whitsunday planning region (MIW) and South East Queensland (SEQ).

Figure 46 shows that throughout the forecast period, the major proportion of households in Belyando is expected to be family households (at around 78 per cent for each census period to 2031). Within family households, approximately 40 per cent are likely to be couples with children and 25 per cent couples without children. While lone households are expected to grow marginally in absolute terms, the proportion of lone households is expected to remain at 20 per cent to 2031. Group households are expected to remain relatively stable at around 3 per cent of households throughout the forecast period.

**Figure 46: Household Forecasts by Family Type, Belyando (2011 – 2031)**

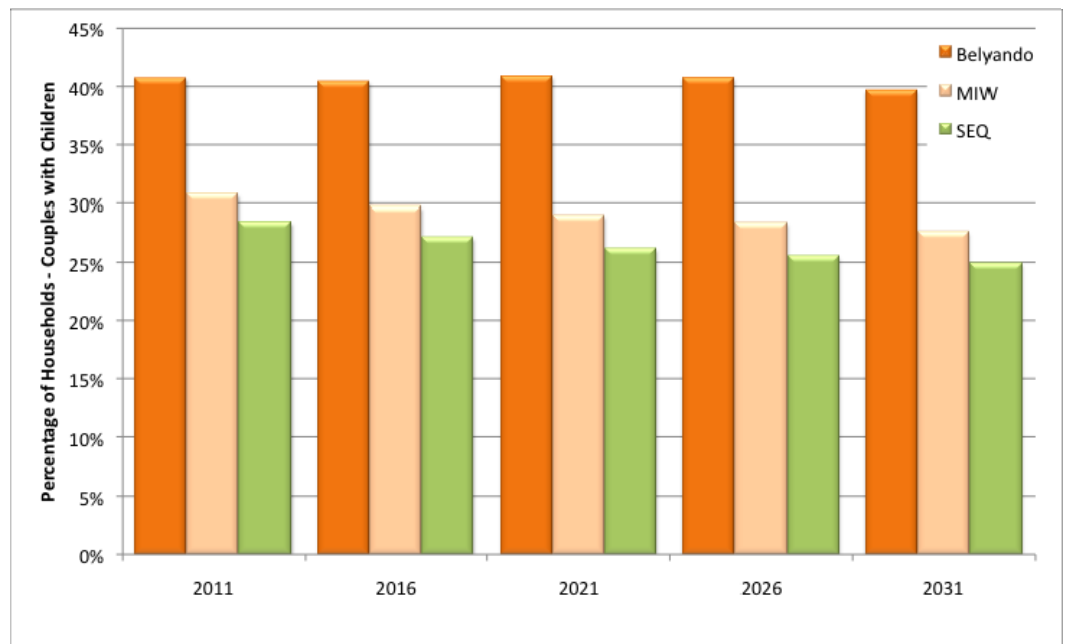


Source: OESR, Data to inform development of Moranbah Housing Study for BCCP Project November 2011



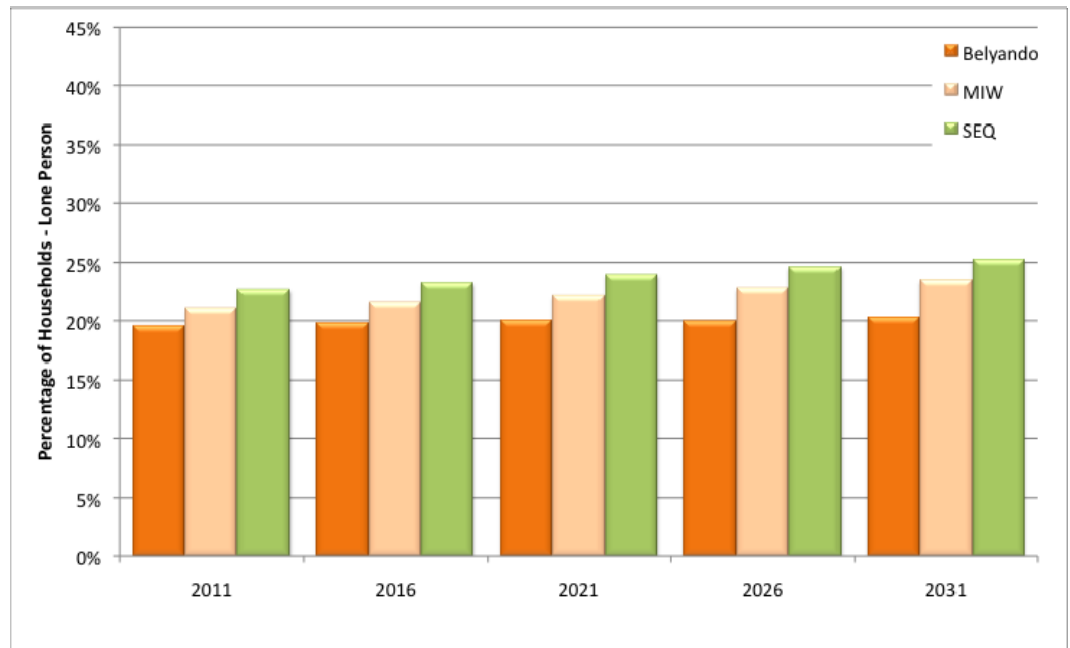
In comparison to MIW and SEQ, the Belyando SLA (which includes Moranbah and Clermont) is expected to host a larger proportion of couples with children throughout the forecast period, indicating that families are still expected to be attracted to Belyando beyond 2011. (Around 40 per cent of couples with children are expected in Belyando at 2031 compared to 28 and 25 per cent for MIW and SEQ). The proportion of lone person households at 2031 is expected to be lower in Belyando (20 per cent) when compared to both MIW (23 per cent) and SEQ (25 per cent).

**Figure 47: Forecast Couples with Children, Belyando (2011 – 2031)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

**Figure 48: Forecast Lone Person Households, Belyando (2011 – 2031)**



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011

## 6.2 Current and Likely Future Housing and Accommodation Supply

### 6.2.1 Current Permanent Housing

Moranbah has a range of permanent housing and temporary accommodation options open to the residents in the Region. As shown in Section 4, in 2011 there were approximately 3,198 dwellings, with 85 per cent being detached houses. Discussions with real estate agents indicate the majority of detached housing consists of 3 to 4 bedrooms. There were units and apartments available in Moranbah in 2011 (approximately 300 dwellings), and as is discussed below, the number of units and apartments is likely to increase in the future.

Based on 2011 census information, there were approximately 118 dwellings rented from the Department of Housing and Public Works, housing cooperative or a church. These are additional to the Department of Housing and Public Works dwellings leased by BMA. As noted earlier, consultation with community service operators in Moranbah indicated that demand for crisis housing service and public housing has increased over the past 12 months and waiting lists have at least doubled. Current waitlist times for public housing are around 12 to 18 months, and due to the wait times it was indicated that many people in need do not even try to apply. Community service representatives indicated that once people are in the public housing system they stay there for much longer than in the past. Two to 3 years ago it was not uncommon for people to exit the housing within 3 to 6 months. Community service representatives indicated that people who do not qualify for



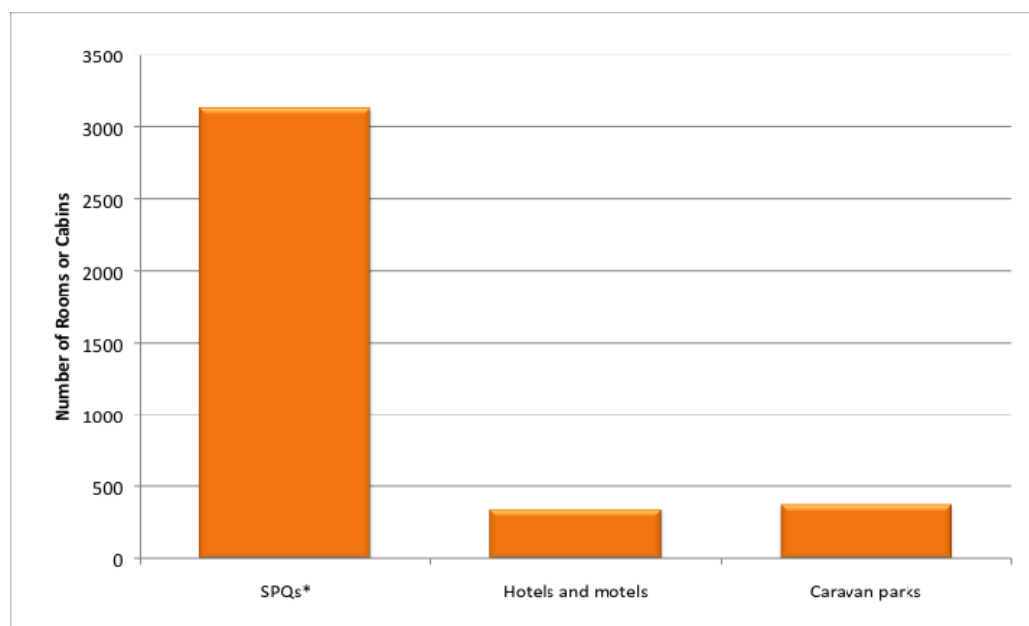
public housing have even more acute issues with obtaining appropriately priced housing. Specific opportunities for housing non-resource low to moderate housing are now emerging through the ULDA and Council initiatives. These are discussed further in Section 6.3.

Consultation with real estate agents indicated that demand for housing in Moranbah is high, but that the steep rise in prices over the last 6 months has stifled sales somewhat. The stifling of sales indicates that the market may self-correct to a certain extent, but in CChange's opinion it is unlikely to get to a stage where affordable housing for low to moderate income persons is matched to demand without intervention from a variety of players.

### 6.2.2 Accommodation for Non-Residents Workers and Visitors

For non-resident workers and visitors a variety of accommodation options are available in and surrounding Moranbah. Camp style villages specifically designed for temporary non-resident workers exist, as well as motels and caravan parks. Accommodation villages for temporary workers are located in a variety of places across the Moranbah Region, including some within the township and some closer to the sites of employment. All motel/hotel/caravan parks are located within the township of Moranbah.

OESR estimated that in 2011 there was around 3,858 rooms or cabins available in the Moranbah area. Of these, approximately 9 per cent were hotel/motels and 10 per cent were in caravan parks. The remaining 81 per cent were single persons quarters (SPQs), which totalled 3134 rooms. As noted in Section 5 BMA own 3 single persons quarters facilities (or around 960 rooms).



Source: OESR, Data to inform development of Moranbah Housing Study for BBCP Project November 2011



Consultation was held with temporary accommodation providers in late 2011 (motels / hotels / caravan parks) to determine the extent to which they felt temporary accommodation needed augmenting<sup>12</sup>. It is noted that this consultation occurred prior to the approval of The Mac Services Group's 3,200 room accommodation village in Moranbah (which, at the time of writing, had not yet been constructed). Key findings included:

- Occupancy rates for motels, hotels and caravan parks were generally 100 per cent from Monday to Friday and from 30 per cent to 100 per cent on the weekends. All providers indicated that there is no seasonality and that demand is constant throughout the year. This finding was supported by the recently released OESR's Bowen and Galilee Basins Population Report, 2011 (April 2012), which indicated that hotels, motels and caravan parks vacancy rates were generally around 3 per cent.
- The majority of guests (from 85 per cent to 100 per cent) were either mine workers or employees from specialised firms consulting to the resource industry. Many of the guests drive in from Mackay or fly in from other areas in Queensland (and beyond).
- Guests stay for various amounts of time. Some stay from as little as 1-4 days, some 1 to 2 weeks, others up to 9 months. Many resource companies lease cabins / rooms permanently so occupants can leave their belongings.
- All providers indicated that demand for temporary accommodation in Moranbah was not being met, with all noting that in late 2011 they were turning away between 10 – 50 people a day. One provider reported that they were aware of men staying in tents waiting to get rooms / cabins, while another estimated that around 30-50 people were sleeping in cars each night in town. Some providers indicated that many coming to work in Moranbah are not made aware of the lack of accommodation prior to the commencement of their employment.
- All providers indicated that further accommodation and housing supply was urgently required as at late 2011. Many were supportive of villages to house temporary workers, and most agreed that a diversity of solutions that includes temporary workers accommodation and permanent housing for singles, shared persons and families was required.

## 6.3 Likely Additional Future Supply of Housing and Accommodation

<sup>12</sup> This consultation was held as part of a commission to inform The Mac's application for their accommodation village at Potters land.



### 6.3.1 BMA

BMA is making a considerable investment in new housing in Moranbah. During FY12, BMA delivered 69 new townhouses and houses across all of its communities, including 51 in Dysart and 18 in Moranbah. BMA plans to deliver further dwellings in FY13 demonstrating a commitment to residential living options for employees. Overall, BMA plans to deliver 289 dwellings in Moranbah by June 2013, although these timeframes could be extended depending on actual requirements over time.

BMA also plans to develop an additional 128 dwellings in Dysart and five dwellings in Blackwater by June 2017. This would see a total of over 400 dwellings constructed in the Region.

As per Condition 18(c) of the Coordinator-General's report, BMA is planning development of further housing in the Bowen Basin, to meet specified timeframes for housing delivery. A range of dwellings types and styles will be provided, which include single persons quarters, townhouses, and houses that include between 1 – 4 bedrooms.

In addition, BMA relinquished 3 of its leases over Department of Public Works and Housing dwellings. It is understood that these dwellings are going to be utilised to house Queensland Police and/or Queensland Health staff.

### 6.3.2 ULDA

Most of the land available for further development in Moranbah is in the ULDA's Urban Development Area. Consultation with the ULDA and Isaac Regional Council indicated that there are 4 areas within the UDA that are earmarked for development. These include Bushlark Grove (locally known as the Boxing Club Site), Grosvenor Drive Estate, Isaac Views and the Town Centre Revitalisation (refer to Figure 47). Together these sites could host upwards of 2000 dwellings. Development has already commenced and full development is expected to roll out over 10 years:

- Marketing for Bushlark Grove was earmarked to occur in March 2012, and development of its 160 dwellings is expected to be completed late 2012. At June 2011, Stage 1 of had been completed, which saw the release of 35 builder partner products (dwellings) and 20 land only lots. These parcels were being released in the first instance only to owner occupiers who agreed to live in the house for 2 years. Demand for Bushlark Grove has been positive. Stage 2 of Bushlark Grove is likely to see release of up to another 100 lots.
- Precinct 2, which includes Grosvenor Drive Estate, is expected to be home to more than 1500 households, plus accommodation for non-resident workers. Grosvenor Drive Estate is dependent on the construction of a bridge. Once development occurs, it is expected that approximately at least 200 lots are likely to be released in the first stage, and will continue to roll out thereafter. Other parts of Precinct 2 are likely to have houses on the ground by 2012/13, and will continue to develop over 10 years. This precinct is likely to be developed by a





number of entities, including the Isaac Regional Council (refer Section 6.3.2 for further details) and ULDA, Vic DeGuara, and The Mac.

- Isaac Views is a site that is in part being developed by ULDA and in part owned by BMA. The BMA component of the site could host between 135 and 350 dwellings, depending on the density delivered. BMA's current plans for this area include the development of 50 dwellings by the end of the 2013 financial year. Further stages are earmarked but no timing is indicated.
- The Town Centre revitalisation is essentially a retail and commercial precinct, but areas adjacent to the Town Centre have residential development, and theoretically could yield around 600 dwellings, depending on densities. It is noted that BMA own lots to the north east of the Town Centre, and many are currently utilised as managers housing. The BMA lots are large (1600sqm) and therefore could be redeveloped in the longer term. BMA are not expecting to redevelop them for at least another 5 years.

It is noted, however, that the Queensland Government has announced it will fast track land releases for housing development. The media release on 6 August 2012 indicated, among other things that:

*"There has been obvious market failure in towns like Moranbah and Blackwater where there is an inadequate supply of land and therefore of affordable housing. "Our action now will change that in the shortest possible time. "The greatest impact on the affordability of housing the Government can have is to increase land supply to the general market and deliver more lots, more quickly." Deputy Premier Jeff Seeney said his department would spend \$15 million over the next nine months to deliver 185 housing allotments in Moranbah and Blackwater. "That land will be available by next March," Mr Seeney said. "I have also tasked the ULDA transition team to work closely with Isaac Regional Council to assist it in the early delivery of its Belyando Estate which will deliver 1000 lots to the market."*

**Figure 49: Expected Development within the ULDA's Moranbah Urban Development Area**



**Urban Land Management Authority**

**Housing availability and diversity**

The limited supply of residential land in Moranbah has impacted adversely on the affordability and availability of suitable housing options for other communities. The ULDA is working with the local government and landowners to address these local housing needs.

The ULDA is providing new housing solutions for Moranbah by:

- providing more housing supply, both in just about through a mix of residential typologies, types, designs and levels of affordability
- catering for a range of lifestyles, incomes, and life stages including young families, and senior households and other persons
- delivering housing affordability for key workers such as teachers, emergency services staff and retail workers
- providing funding of the order to provide in the UDA for development of retail accommodation for key workers

**1 Boxcar Club site**

- Status: development approved
- Number of lots: 92
- Number of dwellings: 100
- First residents over site
- Anticipated commencement: early 2012
- Key developer: ULDA

**2 Grosvenor Drive Estate**

- Status: ULDA and IRC
- Anticipated commencement: early 2012
- Key developer: IRC and ULDA

**3 Isaac Views**

- Status: development approved
- Number of dwellings: 100
- Residents over 50%
- Anticipated commencement: early 2012
- Key developer: IRC and ULDA

Source: ULDA, Moranbah Newsletter #3, August 2011

### 6.3.3 Council Initiatives

The Isaac Regional Council is involved with two major initiatives to assist with increasing the supply of housing in Moranbah: Belyando Estate, and the Isaac Affordable Housing Trust. These initiatives are discussed below.

Belyando Estate is Council owned land, near Grosvenor Creek within the Grosvenor Drive Estate in the Moranbah UDA. There are approximately 1,500 lots of land, and Council has the intention to develop and sell these over the next 10 years. Discussions with Council indicate that at least 200 lots are likely to be released over the 12 months to 2013, but market demand will dictate the actual number of lots. An additional 300 lots could be released in this time period should appropriate infrastructure be provided. It is anticipated that around 700 lots would be released within the first 5 years.

Council are proposing mixed sizes of lots and mixed densities (detached - 60 per cent and medium to high density - 40 per cent) will be offered, plus the release of land. Council expects that the smaller lots will assist the supply of affordable housing available for purchase. It is likely that Council will complete the majority of the development as a commercial entity and profits will return to the community via Council. It is expected that most buyers will be investors who will rent out the properties, but Council is also trying to attract owner occupiers.



The Isaac Affordable Housing Trust (IAHT) is a separate company, managed by a Board that includes Moranbah's Mayor, Deputy Mayor and CEO as well as an independent member. The IAHT is sourcing the Australian Government's National Renting Affordability Scheme (NRAS) funding, which will allow for 53 new housing allocations in the Region (including but not limited to Moranbah). Forty eight houses are likely to be delivered in the foreseeable future. The NRAS is an initiative designed to stimulate the supply of affordable rental dwellings. In addition, other contributions from major companies have been forthcoming, including the \$5 million contribution from BMA (\$3.5 million of which has already been transferred to the Trust). The IAHT's sole aim is to provide dwellings exclusively to low to moderate income earners within the region. The IAHT has indicated that tenants can expect to pay between \$150 - \$300 per week, dependent on property size.

#### 6.3.4 Likely Future Accommodation for Non-Residents

Several motel/hotel/caravan park accommodation providers consulted indicated that they were likely to extend their current operations over the next 1-2 years. In aggregate these expansions could add an additional 250-270 beds to the Moranbah township in the foreseeable future should all the activity that was noted result.

Utilising information from publically available EIS Documents, and BMA's information, the number of additional temporary accommodation beds in villages from 2011 to 2014 is likely to be around 7,000-8,000. The majority of this accommodation will be associated with BMA's new villages and The Mac Services Group's recently approved Accommodation Village in the township of Moranbah: BMA's two villages are BMA Accommodation Village (BMAAV) and Buffel Park Accommodation Village (BPAV). Together, these facilities could have up to 3,200 rooms. The Mac Services Group's Accommodation Village in Moranbah has recently been approved with 3,200 rooms (but construction has not yet commenced). Further accommodation is likely to be located at the ESS Compass Group's site, and Arrow's Pipeline project indicated that all accommodation for their construction workers will be provided in temporary camps. Ellensfield Coal Mine Project, Moorvale B&P underground and Eaglefield Mine indicated that some accommodation at their site would be supplied, but no figures were available at the time of writing.

### 6.4 Demand versus Supply

Based on OESR's household forecasts, if Moranbah's proportion of households to dwellings in the Belyando region remain the same in 2018 as it did in 2011 (72 per cent) then it is likely that Moranbah will require around 3,810 permanent dwellings in 2018. This would mean that the number of additional houses between 2011 and 2018 would be around 612.



Consultation with key agencies responsible for assisting the delivery of housing in Moranbah indicated that the number of dwellings likely to be progressed over the period to 2018 is likely to be around 2,000 dwellings. Thus even if only 30 per cent of the dwellings delivered to the market were affordable housing, the overall supply is likely to serve the demand.

However, whether the development progresses in line with expectations depends in large part on the market's ability to supply the housing when demand requires it. Consultation with a variety of stakeholders in the region noted that supplying housing to the Moranbah market is challenging for a number of reasons, including:

- Issues associated with who is responsible for major infrastructure items when land becomes available;
- High building prices, which not only impacts the delivery of dwellings, but also the resultant affordability of the dwellings upon completion
- Higher planning fees in Isaac when compared to other areas, which is directly related to Council not being able to secure appropriately qualified staff and therefore needing to contract out development approvals processes;
- Obtaining the skills and labour force to build the products. Although the skills are present in the Region the local trade industries find it hard to compete with the wages on offer in the resource sector and therefore often have limited numbers on their staff; and,
- Near full employment in the region (unemployment at 1 per cent in 2011) and therefore a limited pool of immediately available workers to attract to the trades industries when demand requires it.

Development additional to what has been outlined in this section may be difficult to deliver in Moranbah because land availability generally is constrained due to the buffer zones required for mines, mining leases, and land being in State ownership.

Regardless of number of supply across a longer period, the need for affordable housing is essential, particularly in the shorter term. The price points at which the new product (houses, units, lots, rooms etc) are offered to the community will be an essential component of whether the market is able to bounce back to a less inflated status.



## 7 BMA's Fair Contribution to Housing for Non-Resource Workers & Operational Workforce

A key component of the Terms of Reference was to determine a reasonable contribution by BMA to account for impacts on low to moderate income non-resource workers housing due to the likely activity and onflow effects associated with the Caval Ridge Mine and Daunia projects. In addition, a clear indication of how BMA intends to house their operational workforces for the Caval Ridge Mine and Daunia projects was required.

This section discusses these elements. In particular, a framework for determining a fair and reasonable contribution to non-resource housing is discussed and applied to the Caval Ridge Mine and Daunia projects. A statement of overall required contribution from BMA is made as well as a net contribution, given BMA's current commitments to affordable housing. Details regarding housing the workforces of the mining operations are also provided.

### 7.1 Dwellings required for Non-Resource Workers due to BMA's activities

#### 7.1.1 A Framework for Determining Required Contributions for Non-Resource Workers from Major Projects

A framework to determine what a reasonable contribution from a major project might be towards non-resource workers' dwellings might be was determined with reference to a four phase process. This included:

- Estimating the likely indirect employment impacts<sup>13</sup> associated with the employment and capital expenditure of BMA's Daunia and Caval Ridge Mine projects;
- Localising the likely indirect employment impacts to Moranbah;
- Converting the indirect employment to likely numbers of dwellings required for non-resource workers on low to moderate income, and determining a ratio of dwellings required per BMA construction and/or operational workers; and,
- Determining overall contributions required given expected employment of Caval Ridge and Daunia mines.

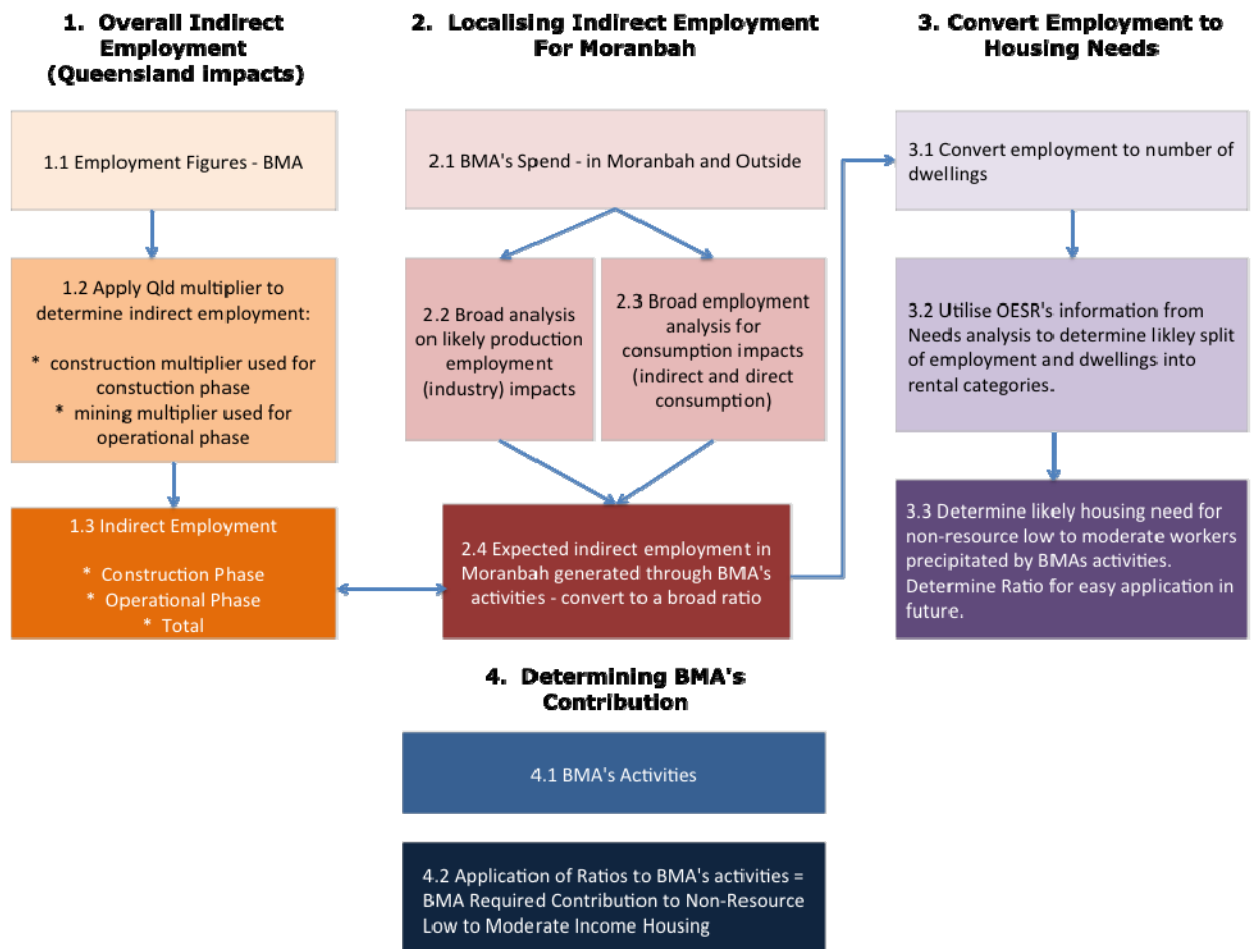
The overall method used is shown in Figure 50, and a detailed explanation of the method is provided in Appendix 4. It is noted that there is little empirical evidence

<sup>13</sup> The 'in-direct contribution' to the economy exists because during construction and operation there would be purchases made from companies who would in turn spend those dollars on their inputs, and so on through the industry sectors. This is termed the 'production' impact. In addition, there is a consumption effect as employees will spend their wages creating additional demand for goods and services in the economy.



available associated with determining the precise impacts that resource activities have on the demand for non-resource low to moderate income workers. As such, a number of assumptions based on available data were made for the BMA assessments. Sources for all assumptions are noted in the discussion at Appendix 4.

**Figure 50: Method to Determine a fair contribution to Affordable Housing from BMA**



Source: CChange Sustainable Solutions Pty Ltd

### 7.1.2 BMA's Responsibilities given Framework

Application of the framework noted above indicated that 1 dwelling for non-resource, low to moderate income workers is required for:

- Every 90 construction workers; and,
- Every 50 operational workers.

The details regarding how the ratios were calculated are shown in Appendix 4.



Applying these ratios to the expected workforces of Caval Ridge Mine and Daunia indicates that the following would be required in peak times:

**Table 4: Required Affordable Housing from BMA's Caval Ridge Mine and Daunia Project (before recognising existing contributions)**

BMA	Required Housing		Total from Year....
	Construction	Operations	
Daunia Mine	11	8	See graph
CRM	20	13	See graph
<b>Total</b>	<b>31</b>	<b>21</b>	

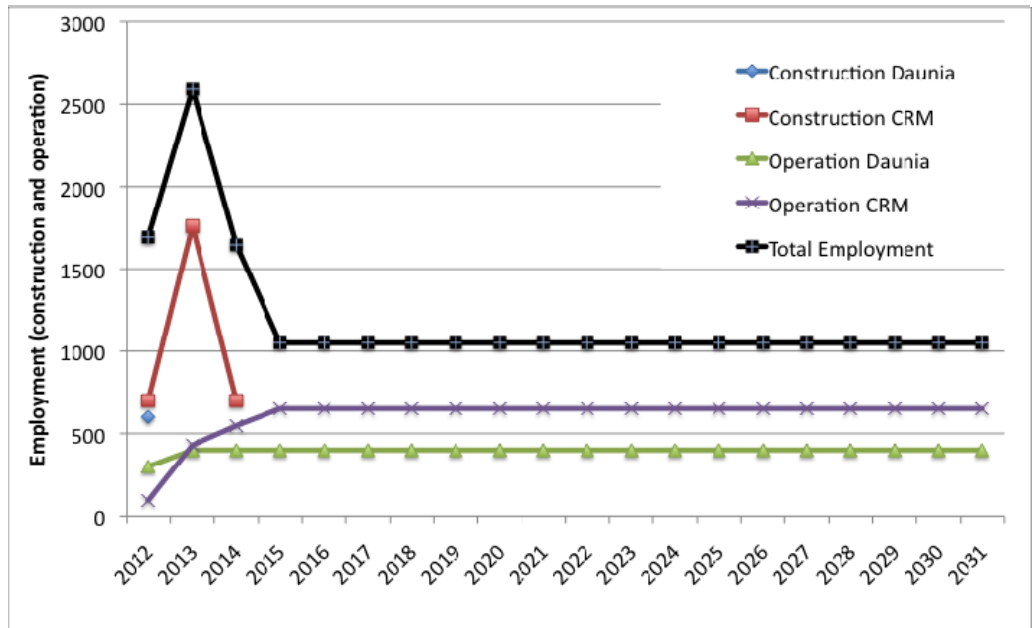
*Source: CChange Sustainable Solutions Pty Ltd, based on information and assumptions from PWC, BMA and ABS*

However, to determine the overall requirements for housing, a simple addition of construction and operational requirements for each of the mines cannot be made. The roll out of employment will dictate the timing associated with the need for housing. Furthermore, indirect employment impacts usually come a year or so after the direct stimulus (that is, the activities directly associated with BMA), and as such demand for required housing is likely to be delayed by a year or so as well. To ensure that the market is well served, however, the timing for housing roll out has been assumed to start in line with BMA's construction and operation employment, and continue throughout the operational period. Employment roll out was sourced from the SIMP and BMA.

The resultant overall employment associated with Daunia and Caval Ridge Mine is expected to peak at just under 2,600 workers in 2013, falling to approximately 1,050 employees by 2015. Between 2015 and 2031, employment was expected to remain at around 1,050.



**Figure 51: Assumed Employment Roll Out of Daunia and Caval Ridge Mine**

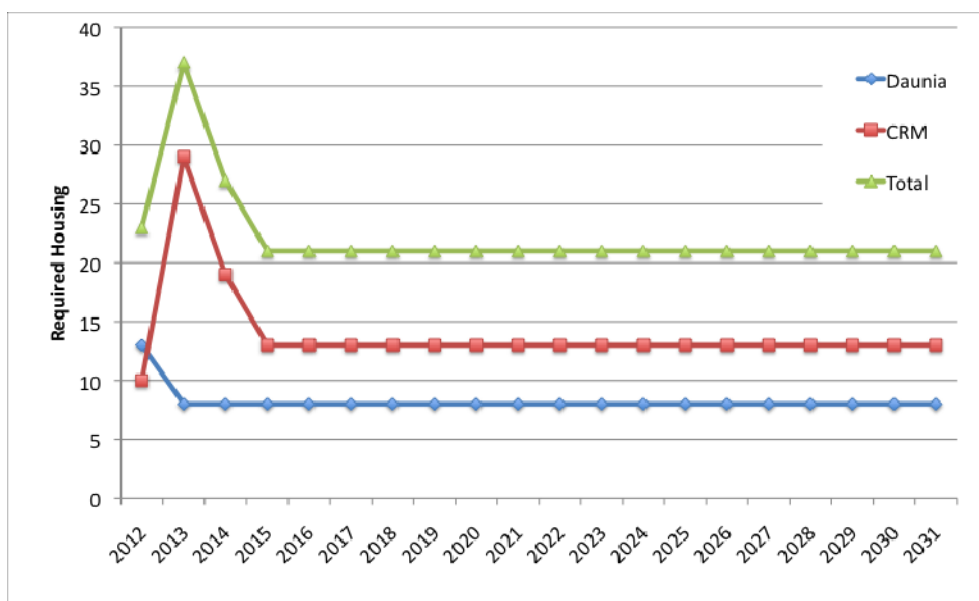


Source: BMA information

Utilising these employment assumptions, proportions of the peak housing requirements (before considering existing BMA contributions) were then allocated accordingly. This is shown in Figure 52, which indicates that:

- By 2013, 37 houses for low to moderate income non-resource workers will be required in Moranbah; and
- This will drop year on year until 2015, after which housing requirements will remain at 21 until decommissioning occurs.

**Figure 52: Required Affordable Housing Contributions from BMA (not recognising existing BMA contributions)**







Source: CChange, based on information and assumptions from PWC, BMA and ABS

However, BMA has already committed around \$6 million to affordable housing through:

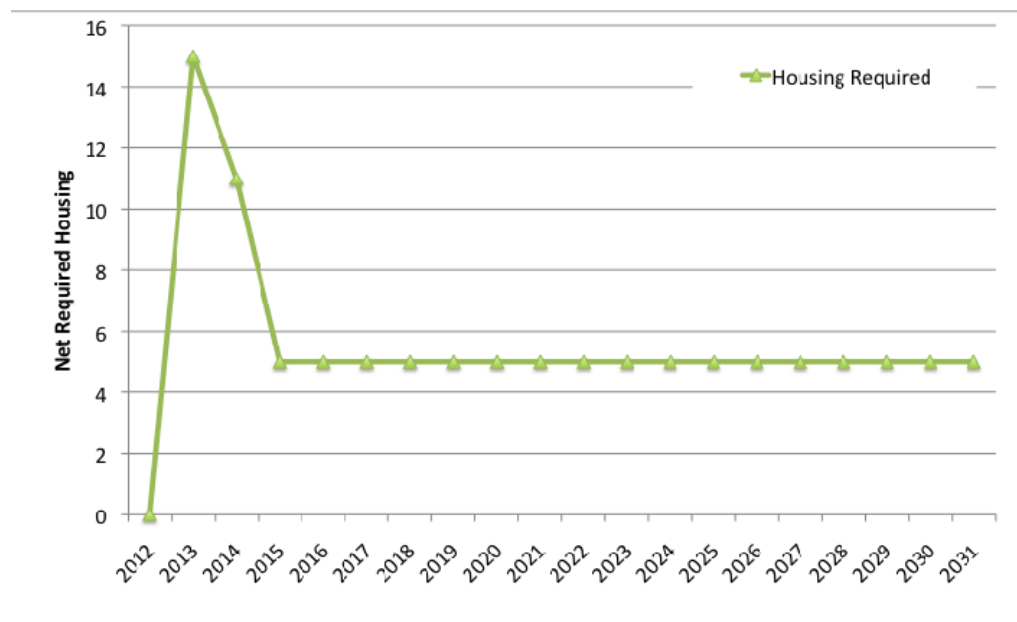
- Investment in the Isaac Affordable Housing Trust;
  - To date over \$3.5 million has been provided to Isaac Affordable Housing Trust to provide around 7 dwellings and an additional \$1.5 million will be provided to the Trust by 2016. In total, the \$5 million is expected to deliver the equivalent of 13 affordable dwellings.
- Rental subsidies to assist housing community organisations';
  - BMA have also provided substantial subsidies to a range of organisations in Moranbah. In the financial year of 2012 organisations receiving BMA's rental subsidies included:
    - Moranbah District Support Services;
    - C&K Childcare;
    - Simply Sunshine Childcare;
    - Gryphon Psychology;
    - Moranbah Ambulance;
    - Moranbah Early Learning Centre; and,
  - In the financial years of 2012 and 2013, the value of housing subsidies to community organisations in Moranbah will be approximately \$986,000 and this will assist approximately 6 organisations. The arrangements regarding the subsidies to these types of organisations are agreed annually; and,
- Relinquishment of leases over 3 Department of Public Works and Housing dwellings (for reallocation to Queensland Police staff).

The committed contribution to the Isaac Affordable Housing Trust (13 dwellings), the subsidies to 6 community organisations (6 dwellings in 2012 and 2013) and the relinquishment of the Department of Public Works dwellings (3 dwellings) have been netted from the overall required contribution to determine the 'additional' affordable housing requirement from BMA. Netting these dwellings from the overall housing requirement shows BMA's remaining responsibility for low to moderate non-resource worker housing. This is displayed in Figure 53 below and indicates that:

- In 2013, an additional 15 dwellings are likely to be required to mitigate BMA's impact on non-resource low to moderate income households;
- In 2014, the number of affordable dwelling required falls to 11; and
- By 2015 the number of affordable dwellings stabilises at 5, and remains at this level until decommissioning of the projects.



**Figure 53: Remaining Affordable Housing Contribution Required from BMA, (net of existing contributions)**



Source: CChange Sustainable Solutions Pty Ltd, based on information and assumptions from PWC, BMA and ABS

## 7.2 Operational Workforce

BMA has been granted approval for 100 per cent of their operational workforce for CRM and Daunia to be fly in fly out workers. All workers – both construction contractors, and operations employees and contractors – will be accommodated in accommodation villages. This will minimise the impact of these projects on the housing market.

At peak, the operational workforces of Caval Ridge Mine and Daunia are likely to be around 650 and 400 respectively. As noted in Section 6 two workers accommodation villages are being constructed near Moranbah – BMA Accommodation Village (BMAAV) and Buffel Park Accommodation Village (BPAV). By June 2012 around 800 rooms are expected to have been finalised at BMAAV, which will ultimately be a 1,200 room village. BPAV will have up to approximately 2,000 rooms for the construction workforce and 445 rooms for the operations workforce to accommodate the workforce as required.

Nonetheless, there is a variety of housing and accommodation initiatives being progressed by BMA to ensure that their direct operations do not result in further housing stress in Moranbah.

As noted in Section 6.3.1, having commenced in FY12, BMA is making a considerable investment in new housing in Moranbah. During FY12, BMA delivered 69 new townhouses and houses across all of its communities, including 51 in Dysart and 18



in Moranbah. BMA plans to deliver further dwellings in Moranbah and other Bowen Basin communities in FY13 demonstrating a commitment to residential living options for employees. At least 400 dwellings are planned to be delivered in the Region during the 2011 to 2017 period, although these timeframes are subject to change depending on actual requirements.

In addition to the accommodation villages, a number of other initiatives are being pursued. As noted in the SIMP, these include:

- Upgrading 185 houses in Moranbah;
- Working with the IRC to align housing and urban renewal initiatives;
- Monitoring and publishing the number and proportions of resident and non-resident employees and contractors; and,
- Meeting with ULDA and IRC to continue to share information about housing initiatives and potential opportunities.

## 7.3 In Summary

The construction and operational workforces of Caval Ridge Mine and Daunia are being housed through accommodation villages. Other housing initiatives are also being pursued by BMA to prevent direct impacts on housing availability in Moranbah.

A framework was developed to ensure that BMA also contributed a reasonable number of affordable housing dwellings, given the likely indirect impacts their operations would have on low to moderate non-resource worker households. Analyses completed indicated that:

- One affordable dwelling was likely to be required for every 90 construction workers and,
- One affordable dwelling was likely to be required for every 50 operational workers.

BMA has already committed to providing \$5 million to the Isaac Affordable Housing Trust, around \$980,000 in the 2012 and 2013 financial years to other organisations to assist in housing their key workers and relinquished 3 dwellings back to Department of Public Works and Housing for reallocation to Queensland Police staff. As such, BMA's outstanding contribution required to off-set their indirect impacts will peak at 2013 with an additional 15 dwellings required, fall to 11 dwellings in 2014 and then stabilise at 5 affordable dwellings from 2015 onwards.

## 8 Options to Meet Housing Contributions for Non-Resource Low to Moderate Income Workers

There have been many initiatives commenced within Australia and beyond that attempt to tackle affordable housing issues. A comprehensive report on affordable housing levers<sup>14</sup> grouped initiatives under 6 categories. These included:

1. ***“Housing market efficiency mechanisms.*** *These are policies and programs designed to improve the operation of the housing market generally so that it produces and allocates dwellings at lowest cost and prices for a given quality rating. These measures generally relate to the promotion of competition, removal of barriers to entry and the improvement of information flows in the market to promote more rapid adjustment to changing demand / supply conditions. Other measures include undertaking demonstration projects in new tenures, housing forms and financing products; and overcoming market failures involving, for example, land assembly difficulties in urban consolidation locations.*
2. ***Affordable housing market efficiency.*** *These policies and programs are designed to improve efficiency in the management / delivery of affordable housing - that is, housing opportunities specifically targeted to households in the bottom two quintiles of the income distribution. Whereas the initiatives in the first category all apply to the housing market in general, the levers in the second category specifically ease the operation of affordable housing suppliers/financiers, etc. In general these can be regarded as institutional arrangements more than policy levers as such. They are likely to be useful, even essential, channels for some of the other policies to be effective.*
3. ***Supply side subsidies.*** *These levers provide explicit or implicit supply side subsidies for the expansion of the stock of affordable housing. Many of these mechanisms require the State/Territory or another agency to forego revenue in order to assist particular players in the housing market.*
4. ***Demand side subsidies.*** *These are policies and programs that provide explicit or implicit income assistance for lower income renters and buyers.*
5. ***Fund raising regulatory or taxation measures.*** *These include administrative and taxation measures designed to raise cash or in-kind resources to fund the subsidies deployed in the mechanisms described in categories three and four.*
6. ***Ethical investment and charities.*** *These are measures and initiatives designed to tap ethical investment and benevolence as a means of funding affordable housing subsidies.*

<sup>14</sup> SGS & KPMG (2003) Assessment of housing affordability 'levers' for the State & Territory Members, Housing Ministers Advisory Committee.



Over 60 levers were identified under these categories. However, only a few of these are directly applicable to private sector organisations, such as BMA. In assessing the levers for applicability to BMA, the following broad principles were applied:

- **Fairness and Equity:** BMA will provide a fair and reasonable contribution towards affordable housing. This will be directly linked with the likely impact BMA may have on low to moderate income households in the Moranbah housing market;
- **Delivery:** BMA will provide contributions either through the delivery of product or a fair monetary contribution, but BMA will not be responsible for the ongoing management or maintenance of the affordable housing stock;
- **Efficiency and Certainty:** BMA will support solutions that provide contributions to increase the supply of affordable housing in Moranbah; and,
- **Urban Quality:** BMA's contributions will be channelled into options that promote best practice urban quality and housing diversity in residential development and protect or enhance public domain, design quality and building quality.

Table 5 highlights those that are considered options for BMA.

**Table 5: Affordable Housing Levers, and those Potentially Applicable to BMA**

Housing Market Efficiency	Potentially Applicable for BMA?
<i>Housing Finance</i>	
Superannuation applied to deposits	No
New finance products	No
Government backed mortgage insurance	No
Development of community banks	No
<i>Planning and Infrastructure</i>	
State and Local Government Planning Policy	No
Efficient & equitable user pays	No
<i>Land Supply</i>	
Government businesses - land supply	No
Government land banking	No
Assemble land in urban consolidation areas	No
Punitive rates to promote release of land	No
<i>Other Housing Market Efficiency</i>	
Demonstration projects promoting innovation	Yes, as a project funder
Appropriately structured and skilled housing workforce	No
Provision of improved market information	No
<b>Affordable Housing Market Efficiency</b>	
Support cost effective, not for profit delivery models	Yes, as a project funder
<b>Supply Side Subsidies</b>	
<i>Tax Based Subsidies</i>	
Low income housing tax credits	No
Concessions to affordable housing rental	No



Housing Market Efficiency	Potentially Applicable for BMA?
investment	
Capital gains tax indexation for affordable housing	No
Land tax rebates for affordable housing	No
GST exemptions for social and affordable housing	No
housing Accelerated depreciation for affordable rental	No
Local Government rate rebates and fee waivers	No
<i>Other Subsidies and Transfers</i>	
Government issued bonds for affordable housing	No
approvals Fast tracking development assessment and	No
Rent Controls	No
Government guarantees for recognised providers	No
Affordable housing subsidy program	No
Capital grants	No
Developer assistance	No
Public Private Partnerships	Yes, as a project funder
<b>Demand Side Subsidies</b>	
<i>Taxation incentives for low-moderate income homebuyers</i>	
Housing lifeline loans	No
Stamp Duty rebates	No
Deposit assistance	No
Below Market Interest Rate Loans	No
Reduced threshold mortgage eligibility	No
Mortgage interest deductibility	No
Converting rent assistance to subsidy for purchase	No
<i>Taxation incentives for low-moderate income renters</i>	
Direct rental subsidy	Potentially, particularly for construction period
Bond Assistance	No
Tenancy Laws	No
<b>Fund Raising Regulatory or Tax Measures</b>	
<i>Mandated Use or Management of Funds</i>	
housing Mandated super funds investment in afford	No
Regulation of financial institutions	No
Housing first policies	No
<i>Development Related Contributions</i>	
ICs Developer contributions to affordable housing via	No
Developer contributions - as impact mitigation	No
Developer contributions - as negotiated	No
arrangements Bonus/ incentive schemes for affordable housing	No
Betterment taxes	No
Inclusionary Zoning	No
developments Linkage fees – for major non-residential	BMA's contribution is a linkage fee
<i>Other Contributions or Levies</i>	
Broad based LG levy for affordable housing	No



Housing Market Efficiency	Potentially Applicable for BMA?
Hypothecation of 'landcom' dividends	No
Ethical Investment and Benevolence	
Ethical investment stream	No
Joint venture projects with charities / community orgs	Yes, as a project funder
Community Housing and Land Trusts	No
Joint venture projects with AH providers	Yes, as a project funder
Sweat equity schemes	No

In summary, given the broad principals stated above, the types of options open to BMA include being the project funder associated with:

- Demonstration projects promoting innovation;
- Supporting cost effective, not for profit delivery models;
- Direct rental subsidies;
- Public Private Partnerships; and,
- Joint venture projects with charities / community organisations and affordable housing providers.

How these initiatives might be delivered is discussed below in three sections:

- Supporting cost effective, not for profit delivery models;
- Project funder to encourage innovation in affordable housing delivery; and,
- Direct rental subsidies.

## 8.1 Supporting cost effective, not for profit delivery models

Given that BMA's core business is not in the management of affordable housing, it is considered by the consultant team that the best options to assist the most effective delivery of affordable housing are through supporting already established cost effective, not for profit delivery models. In Moranbah, there are options that could immediately occur:

- First, and most sensibly, a very effective method of ensuring a reliable and efficient delivery of affordable housing to Moranbah would be to relinquish the leasing arrangements of a number of Department of Public Works and Housing dwellings to a community housing provider or the Isaac Affordable Housing Trust. A number of options could occur with this:
  - As the analysis in Section 7 indicated, it is suggested that 15 dwellings are required to address the peak impact period of the Caval Ridge Mine and Daunia projects. These 15 dwellings could be relinquished to the Department of Public Works and Housing (in addition to the three already relinquished in 2012) and redeployed with an affordable housing manager immediately and those families currently utilising the dwellings would be placed in the new BMA dwellings that are being provided across Moranbah. This would augment the supply of affordable housing



immediately without placing additional stress on the general housing market (given that the families currently occupying the DPWH dwellings would be placed in new or vacant BMA dwellings).

- Given that only 5 dwellings are modelled to be required after the end of the construction period, BMA could either relinquish the dwellings back to Department of Public Works and Housing in full, or negotiate release of the relevant dwellings required during the construction period, after which the dwellings would then be returned to BMA. However, given that it is likely that moving in and out of dwellings is over such a short time frame can be inconvenient and unsettling for the families involved, the full relinquishment of 15 dwellings is considered preferable. BMA has indicated that it will be able to release these dwellings once existing DPWH leases expire. At these times, those families currently housed by DPWH dwellings would be rehoused in purpose built BMA housing. It is noted that should the full 15 dwellings be relinquished to DPWH, then BMA has not only met its fair and reasonable contribution to affordable housing associated with Caval Ridge Mine and Daunia, but has also exceeded it.
- Another alternative to fulfil BMA's contribution to affordable housing in Moranbah would be to provide a monetary contribution to the Isaac Affordable Housing Trust. BMA has already committed \$5 million to the Housing Trust and therefore is already acting upon this option.
- 

## 8.2 Project Funder to Encourage Innovation in Affordable Housing Initiatives

Other options for BMA would be to provide grants to developers in the region to encourage affordable housing initiatives. Grants could include a monetary contribution to build a number of houses (either the 5 required once the BMA workforces have stabilised, or the full 15 dwellings required), or, it could include providing grants for developers to build 15 dwellings, with the agreement that the 10 required for the construction phase be returned to BMA to augment their own housing requirements post 2014. Given that BMA's role is not in the delivery of affordable housing, options under this banner would mean that the developer and/or BMA would need to ensure that an appropriate housing service provider was engaged to manage the affordable housing. This option is not considered the optimal solution given that:

- Agreements and assurances that would need to be in place at the outset to ensure that the ultimate dwellings constructed were maintained as affordable dwellings; and,
- Implementation of this option would require construction of new dwellings, which would mean a delay in the provision of affordable housing for the Moranbah community.





## 8.3 Direct Rental Subsidies

In addition to the above, BMA may wish to consider providing a direct rental subsidy to non-resource low to moderate income households. This would be particularly applicable to the construction period where the number of affordable dwellings required fluctuates. Should this option be pursued, then 10 dwellings in 2013 and 6 dwellings in 2014 would need to be subsidised.

If this option was taken up, then an additional 5 dwellings would still be required for the longer term, which would be best met through the relinquishment of Department of Public Works and Housing dwellings given the immediacy of the need.



## 8.4 In Summary

A number of options have been assessed to determine how BMA could best fulfil its additional contribution required towards affordable housing in Moranbah. The general options and their applicability are summarised in the table below.

**Table 6: Options to meet BMA’s additional requirement for Affordable Housing Contributions**

Type of Contribution		Options	Comments
<b>Supporting Cost Effective, Not for Profit Providers</b>	<b>Relinquish Department of Public Works and Housing (DPWH) dwellings</b>	15 Dwellings	The peak demand (during construction) is estimated at 15 dwellings. Relinquishing 15 dwellings would be in excess of BMA's requirement to mitigate their impacts from CRM and Daunia, as only 5 dwellings are required to mitigate impacts for the longer term (throughout the operational period). Should 5 dwellings be provided to cover the operational period, an additional 10 would be required in 2013 and an additional 6 in 2014, but only for those years.  This option of relinquishment of DPWH's properties is considered most suitable for Moranbah, as these dwellings could easily add to the existing supply of affordable housing. Given that the need for affordable housing is immediate, this option would be the fastest way to increase supply. The relinquishment options would require DPWH to either ensure that the housing was directed towards households in need of affordable housing (as standard definitions of eligibility for public housing may not apply in Moranbah), or that these dwellings (or equivalent value) were
		5 Dwellings handed over, plus an additional 10 during construction period - 2013 and 2014 (and negotiate 10 back after construction period)	Although this option is possible, it is not considered in the best interests of the community for BMA to negotiate back housing that can better assist the public realm. An alternative, if BMA prefers not to exceed mitigation requirements, is to relinquish 5 DPWH dwellings and provide rental subsidies for the construction period for the additional 10 dwellings in 2013 and 6 dwellings in 2014 (see direct rental subsidy option below).
	<b>Monetary Contribution to Isaac Affordable Housing Trust</b>	Contribution to Isaac Affordable Housing Trust	Monetary contributions to the Isaac Affordable Housing Trust have occurred. \$5 million has been committed, with \$3.5 million already handed over, and the remaining \$1.5 million to be provided by 2016. As noted in Section 7.1, this contribution is equivalent to the provision of approximately 13 dwellings.
<b>Funding Partner</b>	<b>Funding Partner with other developers, plus arrangements with housing provider to manage housing.</b>	Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction	Management of affordable housing is not BMA's core business, and therefore this option would need to have negotiations with appropriate housing managers. Given that Isaac Affordable Housing Trust is already in existence, the options in the preceding section are considered preferable. The options here, under 'Funding Partner with Other Developers' are not considered optimal.
		Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction, with the agreement to have 10 returned to BMA after construction period	
<b>Direct Subsidy</b>	<b>Direct Rental Subsidy</b>	Direct Rental Subsidy for construction period (10 dwellings in 2013, 6 dwellings 2014). Plus relinquishment of 5 DPWH dwellings in 2013.	This option could work in tandem with the relinquishment of 5 dwellings back to DPWH should BMA not want to hand over the 15 dwellings identified as required at peak construction.  It is noted that over the past 3 years BMA has provided housing subsidies to a range of organisations in Moranbah. This has supported key workers housing for organisations such as Moranbah and District Support Services, C&K Childcare, Simply Sunshine Childcare, Gryphon Psychology, Moranbah Ambulance, Moranbah Early Learning Centre, Moranbah Medical. In the Financial Years of 2012 and 2013 the value of housing subsidies has been approximately \$986,000 and includes subsidising dwellings for key workers in 6 organisations.



The first option, relinquishing 15 Department of Public Works and Housing dwellings to either a community housing provider or Isaac Affordable Housing Trust so that they can manage the dwellings as affordable housing over the longer term is the preferred option for BMA's additional contributions as:

- This option **exceeds** BMA's required contribution to mitigate impacts on low to moderate non-resource households emanating from BMA's activities associated with Daunia and Caval Ridge (as only 5 dwellings are required post 2015, and during 2013 and 2014 an additional 10 and 6 dwellings respectively are required for those years only).
- This option expands the Department of Public Works and Housing dwellings portfolio and allows an affordable housing manager to provide these to people in need, which is in line with the intentions of most of the Department of Public Works and Housing's dwelling portfolio; and,
- This option ensures that the supply of affordable housing is increased immediately and without placing additional pressure on the other parts of the rental market, as those families currently utilising the DPWH dwellings will be rehoused in purpose built BMA housing once their leases over the DPWH dwellings expire.



## 9 Conclusions & Recommendations

Information and analyses presented in the report have shown that the considerable growth being experiencing in Moranbah due to the extensive coal mining operations in the Bowen Basin is impacting on its housing market. An inflated housing market can have wider impacts on the economic and social environments, and data and information produced as part of this commission suggests that as well as the benefits associated with more employment prospects and higher demand for services, there are negative housing impacts occurring in Moranbah as the result of cumulative growth in coal mining.

This report sought to provide an understanding of the current housing and related contexts in Moranbah and determine the level of 'at risk' low to moderate income non-resource households in Moranbah. In addition, the report was required to determine BMA's impact on the demand for low to moderate income non-resource housing in Moranbah from the Caval Ridge Mine and Daunia projects such that a fair and equitable contribution to affordable housing could be determined. Options to fulfil the contribution were required.

Key findings of the report included that:

- The housing market in Moranbah is highly inflated and influenced by the resource sectors' expansion and contraction in employment, and this is impacting on a number of areas, including:
  - The ability for non-resource industries to secure employees, particularly in the service sector;
  - People choosing to live further away from their work place;
  - The ability for local industries to get trades people given the combination of the high wages in the resource sector and high rental / housing prices in Moranbah;
  - The inability for community and emergency services to keep pace with demand in some instances; and,
  - The unfortunate impacts on individuals' and families' well-being from housing stress, which can lead to relationship issues, breakdown and general unsocial behaviour.
- In 2006 there were at least 17 per cent of non-resource low to moderate income households paying high rents, 8 per cent of non-resource households paying moderate rents and 25 per cent of non-resource households paying low rents who are at risk of experiencing housing stress. Overall the proportion of non-resource households that are 'at risk' of housing stress was 28 per cent in 2006 and accounted for 173 dwellings. Given the unaffordable nature of housing for some non-resource sectors of the community, it is likely that the service sector is under-provided in Moranbah and therefore these statistics may be masking a larger housing stress impact.



- BMA is a major driver of growth in the Region, but they are not the only driver. Full time equivalent population forecasts produced by OESR indicate that BMA employees and their dependents accounted for around 30 per cent of total population in 2011, and, estimates from BMA indicated that contractors accounted for an additional 25 to 30 per cent of the full time equivalent population. The total proportion of the Moranbah population associated with BMA is therefore likely to be around 55 to 60 per cent in 2011. Depending on the population scenario that results, these proportions are likely to remain stable or increase slightly by 2018. Thus, at least 40 per cent of the population are not associated with BMA and are in Moranbah based on other economic drivers.

A framework for determining the likely impacts on the demand for non-resource housing associated with BMA's mining operations for Caval Ridge Mine and Daunia was discussed in this report. This framework determined the indirect impact associated with the direct employment of the construction and operational workforces of the two mining operations. A probable proportion of the overall indirect employment was then attributed to Moranbah based on local spend information where possible. A weighted average of employees per households was noted and the indirect employment was converted to a ratio of housing required for non-resource workers for every direct employee in the BMA operations.

The overall result of the analysis to mitigate the impact of BMA's mining activities on non-resource low to moderate income households was that:

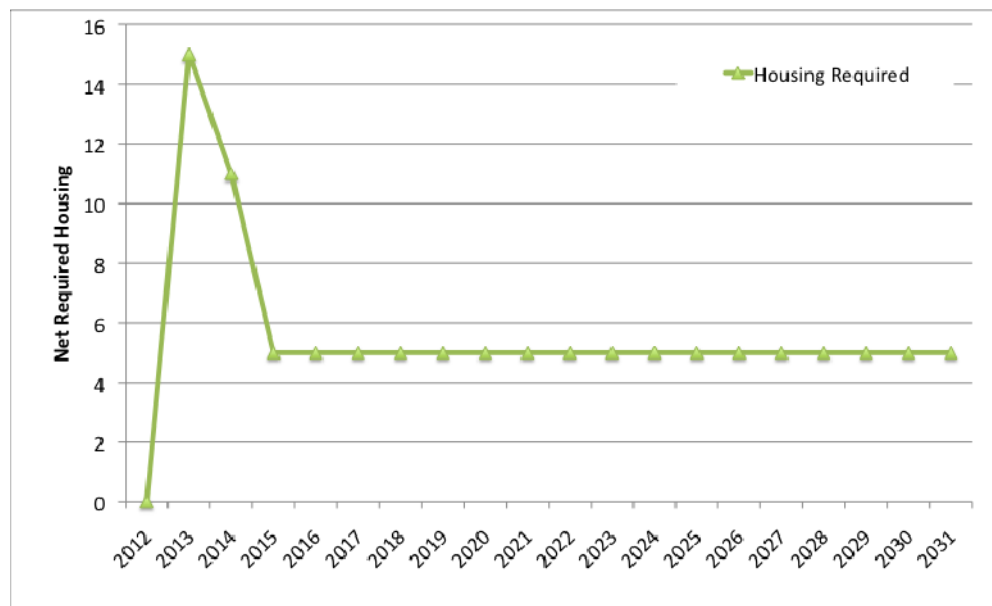
- 1 affordable dwelling was required for every 90 construction workers in BMA's Daunia and Caval Ridge Mine; and,
- 1 affordable dwelling was required for every 50 operational workers in BMA's Daunia and Caval Ridge Mine.

It is recommended that these ratios be adopted as the basis to determine BMA's required contribution to mitigate potential impacts on affordable housing from their Daunia and Caval Ridge Mine operations.

Taking into account the employment roll out of the Caval Ridge Mine and Daunia mines, plus the \$5 million (or 13 dwellings) already committed by BMA to Isaac Affordable Housing Trust, plus the \$986,000 in rental subsidies provided in the financial years of 2012 and 2013 and the relinquishment of 3 Department of Public Works and Housing dwellings for Queensland Police and/or Queensland Health staff, application of the ratios indicated that a further contribution required by BMA of up to 15 dwellings during construction period and decreasing to 5 dwellings over the operational periods was required. This required affordable dwellings roll out is shown in the figure below.



**Figure 54: Remaining Affordable Housing Contribution Required from BMA, (net of existing contributions to Isaac Affordable Housing Trust, Department of Public Works and Housing, and various community organisations)**



Source: CChange Sustainable Solutions Pty Ltd, based on information and assumptions from PWC, BMA and ABS

It is recommended that the significant contribution from BMA towards affordable housing made to date in Moranbah be noted, and that the above numbers of dwellings (refer Figure 52) be adopted as the additional requirement from BMA to mitigate their potential impacts on affordable housing in the Moranbah area from the Daunia and Caval Ridge Mine operations.

A number of options that could fulfil the requirement above were outlined in the report. These included:

- Relinquishing Department of Public Works and Housing dwellings, and/or
- Providing a monetary contribution to Isaac Affordable Housing Trust; and/or,
- Being a funding partner with other developers to encourage affordable housing options; and/or
- Providing direct rental subsidies.

The options are summarised below and it is recommended that the first option, relinquishing 15 Department of Public Works and Housing dwellings to either a community housing provider or Isaac Affordable Housing Trust so that they can manage the dwellings as affordable housing over the longer term, is the preferred option for BMA's additional contributions as:

- This option **exceeds** BMA's required contribution to mitigate impacts on low to moderate non-resource households emanating from BMA's activities associated with Daunia and Caval Ridge Mine (as only 5 dwellings are required post 2015,



and during 2013 and 2014 an additional 10 and 6 dwellings respectively are required).

- This option expands the Department of Public Works and Housing dwellings portfolio and allows an affordable housing manager to provide these to people in need, which is in line with the intentions of most of the Department of Public Works and Housing's dwelling portfolio; and,
- This option ensures that the supply of affordable housing is increased immediately and without placing additional pressure on the other parts of the rental market, as those families currently utilising the DPWH dwellings will be rehoused in purpose built BMA housing once their leases over the DPWH dwellings expire.

**Table 7: Options to meet BMA's additional requirement for Affordable Housing Contributions**

Type of Contribution	Options	Comments
Supporting Cost Effective, Not for Profit Providers	Relinquish Department of Public Works and Housing (DPWH) dwellings	15 Dwellings  The peak demand (during construction) is estimated at 15 dwellings. Relinquishing 15 dwellings would be in excess of BMA's requirement to mitigate their impacts from CRM and Daunia, as only 5 dwellings are required to mitigate impacts for the longer term (throughout the operational period). Should 5 dwellings be provided to cover the operational period, an additional 10 would be required in 2013 and an additional 6 in 2014, but only for those years.  This option of relinquishment of DPWH's properties is considered most suitable for Moranbah, as these dwellings could easily add to the existing supply of affordable housing. Given that the need for affordable housing is immediate, this option would be the fastest way to increase supply. The relinquishment options would require DPWH to either ensure that the housing was directed towards households in need of affordable housing (as standard definitions of eligibility for public housing may not apply in Moranbah), or that these dwellings (or equivalent value) were
	5 Dwellings handed over, plus an additional 10 during construction period - 2013 and 2014 (and negotiate 10 back after construction period)	Although this option is possible, it is not considered in the best interests of the community for BMA to negotiate back housing that can better assist the public realm. An alternative, if BMA prefers not to exceed mitigation requirements, is to relinquish 5 DPWH dwellings and provide rental subsidies for the construction period for the additional 10 dwellings in 2013 and 6 dwellings in 2014 (see direct rental subsidy option below).
	Monetary Contribution to Isaac Affordable Housing Trust	Contribution to Isaac Affordable Housing Trust  Monetary contributions to the Isaac Affordable Housing Trust have occurred. \$5 million has been committed, with \$3.5 million already handed over, and the remaining \$1.5 million to be provided by 2016. As noted in Section 7.1, this contribution is equivalent to the provision of approximately 13 dwellings.
Funding Partner	Funding Partner with other developers, plus arrangements with housing provider to manage housing.	Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction  Management of affordable housing is not BMA's core business, and therefore this option would need to have negotiations with appropriate housing managers. Given that Isaac Affordable Housing Trust is already in existence, the options in the preceding section are considered preferable. The options here, under 'Funding Partner with Other Developers' are not considered optimal.
	Contribution for 15 dwellings, plus arrangements to ensure Housing Provider can manage post construction, with the agreement to have 10 returned to BMA after construction period	
Direct Subsidy	Direct Rental Subsidy for construction period (10 dwellings in 2013, 6 dwellings 2014). Plus relinquishment of 5 DPWH dwellings in 2013.	This option could work in tandem with the relinquishment of 5 dwellings back to DPWH should BMA not want to hand over the 15 dwellings identified as required at peak construction.  It is noted that over the past 3 years BMA has provided housing subsidies to a range of organisations in Moranbah. This has supported key workers housing for organisations such as Moranbah and District Support Services, C&K Childcare, Simply Sunshine Childcare, Gryphon Psychology, Moranbah Ambulance, Moranbah Early Learning Centre, Moranbah Medical. In the Financial Years of 2012 and 2013 the value of housing subsidies has been approximately \$986,000 and includes subsidising dwellings for key workers in 6 organisations.



It is noted that the construction and operational workforces of Caval Ridge Mine and Daunia are being housed through accommodation villages, and as there will be no option for employees of these projects to live locally, the villages will ensure that no further pressure on the housing market will be present. Other housing initiatives are also being pursued by BMA to prevent direct impacts on housing availability in Moranbah, including building at least 400 dwellings throughout the Region and upgrading around 185 existing dwellings to ensure that they are most suitable for BMA's current workforce.

The benefits to a community from ensuring that housing for a range of players is adequately provided cannot be underestimated. A housing market that is tending towards equilibrium can have marked improvements on the economic, social and cultural environments. In particular adding to the affordable housing supply can assist in creating a more competitive environment. Lowering of accommodation costs can lead to increased wellbeing through:

- Higher levels of disposable income post accommodation costs for individuals and families, which can aid in reducing stress and a number of other social impacts;
- Higher probabilities for some to enter homeownership,
- More accessible accommodation for a larger number of people; and,
- The ability for people from a variety of backgrounds to access secure accommodation.

As well as bringing wellbeing benefits, lowering of artificially high accommodation and housing costs also has wider economic benefits, as local industries are better able to attract and retain key workers, which can in turn better supply existing industries' and communities' needs.

In summary, it is therefore recommended that:

- The ratios proposed in this report and the overall requirement for BMA's further affordable housing contribution are adopted:
  - 1 affordable dwelling is provided for every 90 construction workers in BMA's Daunia and Caval Ridge Mine;
  - 1 affordable dwelling is provided for every 50 operational workers in BMA's Daunia and Caval Ridge Mine;
- BMA's significant contribution to affordable housing in Moranbah to date be noted (at approximately \$6 million (see section 7.1.2 for an explanation), plus additional dwellings through the relinquishment of Department of Public Works and Housing dwellings);
- The overall additional affordable housing contribution from BMA is 15 dwellings to cover the modelled peak requirement in 2013; and,
- To meet, and indeed exceed, the additional affordable housing contribution, BMA relinquish 15 Department of Public Works and Housing's dwellings as soon as practicable (in addition to the three already relinquished in 2012), and re-establish the families currently housed in the DPWH dwellings in houses being built by BMA.





Furthermore, it is recommended that the framework for determining affordable housing contributions (with varying assumptions as appropriate) is adopted for all other major projects commencing in resource rich areas <sup>15</sup>.

In conclusion, the need to ensure that housing markets in all communities are tending towards equilibrium is vitally important. Ensuring that there is diversity in product and price points will result in a more productive and enjoyable region for all. It is also important that the market continues to be monitored to ensure that any intervention does not undermine investment and takes account of market dynamics. There is already evidence of prices of housing easing and rents dropping over the past few months. By adopting the recommendations here, BMA will be able to provide a fair and reasonable contribution such that a more balanced housing market can result in Moranbah.

However, BMA's contribution alone will not combat the affordability issues in Moranbah, and it is not BMA's role to do so. It is important that any constraints to the market operating are removed to enable private investment to support the development of further housing options in the area. It is also essential that cumulative impacts from other major projects impacting on population growth in the Region are addressed and that contributions are made by the project proponents. Government and community sectors will also continue to play important roles in the delivery of affordable housing.

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<sup>15</sup> Collecting further primary data would assist in refining the framework, particularly in the areas of understanding how resource employees spend their wages, and the extent to which locally sourced inputs of operations impact on Moranbah. The framework is flexible enough that it could be applied to any major project in a resource rich area. However, assumptions used would need to be tailored to the region in question.



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# Appendix 1: Terms of Reference

# Amended Terms of Reference – 8 March 2011

## BBCG Project Housing Impacts Study



### Preamble

In August 2010, the Coordinator-General finalised his report evaluating the environmental impact statement (EIS) for the Caval Ridge Mine (CRM) Project. In his report, the Coordinator-General provided conditional approval to the CRM Project.

The CRM project forms part of a larger body of development work being developed by the Project proponent, BHP Billiton Mitsubishi Alliance (BMA) – the Bowen Basin Coal Growth (BBCG) Project.

Among his imposed conditions, the Coordinator-General required BMA, per Condition 18(f) of his Report, to:

*“... engage the Office of Economic and Statistical Research (OESR) to undertake the BBCG Housing Impacts Study (including the CRM and Daunia Mine) which will provide an analysis of the impacts of each component of the BBCG project on the housing market in Moranbah or surrounding areas”.*

The Coordinator-General later determined that the Study is to be completed by 2 May 2011.

In response, draft terms of reference for a Housing Impact Study (the Study) have been developed by BMA. Condition 18(g) of the Coordinator-General's Report states that the Housing Impact Study terms of reference must be developed in consultation with the Moranbah BMA Community Network (BCN) before it is approved by the Coordinator-General.

The information developed for the Study is to form the basis and guide development of a BBCG Housing Impact Plan (Condition 18(k) of the Coordinator-General's Report) which also is to be completed by 2 May 2011.

This draft Terms of Reference for the Study has been developed to facilitate that consultation requirement.

## Moranbah Housing Impact Study Terms of reference

### No. Item

#### 1 *Socio-Demographic Profile*

Based on the 2006 census and published and unpublished data from the ABS and other appropriate agencies prepare a socio-demographic profile for Moranbah containing:

- a. Estimated Resident Population (ERP) from 1996 to 2009
- b. Average annual population change for five year groupings and for last 12 months (number and percentage)
- c. Components of population change (SLA only) for same period
- d. Age/sex breakdown – 1996-2009 by ERP
- e. Age dependency ratio
- f. Household income frequency distributions for family households and non-family households, as well as individual income.
- g. Occupation groupings by age groups by categories (UR)
- h. Industry of employment ranked by major groups (UR)
- i. Employment by occupational category
- j. Journey to Work (SLA) and BMA company data (where available)
- k. Workforce participation rates.
- l. Housing Tenure
- m. Rental / Mortgage payments
- n. Rental dwelling tenure by rent bands
- o. Proportion/number of private rental dwellings by weekly rent categories
- p. Proportion/number of private dwellings by monthly repayments
- q. Car Ownership rates
- r. Non-resident workers – time series by locality (Moranbah) and Bowen Basin
- s. Education – population aged 15 years and over with stated non-school qualification
- t. Household structure – family households, lone person, group and other classifiable households
- u. Projected household growth by household type (by LGA and SLA only)

Unless otherwise indicated, this data is to be benchmarked against the Whitsunday Hinterland and Mackay (WHAM) planning region and the combined Brisbane/Moreton SD area.

## 2 *Current Short Stay Workforce*

Based on survey and other appropriate methodologies, determine the number and extent of the short stay workforce in the region.

The short stay workforce are those workers who are non-resident in the region, under known FIFI/DIDO/BIBO arrangements, comprising:

- a. BMA and contractor workforce – to the extent practicable, information for all BMA projects and operations, including town staff.
- b. Other – includes aggregates data from other resource companies to preserve confidentially.

The data should include:

- I. Total workforce – 'workforce' traditionally includes part-time as well as full-time workers and unemployed workers. The preferred workforce split will aim to be by resident and non-resident worker, by employee/contractor, by construction/operations/maintenance workers
- II. Shift patterns, indicated place of residence
- III. Estimates of peak and average
- IV. Comparative ratio of non-resident workforce accommodation to private residential dwellings within Moranbah UCL boundary

Relevant information for the whole Bowen Basin will be provided by OESR for purpose of comparison.

## 3 *Current Housing and Accommodation Supply*

Based on data from ABS, OESR and other appropriate agencies, provide data on:

- a. Housing mix – private dwellings by type
- b. Housing tenure
- c. Time series housing tenure
- d. Sales of houses, units and land – sales volumes and sales by price groups
- e. Dwelling approvals – time series from 2002 to 2009
- f. Rents –number of rental bonds lodged, new lodgements, rent medians and frequency distribution by dwelling type/size
- g. Company-provided housing, company leased housing, single person quarters (company owned and rented from third party providers)
- h. Supply of non-private accommodation in Moranbah - maximum capacity of SPQs (beds) and other commercial accommodation

#### 4 *Population and Socio Demographic Projections*

Based on data from ABS, OESR and other appropriate agencies detail population and age estimates with the following distinctions:

- a. Population growth driven by BMA activities
- b. Population growth attributed to other drivers

The projections will include a description of the numbers and type of low/medium income non resource industry workers that would reasonably seek to live in Moranbah over the Study period. This includes an estimate of the non-resident workforce population as well as residents to 2018.

OESR will provide resident population projections for:

- (a) the town of Moranbah (by age/sex) to 2018 – by identified growth scenarios
- (b) the LGA of Isaac (R) (including age/sex projections) to 2031 (high, medium and low series)
- (c) the WHAM region and the combined Brisbane/Moreton SD area (including age/sex projections) to 2031 (high, medium and low series)

#### 5 *Housing Needs - low/medium income, non-resource industry workers*

Assess and define the:

- (a) housing needs of low/medium income, non-resource industry workers renting in the housing market in Moranbah according to an agreed definition of occupational groupings, household income categories and rent categories for 2006. As this is based on place of enumeration rather than usual residence, it will only be appropriate to analyse this by family households only (ie to exclude lone person and group households) to avoid picking up single non-resident workers
- (b) housing demand generated by this group
- (c) include an estimate of people conducting home-based business not allied to the mining sector in Moranbah
- (d) housing needs and supply of dwellings available for non-resource industry workers to take account of Isaac Regional Council Affordable Housing Project (Isaac Views)

This data is to be benchmarked against the WHAM planning region and the combined Brisbane/Moreton SD area.

#### 6 *Resource Industry Accommodation Arrangements*

Describe and analyse the current full suite of accommodation arrangements for all BMA personnel (both direct employees and contractors engaged in all BMA business activities, including non-BBCG project activities) in the (WHAM) planning region, including existing and proposed FIFO/DIDO/BIBO arrangements.

## 7 *Housing Market Impacts*

Assess and describe the impacts on the housing market (housing availability, house price and rental levels) that can be attributed to:

- (a) BMA activities in the region
- (b) Other drivers in the region

This is to include analysis of options to mitigate negative impacts on the housing market from the above activities, including but not limited to supply, approval and delivery of private sector housing.


## 8 *Description of Accommodation Options*

Within the operational/accommodation parameters accepted by the Coordinator-General in his Report on the CRM EIS, describe the options available to BMA to address the attributable impacts described in points 5 and 7. This is to focus on:

- i. the delivery of low/medium income non-resource worker housing that cannot be delivered by the market
- ii. Housing required by the operational workforce (BMA and contractors)

## **Other information and assumptions**

- BMA is to produce the Housing Impact Study, as per Condition 18(f) of the Coordinator-General's Report on the CRM EIS.
- OESR is to undertake the Housing Impact Study for BMA, as per the direction of the Coordinator-General in his Report on the CRM EIS.
- OESR will be engaged by BMA to undertake the Study, under agreed terms and conditions, including agreement on cost, timeframes and resourcing.
- Data and information required for completion of the Study is to be sourced from BMA (for BMA specific information, where available) and/or from OESR's statistical database. It is acknowledged that information provided by BMA will be provided on a commercial in confidence basis, specific to its operations covered within the scope of this Study.
- Owing to uncertainties with workforce data, in particular data related to contractor workforce and the cyclical nature of that workforce component, the information supplied by BMA will be the best available at the time relating to BMA operations and projects, and may need to be supplemented by OESR and other sources.
- A final draft of the Housing Impact Study report must be presented by BMA to the Moranbah BCN for review and input. BMA must take into account any feedback on

- 
- or suggested amendments to the Study provided by the BCN in the finalisation of that Study report.
  - If the Coordinator-General determines that the final draft report does not meet the approved terms of reference, then the report must be subsequently amended and presented to the Coordinator-General for approval.
  - The results of the Study must be made publicly available and be considered in future revisions of the CRM SIMP, with intellectual property rights of the data collected shared between BMA and OESR for data supplied by BMA and retained by OESR for all other data.
  - The Study period on which projections are to be made will be 2011 to 2031 unless other stated.





## Appendix 2: Details of Major Projects Likely to Impact on Moranbah

### Starting Construction

#### **Arrow Bowen Pipeline Project<sup>16</sup>**

The Arrow Bowen Pipeline Project is the construction of a 600 km long point-to-point, 107 cm nominal diameter transmission pipeline consisting of a main pipeline and several lateral pipelines. The pipeline would commence at Red Hill, approximately 90 km north of Moranbah in central Queensland, and terminate at Gladstone. As noted on DERM's website, "Its purpose would be to convey coal seam gas (CSG) from Arrow Energy's gas fields in the Bowen Basin for eventual export as liquefied natural gas (LNG)"<sup>17</sup>.

The proposed pipeline would commence in the southern part of the Whitsunday Regional Council local government area, traverse the Isaac and Rockhampton regional councils' local government areas in a southerly direction, and terminate in the Gladstone Regional Council local government area.

The project is expected to require 650 construction jobs at its peak and approximately 10 operational positions. Construction is expected in 2015 and operation in 2017.

The Initial Advice Statement indicates that all construction jobs will be catered for in 5 temporary camps, and as such, no significant impact on Moranbah is expected.

#### **Daunia Mine<sup>18</sup>**

Daunia Mine is the development of a multi-seam open cut coal mine at Daunia, approximately 25 km south-east of Moranbah and approximately 170 km south-west of Mackay, Queensland. This project forms part of the broader BMA Bowen Basin Coal Growth Project (BMA BBCGP), which includes 3 other projects that are being addressed by separate EIS's (Caval Ridge, Goonyella Riverside and a new Moranbah Airport).

Daunia Mine includes a new coal mine and coal handling and processing infrastructure to produce 4 Million tonnes per annum (Mt/a) of semi hard coking coal and pulverized coal injection (PCI) coal for the export market over a life of approximately 21 years.

<sup>16</sup> Arrow Bowen Pipeline Project, Initial Advice Statement; [http://www.derm.qld.gov.au/environmental\\_management/impact\\_assessment/eis-processes/arrow\\_bowen\\_pipeline\\_project.html](http://www.derm.qld.gov.au/environmental_management/impact_assessment/eis-processes/arrow_bowen_pipeline_project.html)

<sup>17</sup> [http://www.derm.qld.gov.au/environmental\\_management/impact\\_assessment/eis-processes/arrow\\_bowen\\_pipeline\\_project.html](http://www.derm.qld.gov.au/environmental_management/impact_assessment/eis-processes/arrow_bowen_pipeline_project.html)

<sup>18</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.deedi.qld.gov.au/cg/daunia-mine-part-of-the-bma-bowen-basin-coal-growth-project.html>; <http://www.bhpbilliton.com/home/aboutus/regulatory/Pages/default.aspx>; BMA Bowen Basin Growth Project Initial Advice Statement May 2008;



Approximately 1000 employees are expected for construction and 400 for operation. Start up of operations is expected in 2013.

The proponents note that accommodation at their BMAAV and BPAV villages as well as The Mac's Coppabella Village if necessary are to be utilised for their construction workers. Operational workers are expected to be located in the surrounds. Given its close proximity to Moranbah, this is likely to be the preference for many in operations.

BMA intends to build four houses and four units in Moranbah for professional BMA staff working on site.

#### ***Moranbah Ammonium Nitrate Plant<sup>19</sup>***

Incitec Pivot Pty is currently constructing an ammonium nitrate plant approximately 4.5 kilometres north-west of Moranbah. The Moranbah plant will produce ammonia gas and nitric acid as inputs to the plant outputs of ammonium nitrate emulsion (viscous liquid) and prill (solid) to service the rapidly expanding demand for explosives from mining throughout Queensland and New South Wales. The Moranbah facility will have a production capacity of approximately 330 000 tonnes annually. The project will use locally sourced coal seam gas.

Although the project slowed somewhat since commencement due to the Global Financial Crisis, in May 2011 approximately 35 per cent of the project was completed. The project is expected to be fully operational by 2012.

Approximately 550 employees for construction will be required and about 80 employees for operations will be required on an ongoing basis. The life of the operations is assumed to be at least 20 years.

Information on the project indicates that the company is committed to ensuring that operational staff can live locally. The Document indicates that 70 new units will be provided as part of the project.

<sup>19</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011;  
[http://www.incitecpivot.com/zone\\_files/PDFs/asx\\_announcement\\_080210.pdf](http://www.incitecpivot.com/zone_files/PDFs/asx_announcement_080210.pdf);  
<http://www.deedi.qld.gov.au/cg/moranbah-ammonium-nitrate.html>



## Expansion / Extension Projects Underway

### **Isaac Plains Open Cut Mine<sup>20</sup>**

Isaac Plains Coal Joint Venture established the Isaac Plains open cut coal mine, located approximately 7km east of Moranbah. The Isaac Plains Coal Joint Venture is a 50/50 joint venture between Aquila Resources and VALE (Aust) and was formed in 2005. A management team was appointed to develop and operate the Isaac Plains Coal Project.

The current Mining Lease (ML70342) covers an area of approximately 2940Ha. Subject to receipt of all regulatory approvals, the project is planned to increase its operations to its capacity of 2.8Mtpa of product in line with the current Phase 2/3 expansion at the Dalrymple Bay Coal Terminal.

The proposed expansion area is located south of the current operation on the southern floodplain of the Isaac River on the Winchester Downs property, about 10km south-east of Moranbah. Development of the expansion area will include an open-cut pit, out-of-pit spoil dumps, access/haul roads, ROM coal stockpile and a small infrastructure area. The Integrated Isaac Plains Project will comprise some changes to the existing mine including dragline overburden removal, and new mining activities within the expansion area.

It is expected that 100 employees would be required for construction and an additional 40 for operations. The proposed operation is expected to commence in 2012.

The EIS Documents indicate that a large proportion of the construction and operation workforces are proposed to be housed in the MAC Coppabella Camp on the Peak Downs Highway, and the remaining are anticipated to live in Moranbah.

### **Burton Open Cut Mine<sup>21</sup>**

Burton is an open-cut mine owned by Peabody Energy Australia Coal Pty Ltd. The mine is operated by Thiess Pty Ltd and is located North East from Moranbah. Medium volatile hard and semi-hard coking and thermal coal is mined by open-cut truck and shovel terrace mining method.

The reported workforce for Burton in 2003 was 368. An expansion is currently taking place and extended operations are likely to commence in 2012. Approximately 200 construction workers will be required for the expansion, and 500 operational staff are anticipated.

<sup>20</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; [http://www.isaacplains.com.au: http://www.derm.qld.gov.au/environmental\\_management/impact\\_assessment/eis-processes/integrated\\_isaac\\_plains\\_project.html](http://www.isaacplains.com.au: http://www.derm.qld.gov.au/environmental_management/impact_assessment/eis-processes/integrated_isaac_plains_project.html)

<sup>21</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.mining-technology.com/projects/burton: http://www.peabodyenergy.com.au/qld/burton.html>



No information on likely location of accommodation was indicated in the available Documents. However, given its proximity to Moranbah it has been assumed that employees will seek accommodation in the Town.

## New Project Under Consideration / Feasibility

### **Codrilla**

Codrilla is a project that proposes an open cut coal mining and processing operation. It is located west of Moranbah and will target the Leichhardt Lower 2 and Vermont Upper coal seams. Mining operations are expected to produce an average of 3.8 Million tonnes per annum Run of Mine coal, which following processing, will provide approximately 2.7Mtpa of Pulverised Coal Injection and thermal coal product to export markets with. Based on current coal resources, mine life is expected to be in the order of 16 years, however ongoing exploration is expected to add to the resource base and consequently extend mine life.

Approximately 170 employees are expected for construction and 240 for operations. Given its proximity to Moranbah, it is expected that many employees will seek accommodation in the Township. Operations are expected to commence in 2013.

### **Moorvale B&P underground<sup>22</sup>**

Macarthur Coal is investigating the Moorvale B&P underground project, 62km south east of Moranbah. Its principal product is low volatile pulverized coal injection (LV PCI) coal used in the production of steel but also produces thermal and coking coal. It supplies seaborne LV PCI coal to steel mills in Asia, Europe and Brazil. The estimated capital expenditure with the new operations is \$180 million.

Approximately 80 employees are expected to be required for construction and 160 for operations. Operations are expected to commence from 2015.

In 2010 around 130 people worked at the Moorvale Mine with crews working 12-hour shifts on a four-days on, four-days-off or seven days on, seven days off roster. Most employees live locally in either Moranbah, Nebo or Mackay. Accommodation is available to employees in nearby camp facilities and bussing is provided between the camp, mine site and local accommodation.

### **Ellensfield Coal Mine Project (ECMP)<sup>23</sup>**

The ECMP involves the development of a greenfield underground coal mine producing up to 5.5 million tonnes a year of coking coal and thermal coal for export. The project site on the northern side of the Peak Downs Highway, approximately midway between the towns of Coppabella and Moranbah in Central Queensland.

<sup>22</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; [www.macarthurcoal.com.au](http://www.macarthurcoal.com.au)

<sup>23</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; [http://www.derm.qld.gov.au/environmental\\_management/impact\\_assessment/eis-processes/ellensfield\\_coal\\_mine\\_project.html](http://www.derm.qld.gov.au/environmental_management/impact_assessment/eis-processes/ellensfield_coal_mine_project.html)



Approximately 460 employees are expected to be required for construction and 340 for operations. Commencement of operations is expected in 2013 and the mine has an operational life of at least 20 years.

The construction workforce is expected to be accommodated at a purpose built mine camp which could be used by the operational workforce. However it is noted that some operational staff will live locally. Given the 12 hour shifts, it is also becoming more common for employees to house their families outside the area and to commute and/or use temporary accommodation. The project is 175km from Mackay.

#### ***Moranbah Airport Construction<sup>24</sup>***

This project is a part of BMA's Bowen Basin Coal Growth Project and will see the replacement and expansion of the existing Moranbah airport facility. The project will accommodate increased travel to and from the area providing a wider range of transport options for the larger workforce associated with BMA's expanded operations.

No information on expected construction workforce was available. Additional operational staff is expected to be minimal.

#### ***Millennium expansion<sup>25</sup>***

Millennium Coal Pty Limited (MCPL), a subsidiary of Peabody Energy Australia Pty Limited is the proponent for the Millennium Expansion project. The project is 22km east of Moranbah.

The proposed expansion project includes increasing production of the current open-cut, hard coking coal Millennium mine from 1.9 million tonnes per year (Mt/y) run-of-mine (ROM) coal to 5.5 Mt/y. This will produce up to 3.6 Mt/y of product coal for export.

Operations are expected to commence in 2013 and the workforce is expected to be 350 construction and 250 operational staff. The expansion would extend the current mine life by approximately 17 years from the grant of environmental approvals.

#### ***Caval Ridge<sup>26</sup>***

The Caval Ridge open cut mine is also part of BMA's Bowen Basin Coal Growth Project with a approximately capital expenditure of \$4000 million.

<sup>24</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011

<sup>25</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.peabodyenergy.com.au/gld/millennium.html>; [http://www.derm.qld.gov.au/environmental\\_management/impact\\_assessment/eis-processes/millennium\\_expansion\\_project.html](http://www.derm.qld.gov.au/environmental_management/impact_assessment/eis-processes/millennium_expansion_project.html)

<sup>26</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.deedi.qld.gov.au/cg/caval-ridge-mine-part-of-the-bma-bowen-basin-coal-growth-project.html>; BMA Bowen Basin Growth Project Initial Advice Statement May 2008;



The Caval Ridge Coal Mine, which will be located adjacent to the existing Peak Downs Mine, will begin construction in 2011 and it is expected to be exporting by 2014. Over the life of the project, approximately 1760 construction jobs and 650 operational jobs will be created at Caval Ridge.

The Caval Ridge Coal Mine also enables an expansion of the Peak Downs Mine. The Peak Downs Mine expansion has been delayed in response to the challenging external environment.

BMA currently has an accommodation village in Moranbah, and also utilises The Mac's villages in Town and at Coppabella. BMA have approvals for the building of two additional villages. Approved capacities include approximately 2500 - 3200 beds<sup>27</sup>. Caval Ridge has been approved for 100 per cent fly in fly out workers to ensure the project can progress.

#### ***Eagle Downs underground***<sup>28</sup>

The Eagle Downs Project involves the development of a greenfield underground coal mine some 20 km south-east of Moranbah. The proposed mine will produce up to 11 Million tonnes per annum of Run of Mine coking coal for the export market. The mine will utilise the longwall mining method and will have a mine life in excess of 30 years.

The project proponent is the Bowen Central Coal Joint Venture Parties, consisting of Bowen Central Coal Pty Ltd (BCC) and Aquila Coal Pty Ltd (Aquila).

The project is forecast to commence in 2015 and employment is estimated at around 500 for construction and 410 for operations.

#### ***Moranbah South underground***<sup>29</sup>

A joint venture between Anglo American and Exxaro, Moranbah South Underground is an exploration project of hard coking coal resource on the adjacent properties of Moranbah South and Grosvenor south. Exploration is focused on geological work to delineate long-wall mining resources and has the potential to produce large volumes of premium-quality hard coking coal.

Operation is proposed to commence around 2017 and an operational workforce of around 650 is expected. The construction workforce is expected to total over 1200 people. The lifespan of the mine is expected to be upwards of 20 years.

<sup>27</sup> Caval Ridge Project, Buffel Park Accommodation Villages Construction Village; September 2010

Prepared

<sup>28</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; Eagle Downs Initial Advice Statement, July 2008; <http://www.derm.qld.gov.au/register/p02342aa.pdf>

<sup>29</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.angloamerican.com.au/our-operations/projects.aspx>



Media releases<sup>30</sup> indicate that the companies are keen to support housing in Moranbah and are planning to build 50 new homes as well as providing substantial cash subsidies for people wishing to build or buy in Moranbah and its surrounds.

#### ***Grosvenor underground***<sup>31</sup>

The Grosvenor Project is owned by Anglo Coal Australia. The project involves the development of a new underground coal mine north of Moranbah in Central Queensland. The proposed mine will produce up to 6 million tonnes per annum of coking coal for the export market. The mine will utilize the long-wall mining method and will utilize Moranbah North Mine's facilities for washing and loading coal.

The EIS for this project has been completed and commencement is expected in 2013. It is estimated that the construction workforce would total around 500 and the operational staff would be in the vicinity of 485 persons.

#### ***Olive Downs North***<sup>32</sup>

Olive Downs North is approximately 15km south of Moorvale Mine. The project is a proposed small scale open-cut satellite mine designed to extend the life of the Moorvale Mine. The Mining Lease was granted in May 2009 but the operations are on hold. Currently there are studies being conducted to determine the feasibility of upgrading to a higher production rate.

Expected recommencement is in 2013, and at that time approximately 100 people for construction and 80 people for operations will be required.

#### ***Winchester South***<sup>33</sup>

Winchester South is an open-cut operation managed by Rio Tinto Coal and located 33km south east of Moranbah. The pre-feasibility is due to start in 2012 and a likely commencement date is around 2016. At that time it is estimated that approximately 400 operational staff will be required.

#### ***Talwood Underground***<sup>34</sup>

The Talwood Underground Project is located approximately 35km north of Moranbah. The tenement is adjacent to and immediately east of the BMA Goonyella Riverside and Peabody North Goonyella mining operations.

Three seams are mineable targets; the Leichhardt and Vermont Seams from the Rangal Coal Measures along with the thick Middle Goonyella seam from the Moranbah Coal Measures.

<sup>30</sup> <http://www.miningaustralia.com.au/news/anglo-american-plans-new-coal-mines>

<sup>31</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; Grosvenor Project, Initial Advice Statement, February 2010

<sup>32</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.macarthurcoal.com.au/mine-and-projects/olive-downs-north>

<sup>33</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011

<sup>34</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.aquilaresources.com.au/files/Mining%20weekly%2009122010.pdf>



A scoping study has recently been completed and it is expected that operations would commence from 2015. An operational workforce of around 350 is expected.

***Eaglefield***<sup>35</sup>

The Eaglefield project, also known as Denham, is an open cut mine located in proximity to the Talwood Underground. It produces high quality hard coking coal and has been in operation since 2003. In 2004 Peabody acquired the mine. The majority of the current employees at the mine are living in the Mackay region with camp facilities provided at the Village. Transport to and from the mine site and Village is provided by the company. Peabody is currently completing an EIS for an expansion of operations. It is expected that around 650 construction workers would be required for the expansion and an additional 700 operational staff. Commencement is assumed to be around 2013.

***New Lenton***<sup>36</sup>

New Lenton is a New Hope Corporation Ltd project. It is a new project in the Bowen Basin and has completed a pre-feasibility study. Four hundred operational staff will be required for the project and it is expected that commencement will occur in 2014.

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<sup>35</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011; <http://www.peabodyenergy.com.au/qld/north-goonyella-and-eaglefield.html> ; <http://www.macmahon.com.au/Mining/Surface/Eaglefield>

<sup>36</sup> ABARE May 2011 and DEEDI – Mines, Rockhampton October 2011

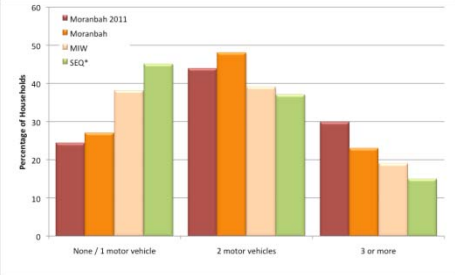




## Appendix 3: Socio-Economic and Socio-Demographic Information and Other Key Information from Terms of Reference

Terms of Reference Requirements	Discussion found in Section...																				
<b><i>Socio-Economic and Socio-Demographic Profile</i></b>																					
a. Estimated Resident Population (ERP) from 1996 to 2009	✓ Included in Section 3																				
b. Average annual population change for five year groupings and for last 12 months (number and percentage)	✓ Included in Section 3																				
c. Components of population change (SLA only) for same period	✓ Included in Section 3																				
d. Age/sex breakdown – 1996-2009 by ERP	✓ Included in Section 3																				
e. Age dependency ratio  Steadily increasing in Isaac since 1996, and much higher than MIW or SEQ. Indicates higher proportion of people in the labour force, and higher number of couples and individuals working per dependent.	<table border="1"> <caption>Number of Working Age for every Dependent</caption> <thead> <tr> <th>Year</th> <th>Isaac (R) - Beylondo</th> <th>MIW</th> <th>SEQ*</th> </tr> </thead> <tbody> <tr> <td>1996</td> <td>2.15</td> <td>2.05</td> <td>2.05</td> </tr> <tr> <td>2001</td> <td>2.15</td> <td>2.05</td> <td>2.05</td> </tr> <tr> <td>2006</td> <td>2.35</td> <td>2.15</td> <td>2.15</td> </tr> <tr> <td>2010p</td> <td>2.45</td> <td>2.25</td> <td>2.15</td> </tr> </tbody> </table>	Year	Isaac (R) - Beylondo	MIW	SEQ*	1996	2.15	2.05	2.05	2001	2.15	2.05	2.05	2006	2.35	2.15	2.15	2010p	2.45	2.25	2.15
Year	Isaac (R) - Beylondo	MIW	SEQ*																		
1996	2.15	2.05	2.05																		
2001	2.15	2.05	2.05																		
2006	2.35	2.15	2.15																		
2010p	2.45	2.25	2.15																		
f. Household income frequency distributions for family households and non-family households, as well as individual income.	✓ Included in Section 3																				
g. Occupation groupings by age groups by categories (UR)	✓ Included in Section 3																				
h. Industry of employment ranked by major groups (UR)	✓ Included in Section 3																				
i. Employment by occupational category	✓ Included in Section 3																				
j. Journey to Work (SLA) and BMA company data (where available)	✓ Included in Section 3																				
k. Workforce participation rates.	✓ Included in Section 3																				
l. Housing Tenure	✓ Included in Section 3																				
m. Rental / Mortgage payments	✓ Included in Section 3																				
n. Rental dwelling tenure by rent bands	✓ Included in Section 3																				
o. Proportion/number of private rental dwellings by weekly rent categories	✓ Included in Section 3																				
p. Proportion/number of private dwellings by monthly repayments	✓ Included in Section 3																				



Terms of Reference Requirements	Discussion found in Section...																				
<p>q. Car Ownership rates</p> <p>Car ownership rates high in Moranbah. Proportionally more households owning 2 and 3 or more cars when compared to MIW and SEQ. The proportion of 3+ car households has increased in 2011 when compared to 2006.</p>	 <table border="1"> <caption>Car Ownership Rates (Percentage of Households)</caption> <thead> <tr> <th>Category</th> <th>Moranbah 2011</th> <th>Moranbah</th> <th>MIW</th> <th>SEQ*</th> </tr> </thead> <tbody> <tr> <td>None / 1 motor vehicle</td> <td>~25</td> <td>~35</td> <td>~45</td> <td>~48</td> </tr> <tr> <td>2 motor vehicles</td> <td>~45</td> <td>~50</td> <td>~40</td> <td>~38</td> </tr> <tr> <td>3 or more</td> <td>~30</td> <td>~25</td> <td>~20</td> <td>~15</td> </tr> </tbody> </table>	Category	Moranbah 2011	Moranbah	MIW	SEQ*	None / 1 motor vehicle	~25	~35	~45	~48	2 motor vehicles	~45	~50	~40	~38	3 or more	~30	~25	~20	~15
Category	Moranbah 2011	Moranbah	MIW	SEQ*																	
None / 1 motor vehicle	~25	~35	~45	~48																	
2 motor vehicles	~45	~50	~40	~38																	
3 or more	~30	~25	~20	~15																	
<p>r. Non-resident workers – time series by locality (Moranbah) and Bowen Basin</p>	<p>✓ Included in Section 3</p>																				
<p>s. Education – population aged 15 years and over with stated non-school qualification</p>	<p>✓ Included in Section 3</p>																				
<p>t. Household structure – family households, lone person, group and other classifiable households</p>	<p>✓ Included in Section 3</p>																				
<p>u. Projected household growth by household type (by LGA and SLA only)</p>	<p>✓ Included in Section 3</p>																				
<b>Current Short Stay Workforce</b>																					
<p>Based on survey and other appropriate methodologies, determine the number and extent of the short stay workforce in the region.</p>	<p>✓ Included in Section 2 and 5</p>																				
<p>a. BMA and contractor workforce – to the extent practicable, information for all BMA projects and operations, including town staff.</p>	<p>✓ Included in Section 2 and 5</p>																				
<p>b. Other – includes aggregates data from other resource companies to preserve confidentially.</p>	<p>✓ Included in Section 2 and 5</p>																				
<b>Current Housing and Accommodation Supply</b>																					
<p>a. Housing mix – private dwellings by type</p>	<p>✓ Included in Section 4</p>																				
<p>b. Housing tenure</p>	<p>✓ Included in Section 4</p>																				
<p>c. Time series housing tenure</p>	<p>✓ Included in Section 4</p>																				
<p>d. Sales of houses, units and land – sales volumes and sales by price groups</p>	<p>✓ Included in Section 4</p>																				
<p>e. Dwelling approvals – time series from 2002 to 2009</p>	<p>✓ Included in Section 4</p>																				
<p>f. Rents – number of rental bonds lodged, new lodgements, rent medians and frequency distribution by dwelling type/size</p>	<p>✓ Included in Section 4</p>																				
<p>g. Company-provided housing, company leased housing, single person quarters (company owned and rented from third party providers)</p>	<p>✓ Included in Section 4 and Section 5</p>																				

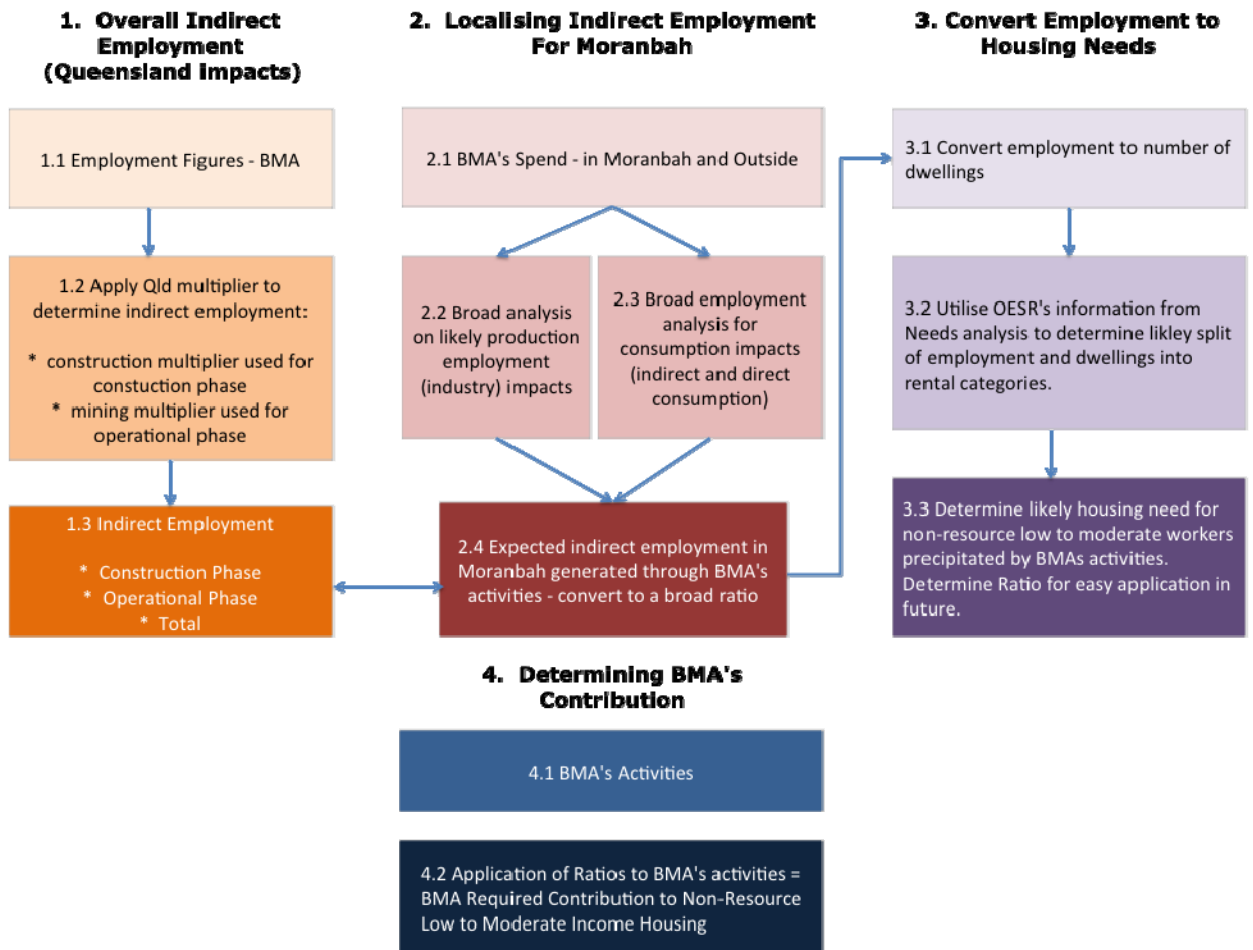


<b>Terms of Reference Requirements</b>	<b>Discussion found in Section...</b>
h. Supply of non-private accommodation in Moranbah - maximum capacity of SPQs (beds) and other commercial accommodation	✓ Included in Section 5
<b><i>Population and Socio Demographic Projections</i></b>	
a. Population growth driven by BMA activities	✓ Included in Section 2
b. Population growth attributed to other drivers	✓ Included in Section 2
<b><i>Housing Needs - low/medium income, non-resource industry workers</i></b>	
a. housing needs of low/medium income, non-resource industry workers renting in the housing market in Moranbah	✓ Included in Section 4
b. housing demand generated by this group	✓ Included in Section 6
c. include an estimate of people conducting home-based business not allied to the mining sector in Moranbah	Not included, no data provided in OESR's information
d. housing needs and supply of dwellings available for non-resource industry workers to take account of Isaac Regional Council Affordable Housing Project (Isaac Views)	✓ Included in Section 6
<b><i>Resource Industry Accommodation Arrangements</i></b>	
Describe and analyse the current full suite of accommodation arrangements for all BMA	✓ Included in Section 5 and 6
<b><i>Housing Market Impacts</i></b>	
a. Assess and describe the impacts on the housing market attributable to BMA Activities:	✓ Included in Section 2,4,6, 7
b. Assess and describe the impacts on the housing market attributable to Other Activities:	✓ Included in Section 2,4,6, 7
<b><i>Description of Accommodation Options</i></b>	
i. the delivery of low/medium income non-resource worker housing that cannot be delivered by the market	✓ Included in Section 8
ii. Housing required by the operational workforce (BMA and contractors)	✓ Included in Section 8



# Appendix 4: Assumptions and Method used to determine Ratios for BMA's required contribution to Non-Resource Low to Moderate Income Dwellings

## Overall Method





## 1. Overall Indirect Employment Impacts (Queensland)

### 1.1 Employment Figures - BMA

Employment figures for the construction and operational phases were obtained from BMA

#### 1.1 BMA Operations - Bowen Basin Coal Growth Project

BMA	Capital Employment			From Year
	Expenditure	Construction	Operational	
Open Mine	1600	1,000	400	2011
CBM	4000	1,700	650	2011
<b>Total</b>	<b>5600</b>	<b>2,700</b>	<b>1050</b>	

Source: BMA

1.2 Apply Qld multiplier to determine indirect employment:

- \* construction multiplier used for construction phase
- \* mining multiplier used for operational phase

#### 1.2 Determine Economic Impacts - Apply Multipliers

	Initial	Production Induced	Consumption Induced	Total
<b>Construction Phase: Construction Multiplier</b>				
Employment		3,950	2,790	6,740
<b>Operational Phase: Mining Multiplier</b>				
Employment		1,110	1,650	2,760

Source: 5320.0 - Australian National Accounts: State Accounts, 2010-11; 5200.0.55.001 - Australian National Accounts: Input-Output Tables, Final release 2006-07 tables; ABS 2006 Census of Population and Housing

Queensland multipliers from the ABS were utilised to determine indirect employment. The construction multiplier was used to determine indirect employment in the construction phase, and the mining multiplier was used to determine indirect employment in the operational phase.

Indirect employment was determined by noting two components of the multiplier – the production impact, and the consumption impact. The ‘in-direct contribution’ to the economy exists because during construction and operation there would be purchases made from companies who would in turn spend those dollars on their inputs, and so on through the industry sectors. This is termed the ‘production’ impact. In addition, there is a consumption effect as employees will spend their wages creating additional demand for goods and services in the economy. The results of the indirect employment calculations are shown below in 1.3.

### 1.3 Indirect Employment

- \* Construction Phase
- \* Operational Phase
- \* Total

#### 1.3a Direct and Indirect Employment Total

	Initial	Production Induced	Consumption Induced	Total
<b>Construction Phase:</b>				
Employment (# jobs)		2,700	2,010	4,710
<b>Operational Phase:</b>				
Employment (# jobs)		1,050	1,710	2,760

Source: Application of table 1.1 to 1.2

#### 1.3b Indirect Employment Total

	Production Induced	Consumption Induced	Total
<b>Construction Phase:</b>			
Employment (# jobs)	2,990	2,010	5,000
<b>Operational Phase:</b>			
Employment (# jobs)	1,790	1,650	3,440

Source: Application of table 1.1 to 1.2 (omit out direct employment)

## 2. Localising Indirect Employment to Moranbah

### 2.1 BMA's Spend - in Moranbah and Outside

Through an economics study conducted in 2012, Price Waterhouse Coopers have indicated that 47 percent of all BMA's expenditure comes from the wider Mackay Region. Of this, given the industry structure in Moranbah (and the lack of many higher order goods, supplies and services) BMA estimate that 5 percent would be directed towards Moranbah in the construction phase, and 7 percent in the operational phase (for production induced indirect impacts).



2.2 Broad analysis on likely production employment (industry) impacts

2.2 Production (Industry) Impacts

Production Impacts	Construction	Operation
Overall Indirect Employment	2890	1790
FWC Estimate of Cap Exp (Local - Misc cap)	47%	47%
% of Regional Employment likely to be in Moranbah	5%	7%
Utility Employment in Moranbah	30	60

Source: FWC, Bechtel Economic Report, TCC Change and BMA Estimates

The table above uses the assumptions in 2.1 to convert the 'production' indirect employment impacts supported by BMA's activities in Caval Ridge and Daunia. This indicates that an additional 70 employees would be supported in Moranbah during the construction phase, and an additional 60 employees during the operational phase for production Impacts.

2.3 Broad employment analysis for consumption impacts (indirect and direct consumption)

2.3 Consumption Impacts

Consumption Impacts (Supplying Industries)	Construction	Operation
Overall Indirect Employment	2000	1600
FWC Estimate of Cap Exp (Local - Misc cap)	47%	47%
% of Regional Employment likely to be in Moranbah	5%	7%
Operable Income likely to be spent in Moranbah by Supplying Industries	30%	35%
Floorspace required	64	51
Employment generated (1 employee per 100sqm)	30	30
Utility Employment in Moranbah due to indirect industry impacts	30	30
Consumption Impacts (from BMA's workforce)		
Operable Income likely to be spent in Moranbah by BMA employees	4500	1700
Floorspace required	640	240
Employment generated (1 employee per 100sqm)	30	30
Number of employees required due to indirect consumption by BMA employees	30	30
Utility Employment in Moranbah Total	60	20

Source: FWC, Bechtel Report, MacroPlan 2011 Moranbah Retail & Commercial Needs

In addition to the assumptions in 2.1, the determination of likely consumption impacts in Moranbah was completed firstly for the indirect industry impacts (supplying industries), and secondly for the consumption impacts likely to be associated with BMA's workforce. Both these components utilised information from MacroPlan's 2011 Moranbah Retail and Commercial Needs report. This report indicated that the retail expenditure of non-resident workers is likely to be around half of that associated with usual residents of Moranbah (\$6520 per annum). In addition, given that the retail offer in Moranbah is limited, MacroPlan estimated that at least 50 percent of Moranbah's residents retail expenditure was 'lost' to other areas. Other assumptions included that retail turnover densities were approximately \$7000 turnover/sqm, and that 1 employee was required ever 30 sqm. To allow for employment in services, the overall figures were rounded up to the nearest 10. For the supplying industry impacts, the consumption impacts were almost around 1 or 2 employees, but rounding up to account for service industries mean that an additional 10 employees may be required in the construction and operation phase. For the consumption impacts associated with BMA's employees, the additional employment required was 30 employees for the construction period and 10 additional employees in the operational period. The result of these assumptions indicated that an additional 40 employees would be supported in Moranbah during the construction phase, and an additional 20 employees during the operational phase for consumption Impacts. It is noted that if there were more resident workers at BMA's mines, the proportion of retail expenditure staying in Moranbah would be higher and the overall indirect employment would also be higher.



**2.4 Expected indirect employment in Moranbah generated through BMA's activities - convert to a broad ratio**

**2.4 Overall Ratios for Employment Generation**

For every direct job, indirect jobs in Moranbah	Construction	Operation
Production	0.03	0.06
Consumption	0.01	0.01
<b>Total</b>	<b>0.04</b>	<b>0.08</b>

Source: Likely Employment in Moranbah / Direct Construction or Operational Employment  
Addition of Production and Consumption Impacts

The overall ratios for direct jobs to indirect jobs in Moranbah from BMA's activities at CRM and Daunia were determined by dividing the likely indirect employment in Moranbah determined at 2.2 and 2.3 by the direct employment at the construction and operational phases. The results for production and consumption impacts were then summed.

This indicated that for every direct job at CRM and Daunia in the construction phase, 0.04 jobs are generated in Moranbah. In the operational phase, for every direct job at CRM and Daunia, 0.08 jobs are generated in Moranbah.

**3. Converting Employment Impacts to Demand for Dwellings**

**3.1 Convert employment to number of dwellings**

**3.1a Determine Likely Number of People working in a Dwelling**

Family Households	Both Employed	One Employed	Not employed*
Couples no children (Belgaidah)	344	375	20
Couples with children (Belgaidah)	313	368	25
One Parent Families (Belgaidah)		348	5
Non-family (Moranbah)			26

Source: ABS 2006.0 - 2006 Census Tables, Belgaidah  
\* Assumptions given 1-2% unemployment in Moranbah

**3.1b Convert Employment to Numbers of Dwellings**

	Family Households	Single person households	Group Households*
Proportion of Households	75.0	26.0	4.2
Likely No of People employed per household	1.29	0.99	3.0
Average No of People Employed per household	1.31		

\* assume average 8 per group household

Employment numbers were converted to dwellings by determining the likely number of people working in a dwelling. The ABS 2006 census was used as the labour force information for 2011 was not available at the time of writing. Calculations noted the number of households that had one or more persons employed. Group households assumed the average number of people in a dwelling (3.1).

For every direct job, indirect jobs in Moranbah	Construction	Operation
Total (from 2.4)	0.04	0.08
Average No of People Employed per Household (from 3.1b)	1.31	1.31
<b>Total Households Required (all workers)</b>	<b>0.03</b>	<b>0.06</b>

Using the number of family and non-family households for Moranbah from the 2011 census resulted in a weighted average for employed persons per household. This indicated that on average 1.31 people per household were employed in Moranbah. Dividing the ratio of direct to indirect jobs by the 1.31 employed persons per household resulted in the overall number of households required for every direct job in BMA.

**3.2 Utilise OESR's information from Needs analysis to determine likely split of employment and dwellings into rental categories.**

**3.2 Determine likely split of employment and dwellings into rental categories**

Percentage Low - Mod Income (Average btw Moranbah and Mackay)	40%	
	ABS 2011	Construction   Operation
Total Households (Non-Mining Low - Mod Income)		0.012   0.023

Source: Total Households Required \* Percentage Low-Moderate Income

The total number of households in the non-resource, low to moderate income category likely to be required from BMA's activities was determined through applying the average of Moranbah and the wider Mackay region's proportion of low to moderate income household workers. This indicated that 40 per cent of all dwellings in Moranbah could be low to moderate income if the latent demand was accounted for. The Mackay statistic (52 per cent) was included (as opposed to the just the Moranbah statistic alone (which was 28 per cent)) as the Moranbah's proportion was considered to be masking latent demand that is likely to be constrained due to affordability issues. Application of the average between Moranbah



and Mackay statistics yields a higher rate of provision of affordable housing. The resultant ratios are shown below, and they indicate that

- One dwelling is required for every 90 construction workers;
- One dwelling is required for every 50 operational workers.

3.3 Determine likely housing need for non-resource low to moderate workers precipitated by BMAs activities. Determine Ratio for easy application in future.

3.3 Determine likely additional housing needs for low-mod income due to BMAs activities

	Construction	Operation
1 Dwelling required for every ... Workers	90	50

Source: Inverted Table 3.2

4. Determining BMA's Contribution

4.1 BMA's Activities

4.1 BMA Operations - Bowen Basin Coal Growth Project

BMA	Capital Expenditure	Employment		From Year...
		Construction	Operational	
Daunia Mine	1600	1,000	400	2011
CRM	4000	1750	650	2011
<b>Total</b>	<b>5600</b>	<b>2750</b>	<b>1050</b>	

Source: BMA

4.2 Application of Ratios to BMA's activities = BMA Required Contribution to Non-Resource Low to Moderate Income Housing

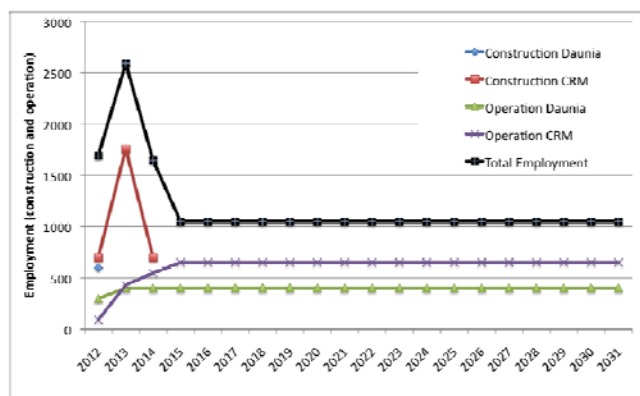
4.2 Determining BMA's contribution for Non-Resource (Low-Mod) Housing

BMA	Required Housing		Total From Year...
	Construction	Operational	
Daunia Mine	11	8	see graph
CRM	20	13	see graph
<b>Total</b>	<b>31</b>	<b>21</b>	

Source: Application of Ratios in 3.3 to BMA Operations

BMA's contribution was determined by noting the peak construction and operational employment and applying the ratios at 3.3. Expected employment roll out was determined and the proportion of 'peak employment' noted year on year.

The proportion of 'peak' was then applied to the maximum housing required (ie. the figures shown in 4.2) and the overall housing required determined.

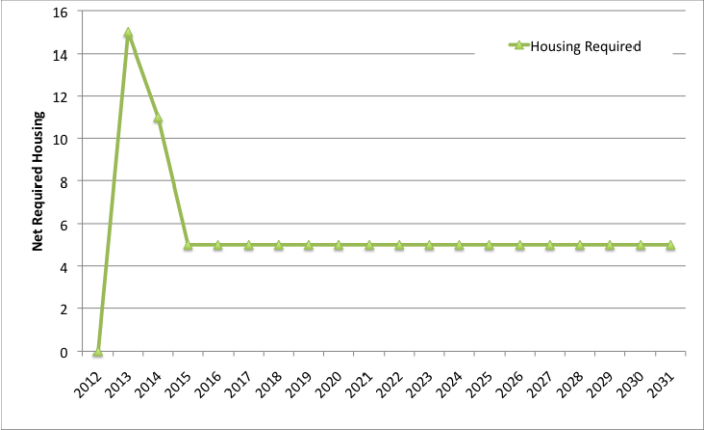
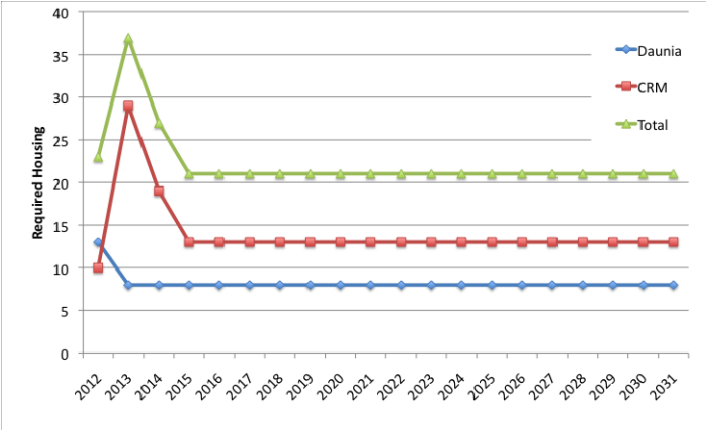






Affordable housing requirements overall were then determined. This indicated that at peak in 2013, 37 affordable dwellings were required to be contributed by BMA to offset the indirect impacts likely to occur by CRM and Daunia. The number of affordable houses required during operational phases of these projects was 21 dwellings.

Affordable housing contributions committed to date were netted from the overall housing required, and the remaining responsibility determined. This included 13 dwellings via the \$5million commitment to Isaac Affordable Housing Trust, plus the 3 houses already relinquished to DPWH for police housing, plus the rental subsidies to the 6 organisations over the 2012 and 2013 FY. The overall result was that BMA’s additional contribution required for affordable housing was 15 dwellings in 2013, reducing to 5 over the operational period.





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