



*cutting through complexity*<sup>TM</sup>

# Minerals Council of Australia

Analysis of the Long Distance  
Commuter Workforce Across Australia

March 2013

Term	Definition
<b>Australian Bureau of Statistics (ABS)</b>	Australia's official statistical organisation.
<b>Australian Petroleum Production and Exploration Association (APPEA)</b>	APPEA is the peak national body representing Australia's upstream oil and gas industry.
<b>Australian and New Zealand Standard Industrial Classification (ANZSIC)</b>	ANZSIC is a hierarchical classification to define industries of employment. It has been developed for use in the compilation and analysis of industry statistics in Australia and New Zealand.
<b>Balance Region</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Balance Regions. For the purposes of this Report, the Balance Regions are defined as those geographic areas of each state/territory not defined as a Mining Region, Capital City, Regional City, Provincial City or Off-shore/Migratory Region. There are a total of nine Balance Regions identified in this Report (i.e. Balance-NSW, Balance-VIC, Balance-QLD, Balance-WA, Balance-SA, Balance-TAS, Balance-NT, Balance-ACT, and Balance-Other Territory).
<b>Capital City</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Capital Cities. For the purposes of this Report, Capital Cities are primarily defined as Statistical Divisions and include each of Australia's eight capital cities (i.e. Melbourne, Sydney, Brisbane, Adelaide, Perth, Canberra, Darwin and Hobart).
<b>Census</b>	The Census of Population and Housing is conducted every five years by the Australian Bureau of Statistics. The Census provides a snapshot of Australia's people and their housing.
<b>Census Count</b>	The Census counts people where they were located on Census Night in a number of ways. A Census Count based on Census Night is referred to as the place of enumeration count. A count of the population based on their usual place of residence (POUR) and employed persons by place of work (POW) is also collected through the Census.
<b>Census Night</b>	Census Night is the evening on which the Census is conducted and for which the Census data is collected. The date of the 2011 Census Night was Tuesday 9th August 2011. The date of the 2006 Census Night was Tuesday 8 <sup>th</sup> August 2006.

Term	Definition
<b>Construction industry</b>	Throughout this Report, the Construction industry is defined based on the ABS ANZSIC, 2006. The Construction industry includes units mainly engaged in the construction of buildings and other structures, additions, alterations, reconstructions, installation and maintenance and repairs of buildings and other structures (including heavy and civil engineering construction). Captured in the Construction industry definition are a group of workers that undertake "site preparation activities". This includes units mainly engaged in earthmoving activities such as levelling of construction sites, excavation of foundations, and the demolition of buildings. While this may include some workers associated with mining construction, it is not possible to separate construction workers involved in mining construction versus other civil or residential construction as there is no distinction made between activities undertaken on a mine site versus residential development, for example.
<b>Financial and Insurance Services industry</b>	Throughout this Report, the Financial and Insurance Services industry is defined based on the ABS ANZSIC, 2006. The Financial and Insurance Services industry includes units mainly engaged in financial transactions involving the creation, liquidation, or change in ownership of financial assets, and/or in facilitating financial transactions.
<b>Fly-in / fly-out (FIFO) workers</b>	FIFO refers to workers who commute to the workplace via air (i.e. aeroplane and helicopter) and are usually provided with food and accommodation during their stay at the work-site. Workers travel from their usual place of residence and remain there for a period of time, returning home between rosters. This term primarily refers to workers employed in the resources and resource-allied industries. FIFO is often used as a general term to define people who undertake LDC work practices (e.g. people who fly-in / fly-out, drive-in / drive-out, bus-in / bus-out, ship-in / ship-out or other transport combinations).
<b>Local Government Area (LGA)</b>	LGAs are a geographical unit and an administrative geography that a local government / council is responsible for.
<b>Long Distance Commuter (LDC)</b>	LDC workers are defined as those people who travel significant distances between where they usually live and work (i.e. 100km or more). LDC workers are often referred to as fly-in / fly-out workers and this refers to workers who travel from their usual place of residence to their place of work, which is significantly far enough to make a daily commute impractical. It includes those people who fly-in / fly-out, drive-in / drive-out, bus-in / bus-out, ship-in / ship-out or other transport combinations.
<b>Minerals Council of Australia (MCA)</b>	The MCA represents Australia's mining and minerals exploration and processing industry, nationally and internationally, in its contribution to sustainable development and society.
<b>Mining Australia</b>	Throughout this Report, 'Mining Australia' refers to the collection of the nine sampled 'Mining Regions' identified as the focus for this Report (i.e. the Bowen Basin, Galilee Basin, Surat Basin, North-West QLD, the Pilbara, Kalgoorlie-Boulder, Central West, the Hunter Valley and Central South Australia). The nine Mining Regions identified in this Report were selected as they have significant mining activity (either current or planned).

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

Term	Definition
<b>Mining industry</b>	Throughout this Report, the Mining industry is defined based on the ABS ANZSIC, 2006. The Mining industry includes units that mainly extract naturally occurring mineral solids, such as coal and ores; liquid minerals, such as crude petroleum; and gases, such as natural gas. The Mining industry classification includes units engaged in Coal Mining, Oil and Gas Extraction, Metal Ore Mining, Non-Metallic Mineral Mining and Quarrying, Exploration and Other Mining Support Services (i.e. Mineral Exploration).
<b>Mining Region</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Mining Regions. For the purposes of this Report, Mining Regions have been identified as those areas (amalgamated from LGAs) where there is significant mining activity (either current or planned). There are nine individual Mining Regions identified in this Report (i.e. North-West QLD, Galilee Basin, Bowen Basin, Surat Basin, Hunter Valley, Central South Australia, Kalgoorlie-Boulder, Central West, and the Pilbara).
<b>Non-resident worker population</b>	The non-resident worker population includes people who work but do not live in a particular region. For example, a person who lives in Perth and commutes to the Pilbara for work would be classified as a non-resident worker.
<b>Off-shore/Migratory Region</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Off-shore/Migratory Regions. For the purposes of this Report, the Off-shore/Migratory Regions are defined as those geographic areas of each state/territory (excluding ACT) to take into account 'offshore' LDC workers on oil rigs, for example. There are a total of eight Off-shore/Migratory Regions identified in this Report (i.e. Off-shore/Migratory-NSW, Off-shore/Migratory-VIC, Off-shore/Migratory-QLD, Off-shore/Migratory-WA, Off-shore/Migratory-SA, Off-shore/Migratory-TAS, Off-shore/Migratory-NT, and Off-shore/Migratory-Other Territory).
<b>Oil and Gas Extraction industry</b>	Throughout this Report, the Oil and Gas Extraction (Oil and Gas) industry is defined based on the ABS ANZSIC, 2006. The Oil and Gas industry is a sub-set of the Mining industry and consists of units mainly engaged in producing crude oil, natural gas or condensate through the extraction of oil and gas deposits. Primary activities include natural gas extraction, oil shale mining and petroleum gas extraction.
<b>Other industry</b>	Throughout this Report, 'Other industry' refers to the balance of industries of employment excluding Mining, Construction, Financial and Insurance Services, Professional, Scientific and Technical Services and Public Administration and Safety. Other industry includes: Transport, Postal and Warehousing, Health Care and Social Assistance, Manufacturing, Agriculture, Forestry and Fishing, Electricity, Gas, Water and Waste Services, Wholesale Trade, Retail Trade, Accommodation and Food Services, Information, Media and Telecommunications, Rental, Hiring and Real Estate Services, Administrative and Support Services, Education and Training, Arts and Recreation Services, and Other Services.

Term	Definition
<b>Other Region</b>	Throughout this Report, KPMG have carved Australia into six geographic region types. Due to some collection issues with ABS Census data (i.e. when an employed person did not provide information on the address of their workplace other than the state they worked in), some workers could not be assigned to a region and were therefore categorised as 'Undefined/No fixed address'. For the purposes of calculating LDC worker figures it has been assumed that people living in a different state to where they work are all LDC workers. This group of workers have therefore been assigned to 'Other Region' for the purposes of this Report and in an effort to maintain data integrity.
<b>Place of Usual Residence (POUR)</b>	POUR is a count of every person in Australia on Census Night, based on where they normally live. It may, or may not be the place where the person was counted on Census Night. Census Counts compiled on this basis are less likely to be influenced by seasonal factors such as school holidays and snow seasons, and provide information about the usual residents of an area. It is important to note however, that Census Counts by POUR exclude overseas visitors and Australian residents temporarily overseas.
<b>Place of Work (POW)</b>	The ABS Census counts the population in a number of ways including the working population by POW. POW data provides information on where a person goes to work. The Census records the workplace address of persons aged 15 years and over who were employed in the week prior to Census Night. The data collected relates to all workers, regardless of the hours worked (e.g. an LDC employee may state their POUR as Perth but their POW as the Pilbara). POW counts can be cross tabulated with POUR counts to provide Journey to Work (JTW) data. This JTW data captures the commuting patterns of employed persons between their POUR and POW.
<b>Professional, Scientific and Technical Services industry</b>	Throughout this Report, the Professional, Scientific and Technical Services industry is defined based on the ABS ANZSIC, 2006.
<b>Provincial City</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Provincial Cities. For the purposes of this Report, Provincial Cities are defined as Statistical Districts with a population base under 100,000 people. There are 24 Provincial Cities identified in this Report (i.e. Dubbo, Coffs Harbour, Ballarat, Bendigo, Rockhampton, Mackay, Mandurah).
<b>Public Administration and Safety industry</b>	Throughout this Report, the Public Administration and Safety industry is defined based on the ABS ANZSIC, 2006. The Public Administration and Safety industry includes units mainly engaged in Central, State or Local Government legislative, executive and judicial activities; in providing physical, social, economic and general public safety and security services; and in enforcing regulations.
<b>Regional Australia</b>	Throughout this Report, 'Regional Australia' is defined as the area outside of Australia's capital cities and major regional centres.

Term	Definition
<b>Regional City</b>	Throughout this Report, KPMG have carved Australia into six geographic region types, including Regional Cities. For the purposes of this Report, Regional Cities are defined as those Statistical Districts with a population base in excess of 100,000 people. There are nine individual Regional Cities identified in this Report (i.e. Newcastle, Wollongong, Albury-Wodonga, Geelong, Sunshine Coast, Townsville, Cairns, Gold Coast-Tweed and Launceston).
<b>Resident population</b>	The resident population includes those people who normally live in a region. It may or may not be the place where the person was counted on Census Night.
<b>SkillsDMC</b>	SkillsDMC is the national Industry Skills Council for the resources and infrastructure industry. SkillsDMC covers the Coal Mining, Metalliferous Mining, Quarrying (Extractive), Drilling and Civil Infrastructure sectors represented by a group of senior industry leaders.
<b>Workforce</b>	The workforce includes persons aged 15 years and over who were employed in the week prior to Census Night. This includes all workers regardless of the hours worked.

## Contents

**The contacts at KPMG  
in connection with this  
Report are:**

**Bernard Salt**  
KPMG Demographics  
*Partner, Melbourne*  
Tel: 03 9288 5047  
Fax: 03 9288 5162  
bsalt@kpmg.com.au

**Liesl Verwoert**  
KPMG Demographics  
*Associate Director, Melbourne*  
Tel: 03 9288 5329  
Fax: 03 9288 5162  
lverwoert@kpmg.com.au

**The primary analysts at KPMG  
in connection with this Report  
are:**

**Sally Mikkelsen**  
KPMG Demographics  
*Senior Manager, Melbourne*

**Ashima Bist**  
KPMG Demographics  
*Senior Consultant, Melbourne*

**Ben Willison**  
KPMG Demographics  
*Senior Consultant, Melbourne*

	<u>Page</u>		<u>Page</u>
<b>Disclaimer</b>	7	▪ Pilbara	46
<b>Executive Summary</b>	9	▪ Kalgoorlie-Boulder	50
<b>Background</b>	13	▪ Central West	54
<b>Methodology</b>	15	▪ Hunter Valley	58
<b>Geography</b>	17	▪ Central South Australia	62
<b>National Context</b>	19	<b>Non-Resident Accommodation Survey 2012</b>	66
▪ LDC worker profile by industry	20	<b>Conclusion</b>	70
▪ LDC worker profile by region	23	<b>Appendices</b>	73
<b>Australia's Mining Regions</b>	27	▪ Appendix 1 – Technical Notes	74
▪ Cross regional analysis	28	▪ Appendix 2 – Definition of Residential Indicator Fast Facts	75
▪ Bowen Basin	30	▪ Appendix 3 – Qualitative results for Questions 3, 4 and 5 of the Non-resident Accommodation Survey	76
▪ Galilee Basin	34		
▪ Surat Basin	38		
▪ North-West QLD	39		

# Disclaimer

## Disclaimer

### Inherent Limitations

- This Report has been prepared as outlined in the engagement contract dated 7 September 2012. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.
- No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by, Minerals Council of Australia employees or management consulted as part of the process.
- KPMG have indicated within this Report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the Report.
- KPMG is under no obligation in any circumstance to update this Report, in either oral or written form, for events occurring after the Report has been issued in final form.
- The findings in this Report have been formed on the above basis.

### Third Party Reliance

- This Report is solely for the purpose set out in the Scope Section of the engagement contract dated 7 September 2012 and for the Minerals Council of Australia's information and is not to be used for any other purpose or distributed to any other party without KPMG's prior written consent.
- This Report has been prepared at the request of the Minerals Council of Australia in accordance with the terms of KPMG's engagement contract dated 7 September 2012. Other than our responsibility to the Minerals Council of Australia, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this Report. Any reliance placed is that party's sole responsibility.

- We understand that this Report will be made available on the Minerals Council of Australia website. Any third party who accesses this Report is not a party to our engagement contract with the Minerals Council of Australia and, accordingly, may not place reliance on this Report.
- KPMG shall not be liable for any losses, claims, expenses, actions, demands, damages, liabilities or any other proceedings arising out of any reliance by any third party on *Analysis of the Long Distance Commuter Workforce Across Australia*.

### Reliance on Projections

- Any projections that have been used in this Report are based on assumptions about circumstances and events for which there is not yet appropriately reliable data available. As a result, we cannot provide any assurance that these projections will be, or have been, achieved.
- Any such projections should not be regarded as a representation or warranty by or on behalf of KPMG or any other person that such projections or their underlying assumptions will be, or have been, achieved. Opinions offered constitute our judgement and are subject to change without notice, as are statements about market trends, which are based on market conditions.

# Executive Summary

## Executive Summary

### Introduction

This Report, '*Analysis of the Long Distance Commuter Workforce Across Australia*', forms the second of a two-phase series of Reports. The first Report released in February 2013 titled, '*Analysis of the Changing Resident Demographic Profile of Australia's Mining Communities*', considered the demographic profile of the resident population in nine sampled Mining Regions across Australia. On average, the resident population within the nine sampled Mining Regions increased at a greater rate over the five-years to 2011 than the Regional Australian average (average annual growth of 1.5% and 0.8% respectively). Levels of income and educational attainment were by and large higher and generally unemployment rates were lower in Mining Regions when compared to the Regional Australian average.

Recognising the impact the non-resident population has on Australia's nine sampled Mining Regions, this Report supplements the first, by investigating the size and distribution of the non-resident or Long Distance Commuter (LDC) workforce by industry and geography over time. For the purposes of this Report, LDC workers are defined as those people who travel 100km or more between where they usually live and where they usually work. While this Report provides a national perspective, it is the nine sampled Mining Regions that form the focus of this Report.

### LDC worker profile by industry

At the time of the last Australian Bureau of Statistics (ABS) Census in August 2011, there were an estimated 213,773 Australian residents undertaking LDC work practices across Australia<sup>1</sup>. This data presents the number of LDC workers at a snapshot in time in the week prior to the 2011 Census and is therefore reflective of the demand for labour in particular regions at this point in time. The total LDC workforce across Australia represented 2.1% of the total Australian workforce (10 million). While the size of the LDC workforce increased by 58,163 or 37% in the five-years to 2011, the proportion of the total workforce engaged in LDC work practices has not changed significantly between 2006 and 2011 (1.7% and 2.1% respectively). The LDC workforce is spread across all 19 industries of employment. Across Australia, the Mining industry represents 21% of total LDC workers, while the Construction industry represents 13% of total LDC workers.

A mine undergoes a number of phases within its lifecycle: exploration, construction, operation and decommissioning. It is during the construction phase of a mine's lifecycle that the demand for labour is at its highest and when LDC workforce practices are more likely to be utilised. This Report does not distinguish between LDC workers involved in the construction phase, operational phase, or indeed any other phase of the lifecycle of a mine but rather analyses the LDC workforce by industry.

Total employment in the Mining industry has grown by 65% (from 106,897 to 176,563) compared with an average of 10% across all industries in the five-years to 2011. The number of Mining industry employees engaged in LDC work practices has increased by 86% (from 23,961 to 44,610) over the five-years to 2011. However, the proportion of the Mining industry workforce engaged in LDC work practices has increased by just three percentage points (from 22% in 2006 to 25% in 2011). There has not been a substantial increase in the propensity for Mining industry workers to undertake LDC work practices.

In this Report, Oil and Gas workers are defined as a subset of Mining industry workers. In 2011, there were a total of 18,370 Oil and Gas Australian resident workers, of which 18% (or 3,260) were defined as LDC workers. The size of the Oil and Gas LDC workforce increased by 92% between 2006 and 2011. However, it is interesting to note that the rate of growth experienced by the Oil and Gas industry LDC workforce was below that of the total Oil and Gas workforce (which recorded a growth rate of 105% over the same period).

<sup>1</sup> LDC workers are defined as persons who travel 100km or more from their Place of Usual Residence to their Place of Work. This data is extracted from the Journey to Work dataset based on results of the 2011 Census. The Census data provides a snapshot of the size and distribution of the LDC workforce in the week prior to the ABS 2011 Census (August 2011).

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Executive Summary

## LDC worker profile by region

For the purposes of this Report, and in order to understand the commuter flows of LDC workers across the nation, Australia has been divided into six region types: Capital Cities, Regional Cities, Provincial Cities, Mining Regions, Off-shore/Migratory areas and Balance Regions. The findings from this Report show that there are more LDC workers commuting to workplaces in Australia's Capital Cities (30% in 2011) than to any other region, and that Sydney is the largest single destination for LDC workers (19,681 in 2011). Just over one-quarter of LDC workers are commuting to workplaces within the nine defined Mining Regions. At the time of the 2011 Census, the Pilbara was the second-largest destination for LDC workers behind Sydney and this was followed by the Bowen Basin. This may be explained by the strong demand for temporary labour (LDC workers) in association with a number of mines currently under construction in these regions. In 2011, the Pilbara and the Bowen Basin combined attracted a similar number of LDC workers as the combined Sydney and Melbourne Capital City regions (35,257 and 35,273 respectively).

In the five-years to 2011, there was a significant increase in the proportion of LDC workers employed in remote parts of Australia. There has been an increased concentration of LDC workers in the nine sampled Mining Regions of Australia and this has been most significant in the Pilbara and the Bowen Basin. The size of the LDC workforce working in the Pilbara increased at an average annual rate of 22% over the five-years to 2011. The Bowen Basin LDC workforce increased at an average annual rate of 11% over the five-years to 2011.

This Report shows that the majority of LDC workers in the Mining industry undertake intrastate commutes. Perth to Pilbara was clearly the top LDC worker route in Australia in 2011, with a total of 10,604 Australian residents working in the Pilbara and identifying Perth as their place of usual residence during the week prior to the 2011 Census<sup>1</sup>. The second largest commuter route for LDC workers was Balance–QLD to the Bowen Basin with 5,125 LDC workers. Interestingly, the majority (2,800) of the workers commuting from Balance–QLD were travelling from homes on the outskirts of Mackay and Rockhampton (outside the Provincial City definition of Mackay and Rockhampton but within the surrounding areas).

Although the majority of LDC workers are undertaking intrastate commutes, the rate of interstate commuting is increasing. For example, it is the longer haul routes, such as Brisbane to Pilbara, Bunbury to Pilbara and Sydney to Pilbara that have undergone the greatest percentage growth between 2006 and 2011 (407%, 213% and 729% respectively) albeit off a small base.

## KPMG Non-Resident Accommodation Survey

The ABS Census is the official dataset that captures where Australian residents usually live and work by industry of employment, by region and over time. This Journey to Work data provides the basis to estimate the size of the LDC workforce in Australia (once a number of distance calculators have been applied). However, it is acknowledged in this Report and by the ABS, that the Census Journey to Work data likely undercounts the size of the LDC workforce because it is susceptible to reporting, misclassification, or non-recording issues and does not capture overseas workers (including Australian citizens who may commute to Australian mines from Bali, for example). For these reasons, and to further enhance the evidence base, KPMG completed a Non-Resident Accommodation Survey of the 34 Local Government Areas (LGAs) within the nine sampled Mining Regions in November 2012. The objective of the Survey was to quantify the number of non-resident accommodation beds available for LDC workers within each Mining Region. The findings from the Survey counted a total of 107,655 non-resident beds in the nine sampled Mining Regions<sup>(2)</sup>. This provides insight into the capacity of accommodation available for LDC workers regardless of where they usually live or the industry in which they work. For example, there are four LGAs within the defined Pilbara region that had a combined total of 53,900 non-resident beds<sup>2</sup> in 2012.

The findings from KPMG's Non-resident Accommodation Survey provides support for the conclusion that the Census data undercounts the number of LDC workers in Australia's nine sampled Mining Regions. The results from the KPMG Survey estimate the number of non-resident beds in the nine sampled Mining Regions at 107,655 in November 2012. Based on source data from the 2011 Census, there were a total of 55,962 LDC workers in the nine sampled Mining Regions.

<sup>1</sup> LDC workers are defined as persons who travel 100km or more from their Place of Usual Residence to their Place of Work . This data is extracted from the Journey to Work dataset based on results of the 2011 Census. The Census data provides a snapshot of the size and distribution of the LDC workforce in the week prior to the ABS 2011 Census (August 2011).

<sup>2</sup> For the purposes of this Report non-resident mining accommodation includes single person quarters that are located in towns or on mining leases.

## Executive Summary

As summarised in the 'Methodology' section of this Report there are distinct differences between how these datasets are harvested to the extent that they cannot be directly compared. The primary difference being one data set captures number of workers at a snapshot in time while the other captures available non-resident beds. However, the Census-based dataset combined with the KPMG Non-resident Accommodation Survey results provides two bases upon which to estimate the size of the LDC mining and mining-allied workforce in Australia at this point in time.

### The Mining and mining-allied industries LDC workforce

Based on the week prior to Census Night in August 2011, there were a total of 44,610 LDC workers employed in the Mining industry across Australia. Analysis of Census data shows that in the largest Mining Regions (i.e. the Pilbara, Bowen Basin and Kalgoorlie-Boulder), on average 56% of LDC workers are classified as employed in the Mining industry with the majority of the other LDC workers in mining-allied industries such as Construction (this includes mine site construction, building construction, land preparation, etc.), Professional, Scientific and Technical Services and Manufacturing.

On this basis, it is evident that for every one LDC Mining industry worker there is roughly one LDC mining-allied worker in Mining Regions across Australia. This assumption combined with the knowledge that the 2011 Census was conducted 18 months ago and does not include overseas visitors, and evidence from the KPMG Survey confirming that the Census data is susceptible to undercounting, suggests that the size of the mining and mining-allied LDC workforce across Australia is currently estimated to be in the order of 100,000 workers.

### Conclusion

This Report provides analysis of both Census and Survey data. At this point in time, the Census data provides the best baseline data to measure the relative size and distribution of LDC workers across the Australian continent. The ABS conducts a Census every five years and the results from the Census capture the location of where people live and work (in the week prior to Census Night) across Australia. KPMG acknowledge that in its current form, the Census is not designed to capture the size of the FIFO or LDC workforce and there are a number of limitations in using this dataset, however for the purpose of this Report, it is the most reliable and nationally consistent baseline data available from which to develop a credible methodology designed to measure the size and distribution of the LDC workforce. KPMG have extracted a cross-tabulation of ABS Census data known as Journey to Work data and built in assumptions including applying a distance calculator to estimate the number of LDC workers by industry, region and overtime.

The KPMG Reports ('Analysis of the Changing Resident Demographic Profile of Australia's Mining Communities' and 'Analysis of the Long Distance Commuter Workforce Across Australia') help develop a baseline dataset. This dataset profiles the demographic characteristics of the resident population within Australia's nine sampled Mining Regions and measures the number of workers added to this resident population in the form of LDC workers. It is the objective of this Report to start filling the recognised data gap surrounding, quantifying and understanding the LDC workforce.

# Background

## Background

This Report, '*Analysis of the Long Distance Commuter Workforce Across Australia*', forms the second of a two-phase series of Reports. The first Report released in February 2013 titled, '*Analysis of the Changing Resident Demographic Profile of Australia's Mining Communities*', considered the demographic profile of the resident population in nine sampled Mining Regions across Australia.

**The objective of this Report, '*Analysis of the Long Distance Commuter Workforce Across Australia*', is to provide baseline data to understand where LDC workers live and work and how these commuter flows differ by industry, region and over time. This Report is an important first-step towards filling the recognised data gaps surrounding, quantifying and understanding the LDC workforce in Australia.**

This Report was commissioned by the Minerals Council of Australia (MCA), Australia's peak mining body, with input from the Australian Petroleum Production and Exploration Association (APPEA), representing the oil and gas sector, and SkillsDMC, the skills council for the drilling, mining, quarrying and civil infrastructure sectors.

The timing of this Report brings value to the LDC workforce discussion due to a number of reasons, including:

1. The Mining industry (including Oil and Gas) has grown at a significant rate and it is important to take-stock and measure how the size and distribution of the LDC workforce is changing and what this may mean for Australia's communities.
2. The ABS recently released the results of the 2011 Census Place of Work (POW) data in October 2012.
3. The LDC worker dataset, combined with an understanding of the residential communities will contribute to the discussions by government and industry in relation to the development of sustainable mining communities.
4. The House of Representatives Inquiry into FIFO work practices (primarily associated with mining) released its findings on 13 February 2013.

### Phase 1 – 4<sup>th</sup> February 2013

*Analysis of the Changing Resident Demographic Profile of Australia's Mining Communities*



### Phase 2 – 18<sup>th</sup> March 2013

*Analysis of the Long Distance Commuter Workforce Across Australia*



# Methodology

## Methodology

In May 2012, KPMG delivered a Scoping Report to the MCA. The aim of this Scoping Report was to review where LDC worker data could be sourced, how it might be harvested and how it might be measured and analysed to quantify the number of people who undertake LDC work practices, and also how this number varies by industry and geography, including the commuting patterns of people involved in LDC work practices.

A number of methodologies were considered to quantify the size and distribution of the LDC workforce across Australia. Based on this research it was evident that no one single data source would provide

### ABS Census data (by region and industry)

**Definition of count:** Number of LDC workers (people who travelled 100km or more from where they usually live to where they were working in the week prior to the Census)

**Time of data collection:** August 2011 (represents a snapshot in time)

**Industry of employment:** Individual industries of employment including Mining

**Coverage:** Australia-wide, counts Australian residents/workers only who travel 100km or more between where they usually live and work

**Limitations:** Misclassification issues (undercounting)

**Results:** 55,962 (No. of LDC workers in the nine sampled Mining Regions)  
44,610 (No. of LDC workers employed in the Mining industry across Australia)  
29,610 (No. of LDC workers employed in the Mining industry within the nine sampled Mining Regions)

**Detail:**

- The ABS Census is collected every five years. A Census form is delivered to households, hospitals, hotels, camping grounds and other places where people may stay. The aim of the Census is to count every person in every dwelling in Australia on Census Night.
- As part of the Census, Australia's population is measured in several ways. By looking at the count of employed persons by POUR and by POW, it is possible to establish the number of people that travel to a location for work and thereby calculate the approximate number of LDC workers (once a distance calculator has been added).
- ABS Census data is the one official dataset that enables the collection of LDC worker data by industry of employment and that captures information on commuter flows by geography.
- In saying this, it is acknowledged that this ABS Census-based data does have its limitations, due to data classification issues and this is thought to undercount the size of the LDC workforce (e.g. it cannot capture people residing overseas who work in Australia).

this information and to meet the outputs prioritised by the MCA (analysis of the size of the LDC workforce by industry of employment and geography over time), a combined approach would be required. This combined approach includes utilising both ABS Census data and undertaking a survey of Local Councils in the nine sampled Mining Regions to develop a non-resident accommodation schedule. Combined, these two base datasets currently provide the most accurate and reliable information in order to capture the size and distribution of the LDC workforce by industry over time across Australia.

### Non-resident Accommodation Survey (Mining Regions)

**Definition of count:** Number of beds (non-resident beds e.g. single person quarters on council land or mining sites).

**Time of data collection:** November 2012

**Industry of employment:** Total industries (i.e. no further breakdown by individual industry)

**Coverage:** Limited to the nine sampled Mining Regions, counts all beds including those that may be occupied by workers residing overseas. Please note this does not include beds in hotels, motels, caravan parks or private dwellings and does not take into consideration the occupancy or utilisation rates of these beds and therefore the results can not be used to translate into a full-time equivalent population figure. It does not consider the distance workers travel.

**Limitations:** Survey data (overcounting)

**Results:** 107,655 (non-resident beds in the nine sampled Mining Regions)

**Detail:**

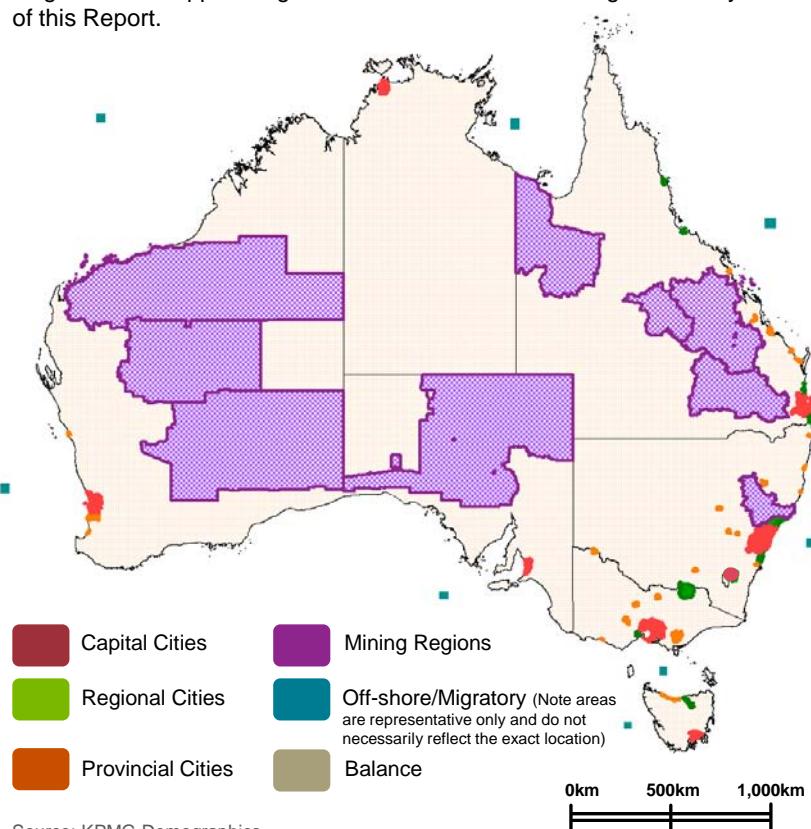
- Recognising the shortcomings of the ABS Census data, this data has been bolstered with an additional data source.
- Given that employees in the resources sector are one of the most significant users of LDC work practices, a methodology focused on collecting data on the number of non-resident beds for the Mining/resource-allied industries has also been considered through the development of a survey of Local Councils to develop a schedule of non-resident accommodation by LGA.
- LDC workers (who stay away from home for work) can be counted by looking at the non-resident accommodation provision by Local Council or LGA. Non-resident accommodation includes on-site camps and single person quarters that are located in towns or on mining leases within the LGA. This methodology is primarily relevant to people working in the resources and resources-allied industries. A survey of 34 Local Councils was undertaken to cover the nine sampled Mining Regions identified for the purposes of this Report.

# Geography

# Geography of Australia's defined regions

For the purposes of this Report, and in order to understand the commuter flows of LDC workers across the nation, Australia has been divided into six region types; Capital Cities (eight/red), Regional Cities (nine/green), Provincial Cities (24/orange), Mining Regions (eight/purple), Off-shore/Migratory areas (seven/blue) and Balance (seven/pink) to total 67 individual regions.

While this Report considers each of the six region types, the primary focus of this Report will be on the nine sampled Mining Regions. The nine Mining Regions are mapped in greater detail in the 'Cross Regional Analysis' section of this Report.



Source: KPMG Demographics

Region type	Region name				
Capital City	Sydney	Melbourne	Brisbane	Perth	Adelaide
	Hobart	Darwin	Canberra		
Regional City (population > 100k)	Newcastle (NSW)	Wollongong (NSW)	Albury-Wodonga (NSW/VIC)	Gold Coast-Tweed (QLD/NSW)	Sunshine Coast (QLD)
	Townsville (QLD)	Cairns (QLD)	Geelong (VIC)	Launceston (TAS)	
Provincial City (population < 100k)	Nowra-Bomaderry (NSW)	Coffs Harbour (NSW)	Tamworth (NSW)	Wagga Wagga (NSW)	Orange (NSW)
	Warrnambool (VIC)	Bendigo (VIC)	Latrobe Valley (VIC)	Ballarat (VIC)	Shepparton (VIC)
	Mildura (VIC)	Hervey Bay (QLD)	Gladstone (QLD)	Rockhampton (QLD)	Mackay (QLD)
	Bundaberg (QLD)	Bunbury (WA)	Mandurah (WA)	Geraldton (WA)	Lismore (NSW)
	Port Macquarie (NSW)	Dubbo (NSW)	Bathurst (NSW)	Burnie-Devonport (TAS)	
Mining Region	Bowen Basin	Galilee Basin	Surat Basin	Hunter Valley	North-West QLD
	Central West	Pilbara	Kalgoorlie-Boulder	Central South Australia	
Off-shore / Migratory	Off-shore / Migratory-NSW	Off-shore / Migratory-VIC	Off-shore / Migratory-QLD	Off-shore / Migratory-WA	Off-shore / Migratory-SA
	Off-shore / Migratory-TAS	Off-shore / Migratory-NT	Off-shore / Migratory-Other Territory		
Balance	Balance-NSW	Balance-VIC	Balance-QLD	Balance-WA	Balance-SA
	Balance-TAS	Balance-NT	Balance-ACT	Balance-Other Territory	

Please note an 'Other Region' has also been developed for the purposes of this Report. Other Region includes persons who stated on their ABS 2011 Census form that they lived and worked in two different states but did not provide any more address information and therefore could not be assigned to a specific geographic region. For the purposes of this Report, these people have been assumed to be utilising LDC work practices (as crossing state borders).

National Context  
**LDC worker profile  
by industry**

# Change in the size of the total and LDC workforce across Australia by industry

The ABS Census records employed Australian residents' POW a week prior to the Census and links this to an individual's POUR. Using this Census data as a basis, it is possible to provide a snapshot of the size of Australia's LDC workforce as at August 2011. Based on the results from the 2011 Census, there were 213,773 resident Australians undertaking LDC work practices as at August 2011. This represented just 2.1% of the total Australian workforce. While the size of the LDC workforce has increased by 58,163 or 37% in the five-years to 2011, the proportion of the total workforce engaged in LDC work practices has not changed significantly between 2006 and 2011 (1.7% and 2.1% respectively).

As shown in the chart to the right, the use of LDC work practices varies by industry of employment. In 2011, one-quarter (25%) of the Mining industry workforce was engaged in LDC work practices (up from 22% in 2006), while 18% of the Mining industry Oil and Gas sub-sector were engaged in LDC work practices. This compares to 3% (or 28,382 LDC workers) in the Construction industry and 2% or less in all other industries of employment.

In the five-years to 2011, the use of LDC work practices has grown at a rate above total employment growth (37% and 10% respectively). The use of LDC work practices has increased by 86% within the Mining industry (compared to a 65% growth in total employment) between 2006 and 2011.

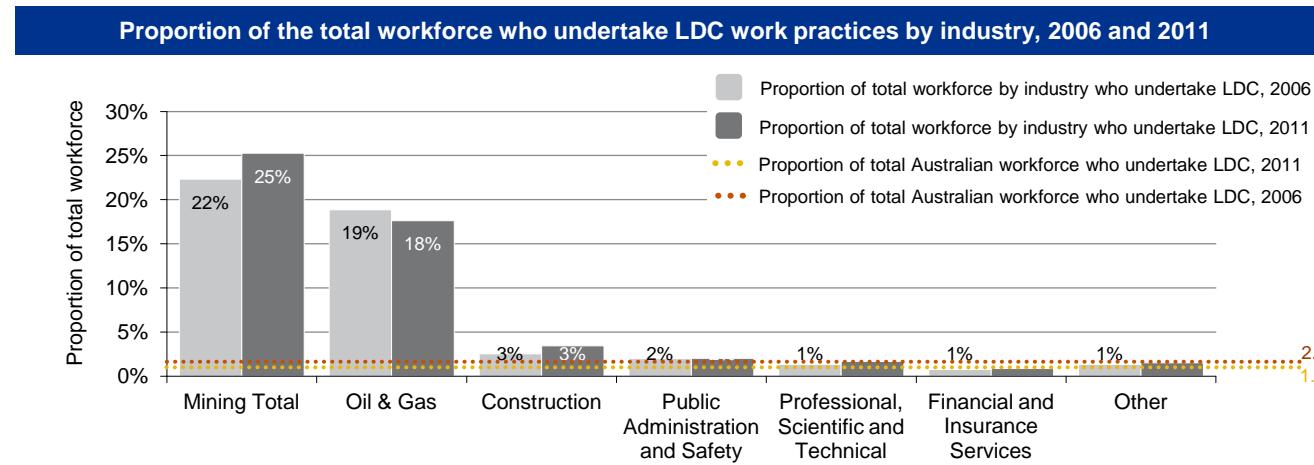
Despite above average growth rates in LDC work practices, the proportion of the workforce undertaking LDC work practices has not shifted all that significantly over the five-years to 2011.

It is important to note that these figures capture a snapshot profile of workers who undertake LDC work practices within the Mining industry during both the short-term construction and longer-term operational phases of a mine's lifecycle.

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

Industry	Total workforce				LDC workers			
	2006	2011	Change from 2006		2006	2011	Change from 2006	
	No.	No.	No.	%	No.	No.	No.	%
<b>Mining</b>	106,897	176,563	69,666	65%	23,961	44,610	20,649	86%
• <b>Oil and Gas</b>	8,968	18,370	9,402	105%	1,697	3,260	1,563	92%
<b>Construction</b>	709,844	828,910	119,066	17%	17,881	28,382	10,501	59%
<b>Public Administration and Safety</b>	608,598	689,931	81,333	13%	12,023	13,885	1,862	15%
<b>Professional, Scientific and Technical Services</b>	602,018	730,062	128,044	21%	8,119	12,236	4,117	51%
<b>Financial and Insurance Services</b>	348,586	377,352	28,766	8%	2,623	3,211	588	22%
<b>Other</b>	6,728,244	7,255,507	527,263	8%	91,003	111,449	20,446	22%
<b>Total</b>	<b>9,104,187</b>	<b>10,058,325</b>	<b>954,138</b>	<b>10%</b>	<b>155,610</b>	<b>213,773</b>	<b>58,163</b>	<b>37%</b>

Note: Please refer to 'Appendix 1 – Technical Notes' for more information regarding the reconciliation of total figures

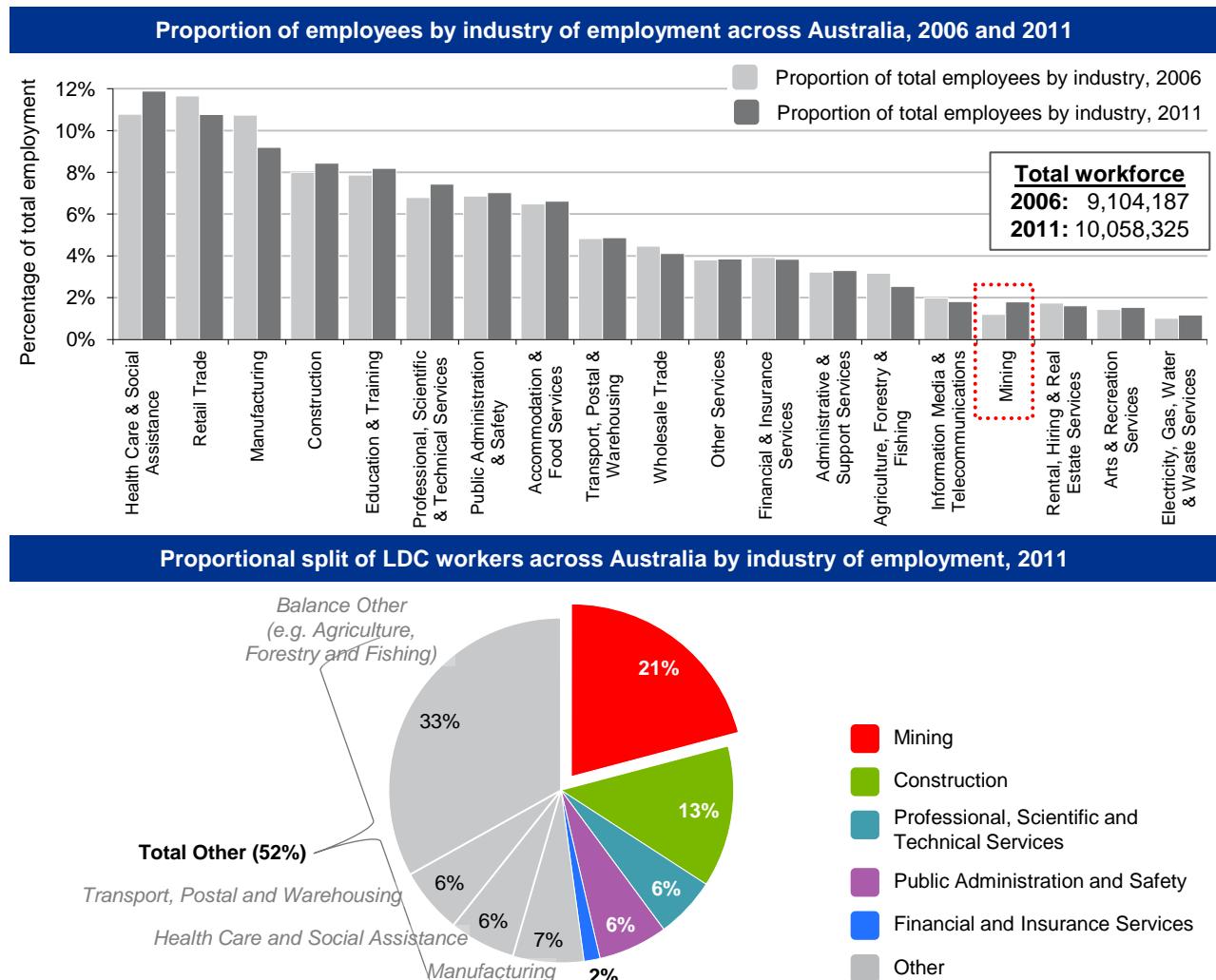


# Australia's workforce and LDC worker profile by industry of employment

At the time of the 2011 Census, there were 10 million resident Australians in the workforce (up 10% from the 2006 Census). Some 2% or 176,563 of these workers were employed in the Mining industry in 2011. Mining was the fastest growing industry of employment, growing by 65% in the five-years to 2011, representing an average annual growth rate of 11%. This compares to an annual growth rate of 2.2% for total employment. Despite being a relatively small industry (in employment terms), the Mining industry was a significant contributor to employment growth in Australia over the five-years to 2011.

In 2011, it is estimated that there were 213,773 Australian residents undertaking LDC work practices. This represents just 2.1% of the total Australian workforce (10 million).

Despite the relatively small size of the Mining industry (2% of Australia's total employment), 21% of all LDC workers in Australia were employed in the Mining industry in 2011. Some 13% of all LDC were employed in the Construction industry, 6% in both the Professional, Scientific and Technical Services and Public Administration and Safety industries, 2% in the Financial and Insurance Services industry and 52% among Other industries. There are a total of 14 industries represented in the Other category and these individual industries represent a small segment of the LDC workforce. The most significant LDC worker segments in the Other category include Manufacturing (7%), Health Care and Social Assistance (6%) and Transport, Postal and Warehousing (6%).



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

National Context  
**LDC worker profile  
by region**

# Change in the concentration of the LDC workforce across Australia by region

As at August 2011, there were 213,773 Australians undertaking LDC work practices in the week prior to the 2011 Census.

As shown in the chart to the right, the extent of the use of LDC work practices varies by region across Australia. In 2011, 21% of Australians employed in the nine sampled Mining Regions were doing using LDC work practices (i.e. they were living 100km or more from their POW in the Mining Regions).

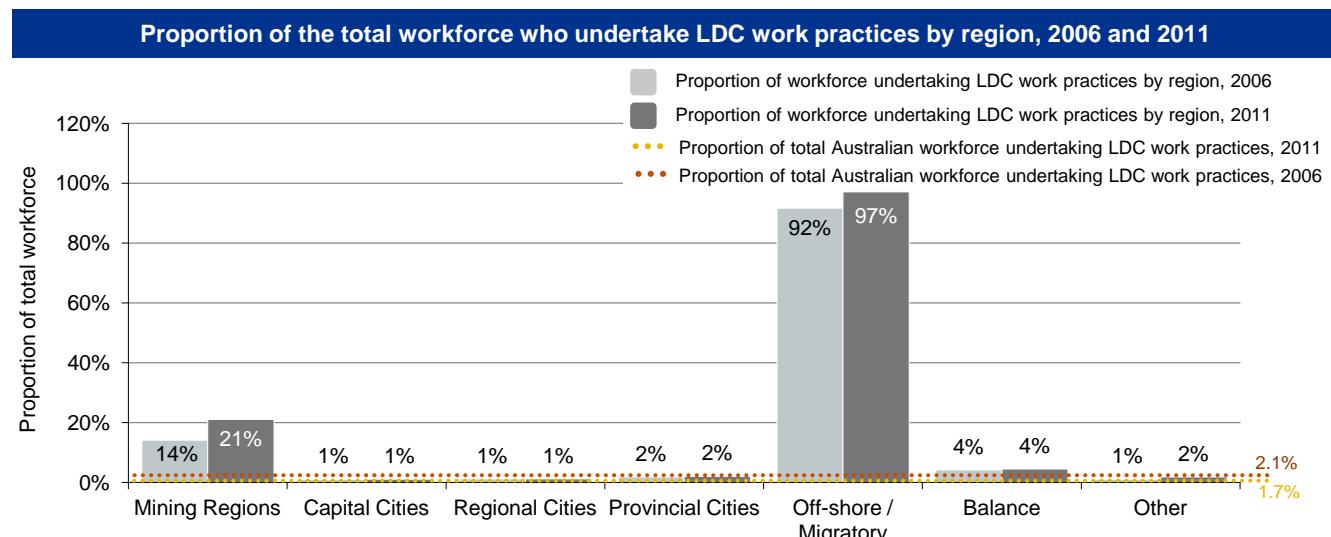
The region to contain the highest proportion of their workforce undertaking LDC work practices (97% in 2011) were the Off-shore/Migratory regions. This trend can be attributed to the remoteness of the regions which includes people working on off-shore oil rigs. Many of these oil rigs are located a significant distance from Australia's coastline and therefore the major population centres.

The proportion of the people working in Australia's nine sampled Mining Regions undertaking LDC work practices has risen 7 percentage points from 14% in 2006 to 21% in 2011. This compares to a proportional LDC workforce change from 1.7% to 2.1% for total Australia.

In August 2011, Capital Cities were the largest workplace destination for LDC workers (64,056), however LDC workers in Capital Cities represented an estimated 1.0% of the total workforce.

While the use of LDC work practices is not a new phenomenon, the rate of growth, particularly within Australia's nine sampled Mining Regions has increased over the five-years to 2011.

Region	Total workforce (POW)				LDC workers (POW)			
	2006	2011	Change from 2006		2006	2011	Change from 2006	
	No.	No.	No.	%	No.	No.	No.	%
Mining Regions	221,987	266,237	44,250	20%	31,278	55,962	24,684	79%
Capital Cities	5,496,786	6,123,172	626,386	11%	48,385	64,056	15,671	32%
Regional Cities	814,029	869,857	55,828	7%	9,030	9,995	965	11%
Provincial Cities	517,228	536,338	19,110	4%	9,168	10,874	1,706	19%
Off-shore / Migratory	1,673	2,395	722	43%	1,532	2,326	794	52%
Balance	1,142,892	1,168,011	25,119	2%	47,183	51,542	4,359	9%
Other	909,592	1,092,315	182,723	20%	9,034	19,018	9,984	111%
Total	9,104,187	10,058,325	954,138	10%	155,610	213,773	58,163	37%



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Change in the size of the total and LDC workforce across Australia by region

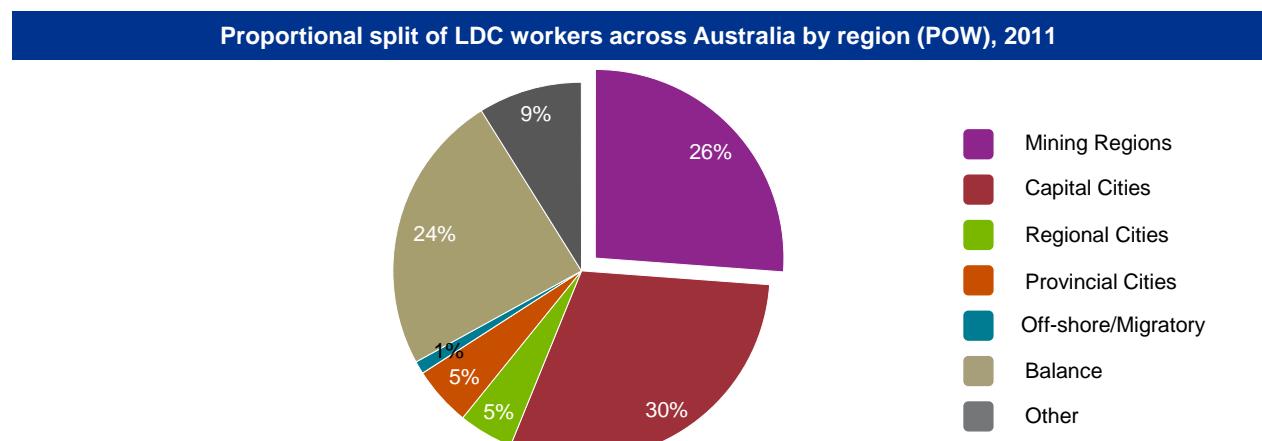
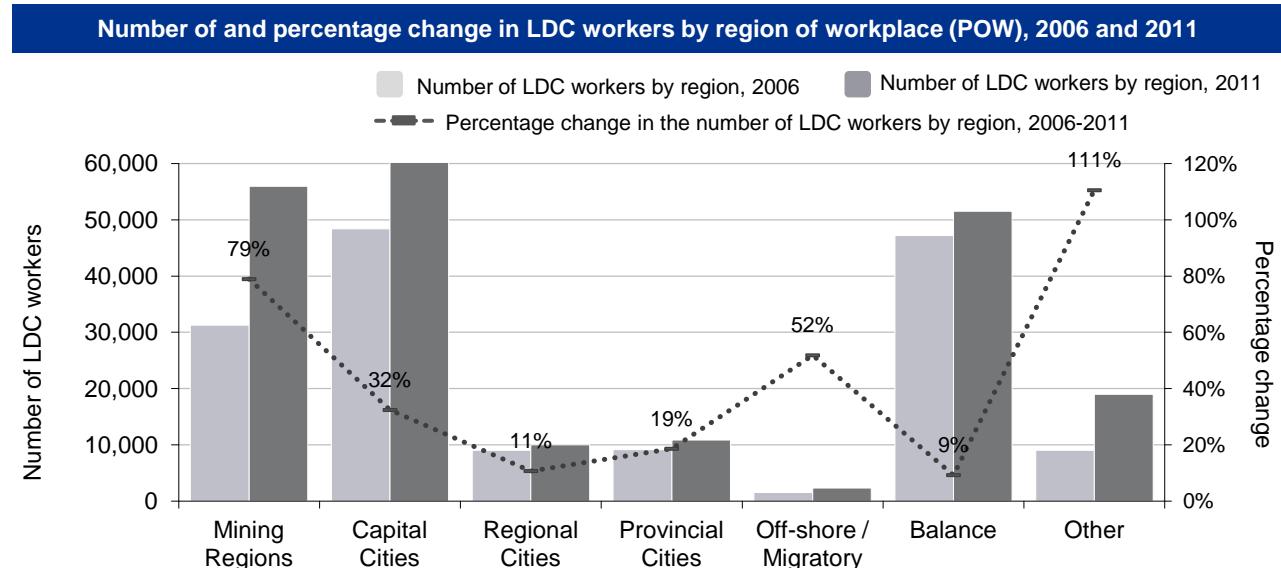
In the week prior to the 2011 Census, there were a total of 213,773 LDC workers across Australia (up 37% from 155,610 in 2006). The largest single destination for LDC workers in 2011 was Australia's Capital Cities with just under one-third (30%) of these LDC workers travelling to employment in the defined Capital Cities.

Based on ABS Census data, in 2011, 55,962 (or 26%) of LDC workers were travelling to the nine sampled Mining Regions for employment. In the five-years to 2011, growth in the number of LDC commuting to the nine sampled Mining Regions has increased by 24,684 or 79%. This compares to total growth of 37% across Australia.

While the number of LDC workers commuting to Australia's Capital Cities has increased from 48,385 to 64,056 (up 15,671), the rate of growth in the number of LDC workers (32%) has been slower than that experienced in Australia's nine sampled Mining Regions (79%) over the five-years to 2011.

The high number of LDC workers commuting to Australia's Balance Region (51,542 in 2011) is attributed to the distribution of a number of smaller employment clusters across the states/territories, which lack sufficient critical mass to be grouped into regions in their own right.

There are an additional 19,018 LDC workers (9%) who fall within the Other Region. This group of workers could not be assigned to a specific region as data on their POW was categorised as 'Undefined/No fixed address'. Those workers who stated they lived and worked in two different states have been classified as LDC workers for the purposes of this Report.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

## Australia's largest LDC worker routes (all industries)

Top 10 LDC worker routes in 2011 by number of LDC workers, 2006 and 2011

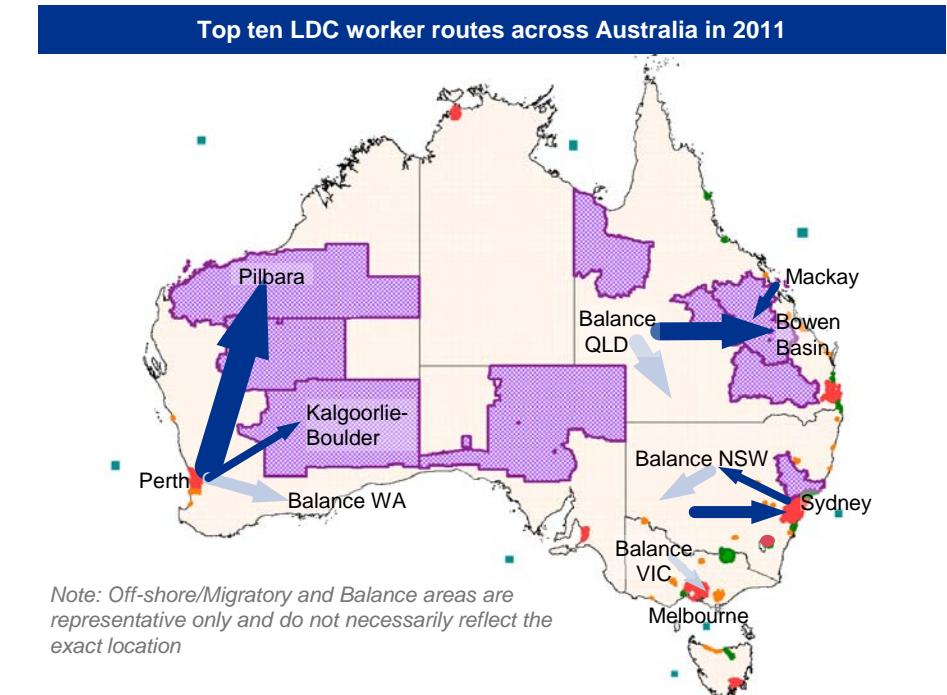
Live	Work	2006	2011	Change from 2006	
		No.	No.	No.	%
Perth	Pilbara	4,290	10,604	6,314	147%
Balance – QLD	Bowen Basin	2,693	5,125	2,432	90%
Balance – QLD	Balance – QLD	4,200	4,755	555	13%
Perth	Balance-WA	4,301	4,696	395	9%
Balance – NSW	Sydney	4,320	4,585	265	6%
Balance – VIC	Melbourne	3,172	3,978	806	25%
Balance – NSW	Balance – NSW	4,255	3,958	-297	-7%
Perth	Kalgoorlie-Boulder	2,577	3,201	624	24%
Mackay	Bowen Basin	2,083	3,025	942	45%
Sydney	Balance – NSW	2,625	2,918	293	11%

The table and map above and to the right, identify the top ten LDC worker routes across Australia by total industry of employment as at August 2011. This data presents the number of LDC workers at a snapshot in time in the week prior to the 2011 Census and is therefore reflective of the demand for labour in particular regions at this point in time.

In 2011, some 213,773 people were utilising LDC work practices. It is interesting to note that the majority of LDC work practices were occurring intrastate (e.g. LDC workers are commuting from their POUR to their POW within the same state).

The LDC worker route between Perth and the Pilbara was by far the largest route (10,604 LDC workers) with more than twice the number of workers making the commute from their home in Perth to work in the Pilbara than any other single route across the Australian continent as at August 2011. The sheer volume shift in the number of workers making this commute is also significantly increasing by 6,314 workers or 147% between 2006 and 2011.

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics



The LDC worker route between Balance-QLD and the Bowen Basin was the second largest commuter route in 2011 having nearly doubled in the five-years to 2011 (up 90% from 2,693 to 5,125). Further analysis of the 5,125 workers commuting from Balance-QLD to Bowen Basin revealed that around 1,500 workers were commuting from the outskirts of Mackay (i.e. within the Mackay LGA, but outside the Mackay Provincial City definition) and around 1,300 workers were from the outskirts of Rockhampton. Interestingly, even excluding those LDC workers residing on the outskirts of Mackay, Australia's ninth largest LDC worker route was between Mackay and the Bowen Basin (3,025 workers in 2011).

## Australia's largest LDC POW destinations (all industries)

Work	2006		2011		Change from 2006
	No.	No.	No.	%	
Sydney	16,868	19,681	2,813	17%	
Pilbara	6,840	18,703	11,863	173%	
Bowen Basin	9,804	16,554	6,750	69%	
Melbourne	11,599	15,592	3,993	34%	
Balance – NSW	11,296	12,246	950	8%	
Balance – QLD	10,679	12,061	1,382	13%	
Balance – WA	8,772	9,825	1,053	12%	
Brisbane	6,942	9,150	2,208	32%	
Balance - VIC	6,742	7,728	986	15%	
Perth	4,305	7,366	3,061	71%	

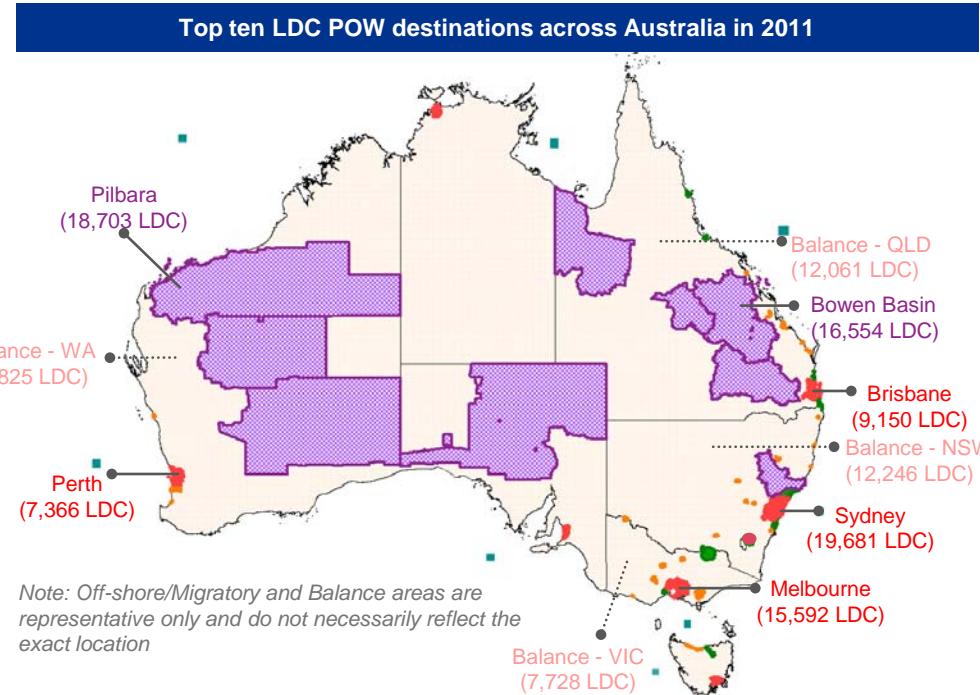
The table and map above and to the right, identify the top ten LDC POW destination across Australia by total industry of employment as at August 2011. This data presents the number of LDC workers at a snapshot in time in the week prior to the 2011 Census and is therefore reflective of the demand for labour in particular regions at this point in time.

Based on the results of the 2011 Census, there was a total of 213,773 LDC workers across Australia, with 30% of LDC workers identifying Capital Cities as their POW and 26% of LDC workers classifying the nine Mining Regions as their workplace destination. In 2011, Sydney was the largest employment destination for total LDC workers in Australia (19,681). The next largest LDC employment destinations were the Pilbara (18,703) and the Bowen Basin (16,554).

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.



In 2011, the Pilbara and the Bowen Basin combined attracted a similar number of LDC workers as the combined Sydney and Melbourne Capital City regions (35,257 and 35,273 respectively). Over the five-years to 2011, the number of LDC workers in the Pilbara and the Bowen Basin combined increased by 112% and this compares to 24% growth for Sydney and Melbourne combined. Growth in the Australian resources industry has created strong demand for labour, particularly within the nine Mining Regions of the Pilbara and the Bowen Basin, and this has impacted the distribution of LDC workers.

# Australia's Mining Regions

## Cross regional analysis

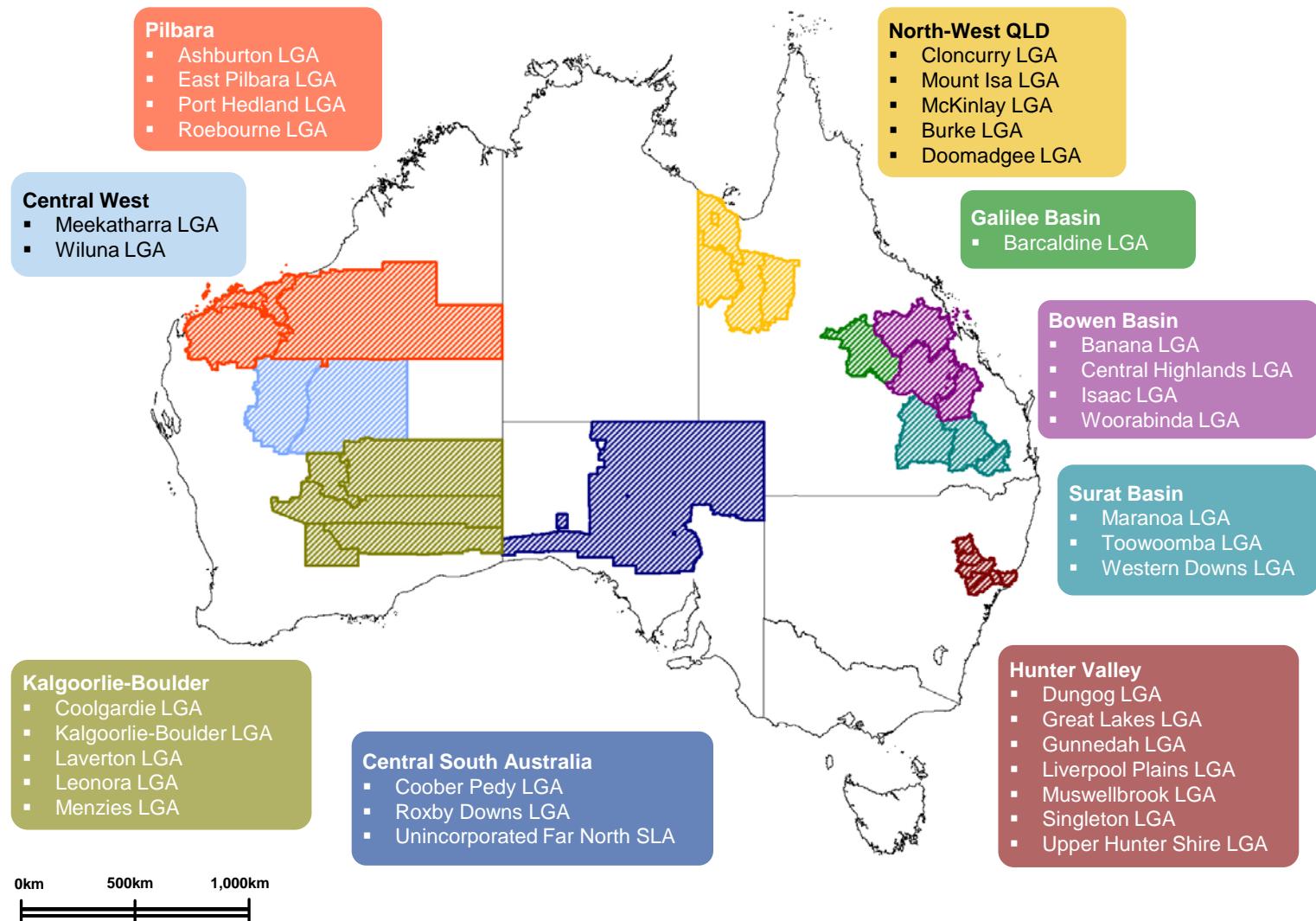
# Geography of Australia's nine sampled Mining Regions

For the purposes of this Report, nine Mining Regions were selected for analysis because there was either an existing high level of workers employed in the Mining industry or mining activity was forecast to significantly increase.

Some of the Mining Regions are well recognised, such as the Pilbara for its iron ore and Liquefied Natural Gas (LNG), Kalgoorlie-Boulder for its gold and the Bowen Basin for coal and coal seam gas. The nine sampled Mining Regions include a total of 34 municipalities or LGAs.

While this Report has considered each region type (e.g. Capital Cities, Provincial Cities), the primary focus of this Report is on the Mining Regions of Australia and it is for this reason that additional analysis, including a schedule of the non-resident accommodation in each of the nine sampled Mining Regions has been undertaken.

Throughout this Report, the individual Mining Regions are colour coded as highlighted in this map.

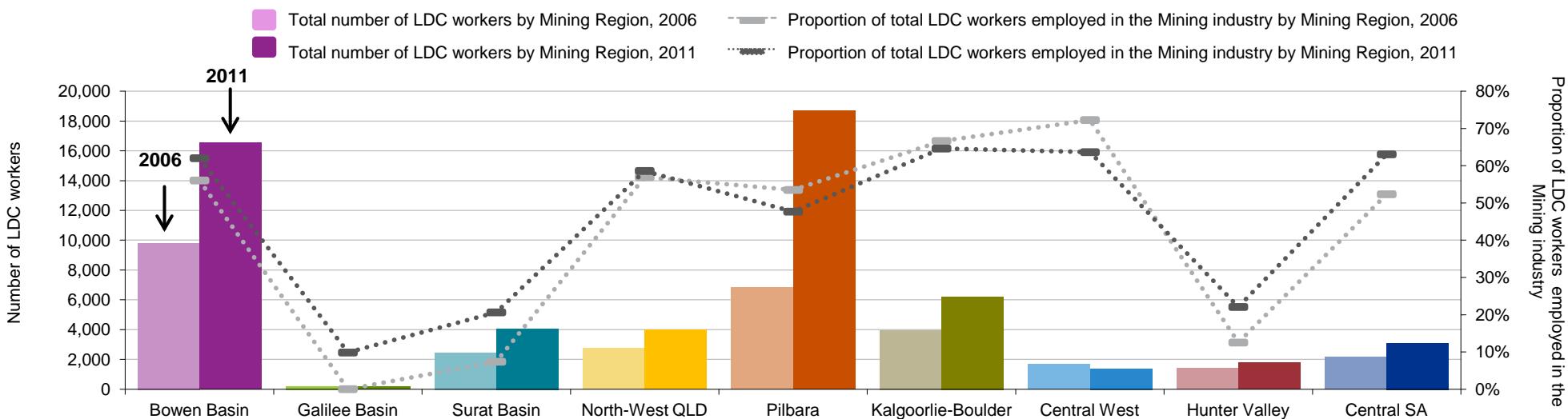


Source: KPMG Demographics

# Australia's Mining Regions

## Change in the number of LDC workers by region

Total number of LDC workers by POW benchmarked against the proportion of LDC workers employed in the Mining industry by Mining Region, 2006 and 2011



In 2011, some 55,962 or 26% of all LDC workers in Australia were commuting to one of the nine sampled Mining Regions. One-third of these 55,962 commuters travelled to work in the Pilbara (18,703 or 33%). The number of LDC workers to the Pilbara Region more than doubled in the five-years to 2011 (up 173% from 6,840 in 2006).

The second-largest POW destination for LDC workers in the nine sampled Mining Regions was the Bowen Basin. In 2011, 16,554 workers were undertaking LDC work practices to the Bowen Basin (up 69% from 9,804 in 2006).

The dotted lines on the chart above identify the proportion of the LDC workers in each Mining Region who work within the Mining industry. Across the nine sampled Mining Regions, over half (53% or 29,610) of the 55,962 LDC workers were employed within the Mining industry.

The propensity for LDC workers in the nine sampled Mining Regions to work within the Mining industry varies by region (primarily linked to the level of mining activity and economic diversity within the regions). For example, 65% of all LDC workers in the Kalgoorlie-Boulder Region work within the Mining industry. This compares to 64% in the Central West, 62% in the Bowen Basin, 63% in Central South Australia, 59% in North-West QLD, 48% in the Pilbara, 22% in the Hunter Valley, 21% in the Surat Basin and 10% in the Galilee Basin.

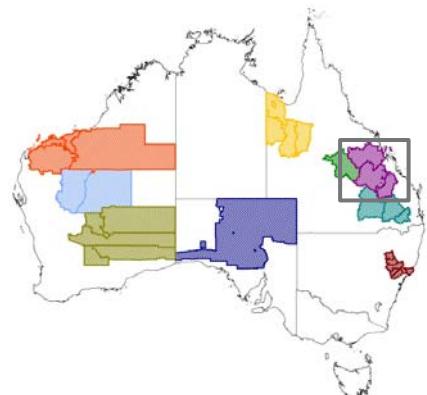
The significant growth in the number of people undertaking LDC work practices to the Pilbara and Bowen Basin, as well as the high proportion of these LDC workers employed in the Mining industry may be reflective of the level of new mining activity in these regions.

# Australia's Mining Regions

## Bowen Basin

# Bowen Basin

## Residential population overview



The Bowen Basin in central Queensland contains the largest coal reserves in Australia. The region stretches approximately 550km north to south and incorporates the townships of Moranbah, Emerald and Biloela. While the Mining industry is key, there are a number of other industries that contribute to the economic diversity of the region, such as Agriculture.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	68,588	4.1% <sup>1</sup>
Total dwellings	20,956	3.1% <sup>1</sup>
Average household size	2.78	0.04 <sup>2</sup>
Own their own home	50%	-5.2
High income earners	21%	9.2
Year 12 attainment	44%	5.5
Bachelor degree or higher	10%	1.5

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

The region comprised a total resident population of 68,588 in 2011. The resident population has grown at a rate in line with the Regional Australian average over the five-years to 2011; an average annual growth rate of 0.8%.

Half of the occupied private dwellings in the region are either owned outright by residents or by those who are paying off a mortgage. This represents a high level of home ownership when compared with regions such as the Pilbara and Central West (23% and 28% respectively), however rates of home ownership have declined by 5.2 percentage points in the five-years to 2011.

Levels of educational attainment are growing in the region with the proportion of residents who have completed year 12 and those who have obtained a Bachelor degree or higher increasing by 5.5 percentage points and 1.5 percentage points respectively. At the time of the 2011 Census, 21% of workers recorded a high income (earning \$2,000 or more per week) and this compared to the Regional Australian average of 5%.

# Bowen Basin

## Working population overview

In 2011, the Bowen Basin contained a resident population of 68,588. Some 35,058 Bowen Basin residents were employed at the time of the 2011 Census. Due to the number of employment opportunities in the Bowen Basin, the region is a net importer of jobs with a total of 44,849 people working in the region in 2011.

Of the 44,849 people who work in the Bowen Basin, 16,554 (or 37%) utilise LDC work practices to reach their place of employment (up 10 percentage points from 27% in 2006). This compares to 21% of workers utilising LDC work practices across the nine sampled Mining Regions combined and 2.1% across the Australian continent.

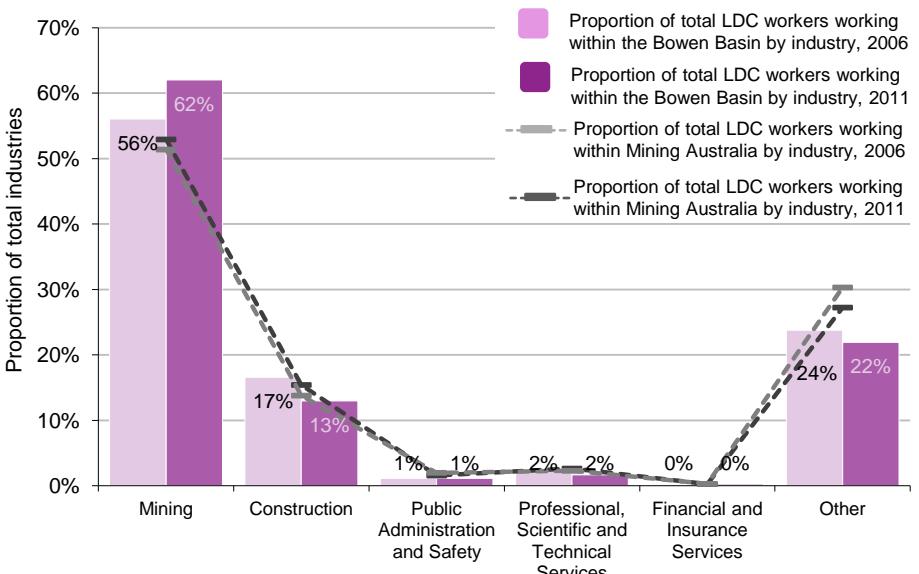
The number of people who utilise LDC practices to reach employment in the Bowen Basin has increased by 6,750 (or 69%) between 2006 and 2011. This compares to a 7% increase in the number of employed persons living in the region and a 22% increase in the number of people working in the region.

As highlighted in the chart to the right, of those workers undertaking LDC work practices to reach employment in the Bowen Basin, the majority (62%) were employed in the Mining industry in 2011 (up from 56% in 2006). A further 13% were employed in the Construction industry and 22% in Other industries (which includes Manufacturing and Transport, Postal and Warehousing).

Fast Facts – Workforce indicators				
Total Workforce	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	32,775	35,058	2,283	7%
Work (POW) in the region	36,885	44,849	7,964	22%
LDC to work in the region	9,804	16,554	6,750	69%
Proportion of people working in the region who LDC	27%	37%	-	10 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in the Bowen Basin by industry of employment benchmarked against total Mining Australia, 2006 and 2011



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Bowen Basin

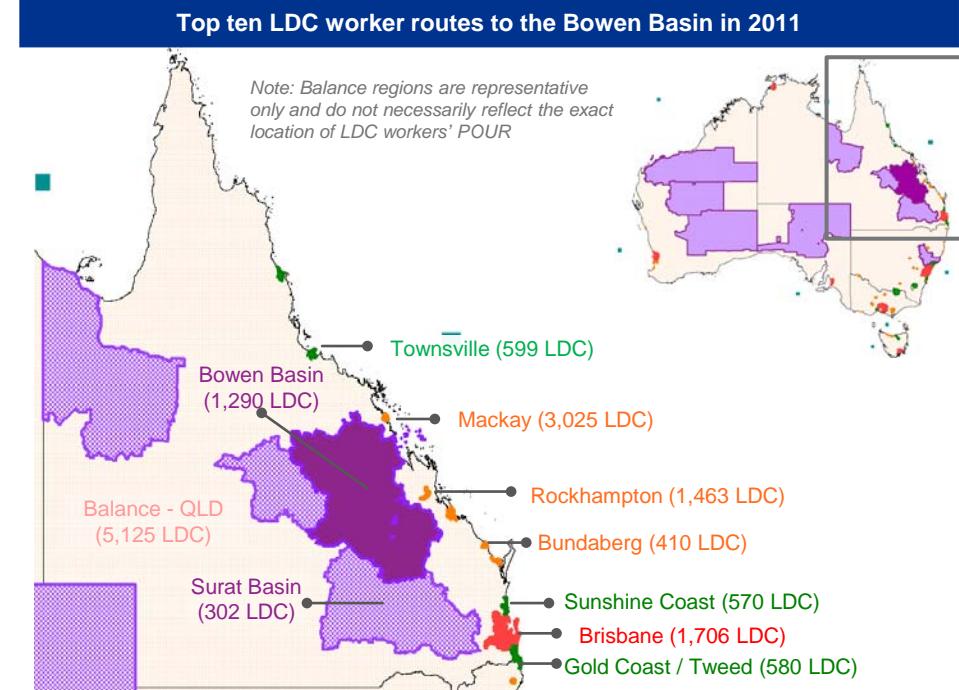
## Top ten LDC worker routes

**Top ten LDC worker routes to the Bowen Basin ranked by POUR as at 2011**

Rank	POUR	2011		Change from 2006	
		No.	%	No.	%
1	Balance – QLD	5,125	31%	2,432	90%
2	Mackay (QLD)	3,025	18%	942	45%
3	Brisbane (QLD)	1,706	10%	1,038	155%
4	Rockhampton (QLD)	1,463	9%	601	70%
5	Bowen Basin (QLD)	1,290	8%	-404	-24%
6	Townsville (QLD)	599	4%	312	109%
7	Gold Coast-Tweed (QLD/NSW)	580	4%	459	379%
8	Sunshine Coast (QLD)	570	3%	372	188%
9	Bundaberg (QLD)	410	2%	252	159%
10	Surat Basin (QLD)	302	2%	108	56%
	<i>Remainder</i>	<i>1,484</i>	<i>9%</i>	<i>638</i>	<i>75%</i>
	<b>Total</b>	<b>16,554</b>	-	<b>6,750</b>	<b>69%</b>

In 2011, 16,554 people were utilising LDC work practices to reach work in the Bowen Basin. Of the top ten LDC worker routes to the Bowen Basin (ranked by POUR in 2011), all were commuting from within the state of Queensland.

Close to one-third (31% or 5,125) of these LDC workers lived in Balance-QLD. Another 18% or 3,025 workers were commuting from Mackay, 1,706 from Brisbane, 1,463 from Rockhampton and 1,290 from within the Bowen Basin (i.e. their POW in the Bowen Basin was 100km or more from their POUR in the Bowen Basin). Subsequent analysis of the 5,125 workers commuting from Balance-QLD to Bowen Basin revealed that around 1,500



workers were from the outskirts area of Mackay (i.e. within the Mackay LGA, but outside the Mackay Provincial City definition) and 1,300 workers were from the outskirts area of Rockhampton (i.e. within the Rockhampton LGA but outside the Rockhampton Provincial City definition).

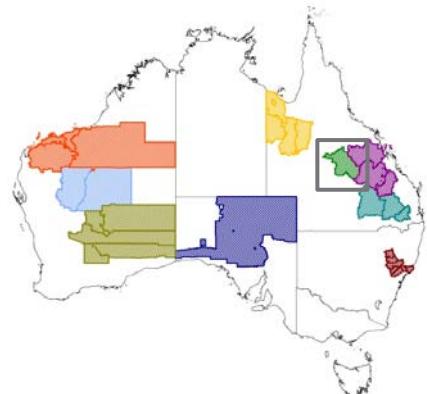
Taking this into consideration, the top LDC route to the Bowen Basin was from the Mackay and surrounds area with around 4,500 workers, followed by the Rockhampton and surrounds area with around 2,750 workers and then Balance-QLD third with around 2,300 workers.

# Australia's Mining Regions

## **Galilee Basin**

# Galilee Basin

## Residential population overview



The Galilee Basin is located west of the Bowen Basin in central Queensland. It contains a fairly small resident population base (3,286 residents in 2011) and mining activity in the region is in its early stages. Townships within the Galilee Basin include Alpha and Barcaldine. Agriculture is the main economic base within the region.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	3,286	-5.1% <sup>1</sup>
Total dwellings	1,192	-1.3% <sup>1</sup>
Average household size	2.39	-0.01 <sup>2</sup>
Own their own home	66%	-0.3
High income earners	5%	2.1
Year 12 attainment	39%	4.8
Bachelor degree or higher	9%	1.4

<sup>1</sup> Percentage change    <sup>2</sup>Absolute change

Please refer to Appendix 2 - *Definition of Residential Indicator Fast Facts* for detail on the definition of each indicator

Overall the demographic landscape of the Galilee Basin is not dissimilar to that of Regional Australia. As the Galilee Basin is a fairly new region in terms of mining activity, the region has not yet experienced the typical demographic characteristics associated more generally with Mining Regions.

At the time of the 2011 Census, 5% of the Galilee Basin's resident workers were defined as high income earners and this compared to the Regional Australian average of 5%. Between the Census years of 2006 and 2011, the proportion of high income earners increased by 2.1 percentage points and this compared with an average increase of 2.7 percentage points across Regional Australia.

In 2011, 39% of residents had completed year 12 and this level of education attainment compared with 37% for Regional Australia.

# Galilee Basin

## Working population overview

In 2011, the Galilee Basin contained a resident population of 3,286. Some 1,650 Galilee Basin residents were employed at the time of the 2011 Census. The Galilee Basin is a net exporter of workers (i.e. more people seeking employment outside than inside the region), with 1,540 persons working in the region in 2011.

The use of LDC work practices in the Galilee Basin is relatively minor with 183 or 12% of workers in the Galilee Basin utilising LDC work practices to reach their POW (compared to 21% of workers across Mining Australia). The number of LDC working in the Galilee Basin has fallen slightly between the 2006 and 2011 Censuses, down 9% from 200 LDC workers in 2006.

The majority of workers undertaking LDC work practices to reach employment in the Galilee Basin were employed in 'Other' industries (67% in 2011, down 12 percentage points from 2006). Closer inspection of these 'Other' industries reveals that in 2011, 33% of all LDC workers to the Galilee Basin were actually employed in the Agriculture, Forestry and Fishing industry (also 33% in 2006) and a further 11% employed in the Health Care and Social Assistance industry (up 4 percentage points from 2006).

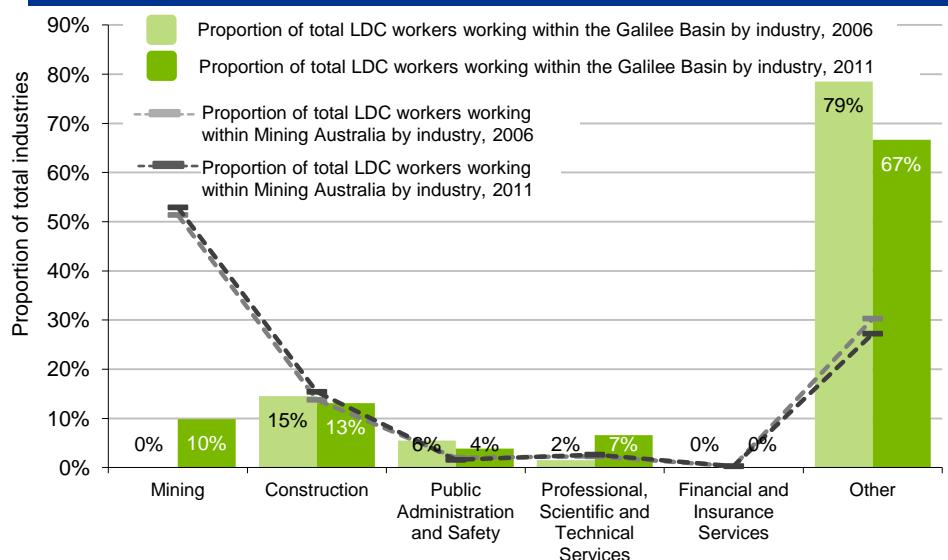
This compares to 13% of LDC workers in the Construction industry utilising LDC work practices, 10% in the Mining industry and 7% in Professional, Scientific and Technical Services industry.

Representative of the growth in mining activity in the Galilee Basin, the proportion of workers in the Mining industry undertaking LDC work practices has risen from 0% in 2006 to 10% of total workers in 2011.

Fast Facts – Workforce indicators				
Total Workforce	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	1,635	1,650	15	1%
Work (POW) in the region	1,563	1,540	-23	-1%
LDC to work in the region	200	183	-17	-9%
Proportion of people working in the region who LDC	13%	12%	-	-1 <sup>1</sup>

<sup>1</sup> Percentage point change

Proportion of the LDC workforce working in the Galilee Basin by industry of employment benchmarked against total Mining Australia, 2006 and 2011



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

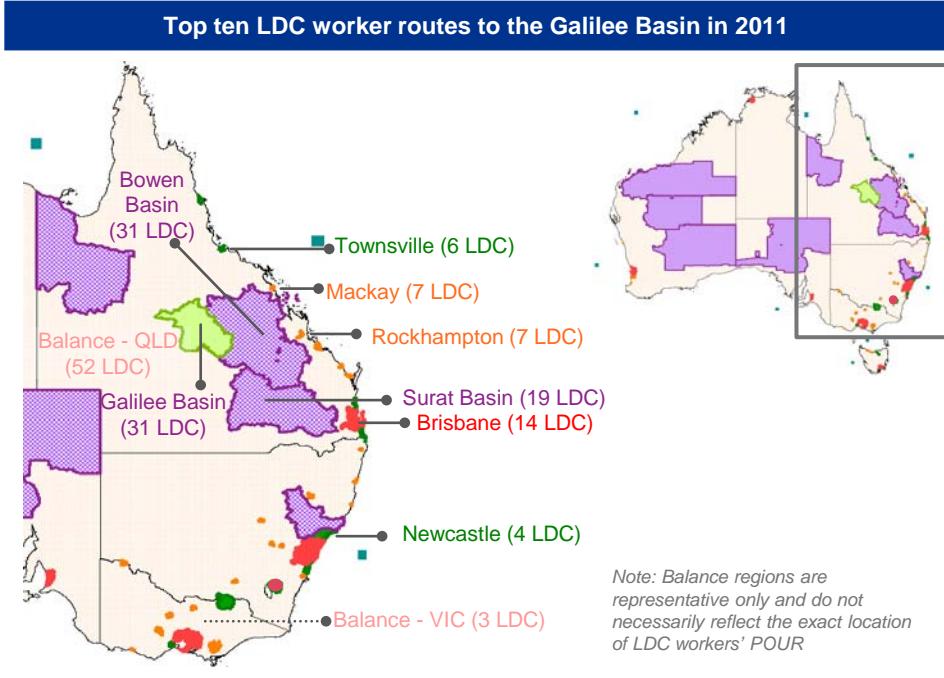
# Galilee Basin

## Top ten LDC worker routes

Top ten LDC worker routes to the Galilee Basin ranked by POUR as at 2011					
Rank	POUR	2011		Change from 2006	
		No.	%	No.	%
1	Balance – QLD	52	28%	-24	-32%
2	Bowen Basin (QLD)	31	17%	17	121%
3	Galilee Basin (QLD)	31	17%	14	82%
4	Surat Basin (QLD)	19	10%	10	111%
5	Brisbane (QLD)	14	8%	-18	-56%
6	Mackay (QLD)	7	4%	2	40%
7	Rockhampton (QLD)	7	4%	2	40%
8	Townsville (QLD)	6	3%	-5	-45%
9	Newcastle (NSW)	4	2%	4	-
10	Balance – VIC	3	2%	3	-
<i>Remainder</i>		9	5%	-22	-71%
<b>Total</b>		<b>183</b>	-	<b>-17</b>	<b>-9%</b>

In 2011, 183 people were utilising LDC work practices to reach work in the Galilee Basin. Due to the relatively small number of LDC workers in the region, the count of LDC workers by journey route are quite small.

Interestingly, a significant proportion of LDC workers to the Galilee Basin commute from their POUR in other surrounding Mining Regions (e.g. the Bowen Basin and Surat Basin). This may be attributed to the relative geographic proximity of other Mining Regions to the Galilee Basin.



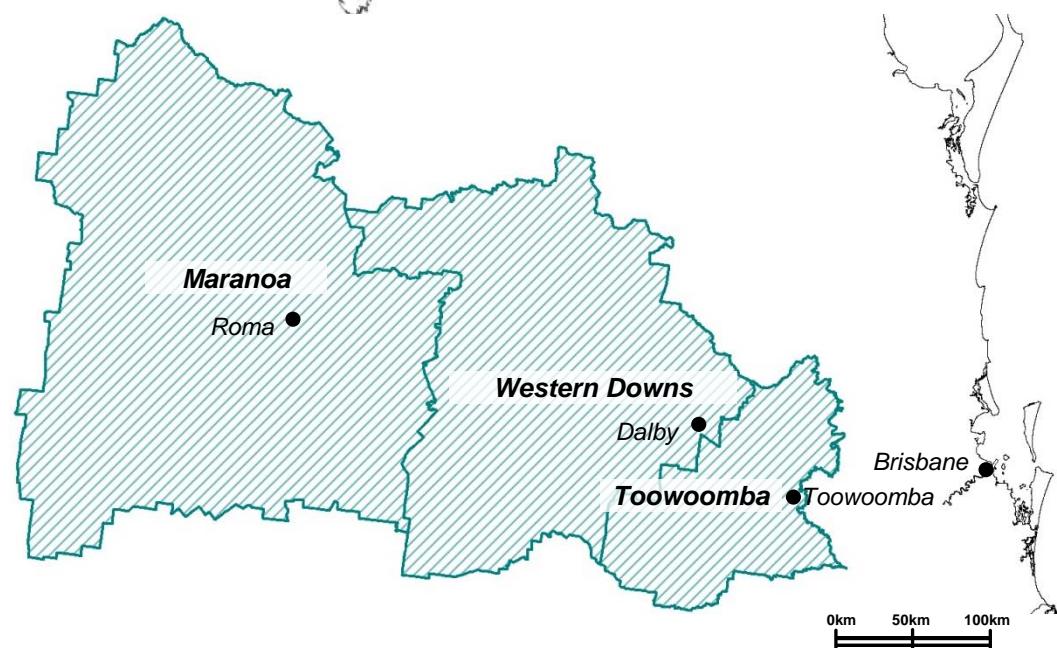
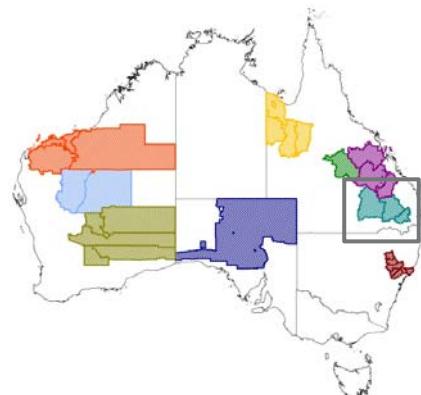
Over one-quarter (28%) of the 183 LDC workers to the Galilee Basin usually lived in Balance-QLD, another 17% commuted from homes in either the Bowen Basin or the Galilee Basin (i.e. their POW in the Galilee Basin was 100km or more from their POUR in the Galilee Basin) and 10% commuted from the Surat Basin.

# Australia's Mining Regions

## **Surat Basin**

# Surat Basin

## Residential population overview



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	200,750	3.2% <sup>1</sup>
Total dwellings	70,495	8.0% <sup>1</sup>
Average household size	2.52	-0.04 <sup>2</sup>
Own their own home	67%	-1.9
High income earners	4%	2.1
Year 12 attainment	43%	4.3
Bachelor degree or higher	14%	2.0

<sup>1</sup> Percentage change    <sup>2</sup>Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

In the five-years to 2011, the rate of dwelling (occupied private) growth has outpaced that of resident population growth across the Surat Basin, increasing by 8.0% and 3.2% respectively.

With the presence of a large township such as Toowoomba in the region, there are education and employment opportunities for residents. The University of Southern Queensland has a campus in Toowoomba which provides higher education options to surrounding residents.

In the Surat Basin, the level of year 12 attainment was higher than Regional Australia both in 2006 and 2011. Rates of educational attainment have increased by 5 percentage points in the five-years to 2011 with the rate of year 12 attainment sitting at 43% in 2011 and this compared with the Regional Australian average of 37%.

# Surat Basin

## Working population overview

The Surat Basin contained a resident population of 200,750 in 2011. Some 90,108 Surat Basin residents were employed at the time of the 2011 Census. The Surat Basin is a net exporter of workers, with 80,865 persons working in the region in 2011.

The use of LDC work practices in the Surat Basin is relatively minor. In 2011, 5% of total workers in the Surat Basin were LDC workers (up from 3% in 2006). This compares to 21% of workers utilising LDC work practices across the nine sampled Mining Regions. The total number of LDC workers in the Surat Basin has grown between 2006 and 2011, up 66%.

Half of the workers undertaking LDC work practices to reach employment in the Surat Basin were employed in 'Other' industries in 2011 (down 12 percentage points from 62% in 2006). Of the industries comprising the 'Other' category, Agriculture, Forestry and Fishing contained the highest proportion of LDC workers (9% in 2011 down from 13% in 2006), followed by Health Care and Social Assistance with 7% (down from 8% in 2006), Accommodation and Food Services with 6% (up from 5% in 2006), and Education and Training with 5% (also 5% in 2006).

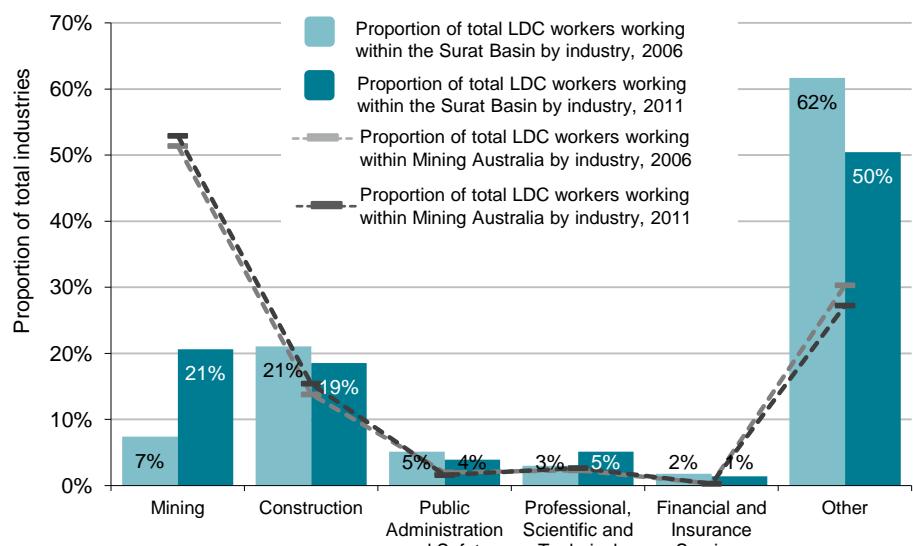
This compares to 19% of LDC workers in the Construction industry utilising LDC work practices (down from 21% in 2006) and 21% in the Mining industry.

Representative of the growth in mining activity in the Surat Basin, the proportion of workers in the Mining industry undertaking LDC work practices has risen 14 percentage points from 7% in 2006 to 21% of total workers in 2011.

Total Workforce	Fast Facts – Workforce indicators			
	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	83,684	90,108	6,424	8%
Work (POW) in the region	78,060	80,865	2,805	4%
LDC to work in the region	2,454	4,069	1,615	66%
Proportion of people working in the region who LDC	3%	5%	-	2 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in the Surat Basin by industry of employment benchmarked against total Mining Australia, 2006 and 2011



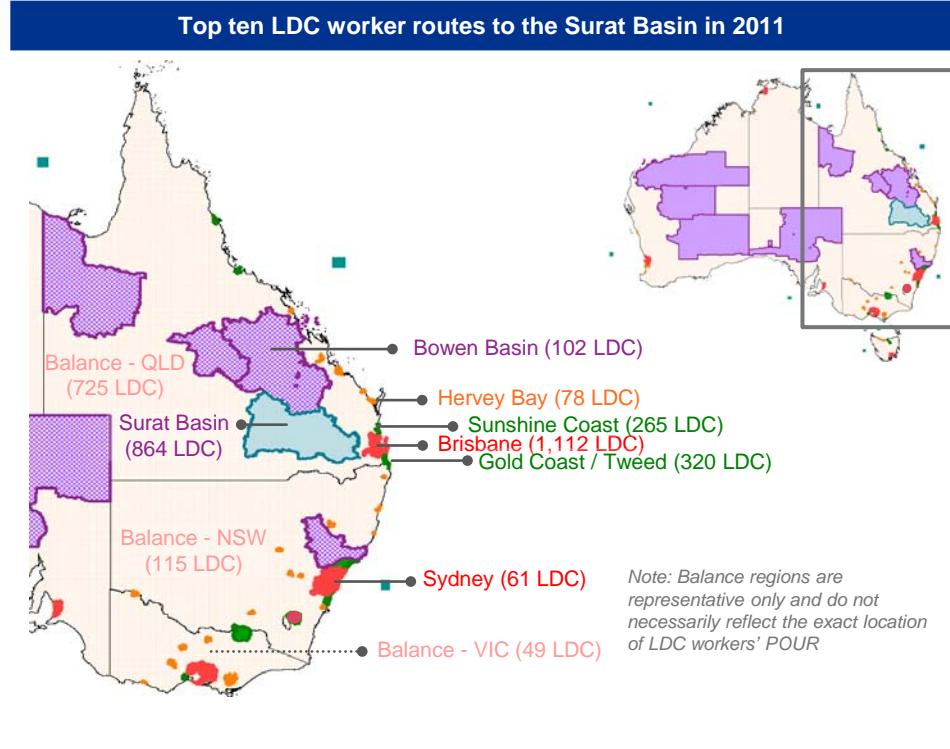
Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Surat Basin

## Top ten LDC worker routes

Top ten LDC worker routes to the Surat Basin ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Brisbane (QLD)	1,112	27%	399	56%	
2	Surat Basin (QLD)	864	21%	327	61%	
3	Balance – QLD	725	18%	339	88%	
4	Gold Coast-Tweed (QLD/NSW)	320	8%	137	75%	
5	Sunshine Coast (QLD)	265	7%	126	91%	
6	Balance – NSW	115	3%	49	74%	
7	Bowen Basin (QLD)	102	3%	51	100%	
8	Hervey Bay (QLD)	78	2%	52	200%	
9	Sydney (NSW)	61	1%	23	61%	
10	Balance – VIC	49	1%	37	308%	
<b>Remainder</b>		<b>378</b>	<b>9%</b>	<b>75</b>	<b>25%</b>	
<b>Total</b>		<b>4,069</b>	<b>-</b>	<b>1,615</b>	<b>66%</b>	

In 2011, 4,069 people were utilising LDC work practices to reach work in the Surat Basin. Over one-quarter (27%) of these LDC workers usually lived in Brisbane, another 21% commuted from within the Surat Basin (i.e. their POW in the Surat Basin was 100km or more from their POUR in the Surat Basin), and a further 18% commuted from Balance-QLD.



The LDC worker routes to experience the greatest increase (in absolute terms) between the 2006 and 2011 Census include workers commuting to the Surat Basin from Brisbane (up 399). In relative terms however, the LDC worker route from Balance-VIC to the Surat Basin has experienced the greatest percentage growth, up 308% in the five-years to 2011 (albeit off a small base of 12 workers in 2006).

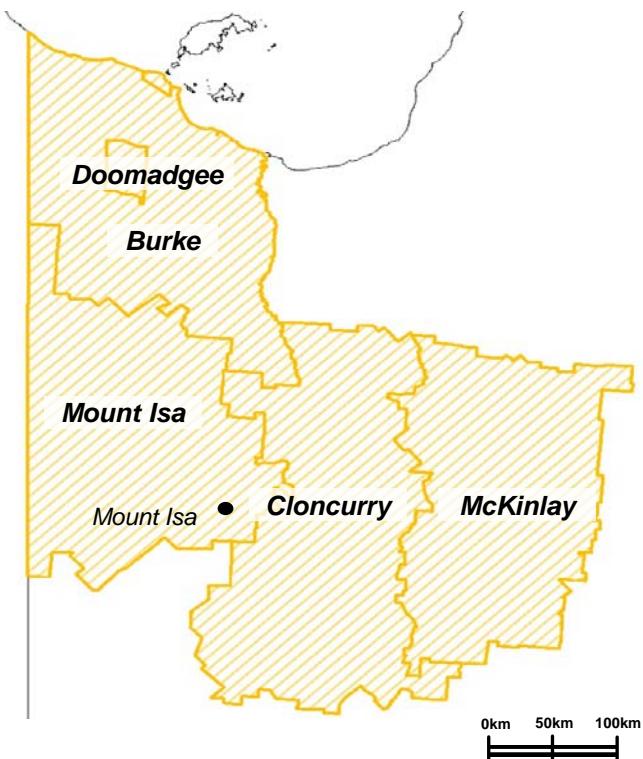
# Australia's Mining Regions **North-West QLD**

# North-West QLD

## Residential population overview



The North-West QLD Mining Region is located on the northern border of Queensland and the Northern Territory, north-west of the Galilee and Bowen Basins. It stretches approximately 450km east to west. The largest township in this region is Mount Isa.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators			
Residential indicator	2011	Percentage point change from 2006	
Total resident population	28,724	5.9% <sup>1</sup>	
Total dwellings	7,280	-3.9% <sup>1</sup>	
Average household size	2.74	-0.09 <sup>2</sup>	
Own their own home	51%	-3.3	
High income earners	17%	11.7	
Year 12 attainment	50%	26.0	
Bachelor degree or higher	11%	1.7	

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

The resident population of North-West QLD has grown by 5.9% in the five-years to 2011, however the number of occupied private dwellings (based on POUR) has decreased by 3.9% over this period. This may be explained by the growing number of residents living in non-private dwellings (33% growth between 2006 and 2011). In particular, almost half (45%) of residents living in non-private dwellings were housed in staff quarters. This was a 19 percentage point increase from 2006 and may be attributable to the growing presence of mining in the region.

North-West QLD has experienced a significant growth in year 12 completion rates, increasing by 26 percentage points between 2006 and 2011 to reach 50%. This compares to the Regional Australian average of 37% in 2011.

The rate of home ownership in North-West QLD is significantly below the Regional Australian average (51% and 70% respectively in 2011) and furthermore it decreased 3 percentage points between 2006 and 2011.

# North-West QLD

## Working population overview

In 2011, North-West QLD contained a resident population of 28,724. Some 13,261 North-West QLD residents were employed at the time of the 2011 Census. Due to the number of employment opportunities in North-West QLD, the region is a net importer of jobs with a total of 15,357 people working in the region in 2011.

Of the 15,357 people who work in North-West QLD, 3,973 (or 26%) utilise LDC work practices to reach their place of employment (up 5 percentage points from 21% in 2006). This compares to 21% of workers utilising LDC work practices across the Mining Regions of Australia and 2.1% across the Australian continent.

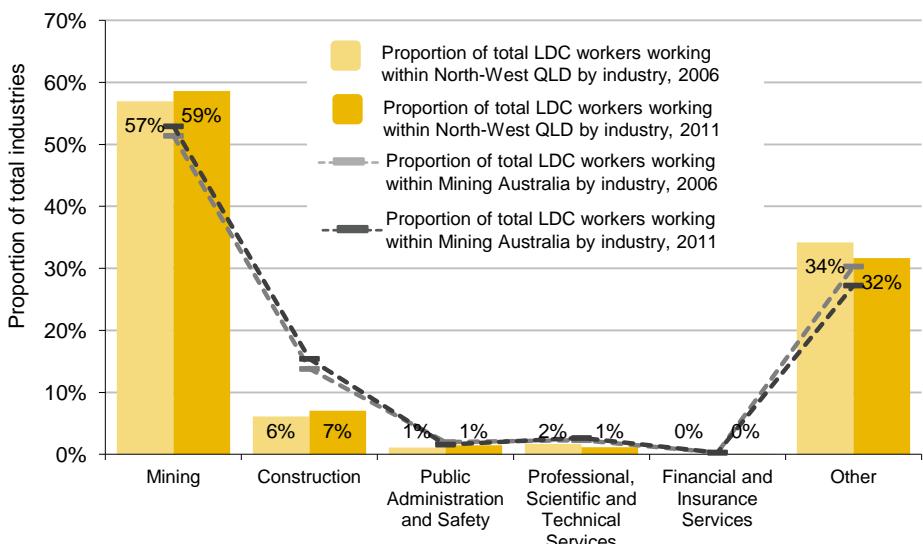
The number of people who utilise LDC work practices to reach employment in North-West QLD has increased by 1,231 (or 45%) between 2006 and 2011. This compares to an 11% increase in the number of employed persons living in the region and a 16% increase in the number of people working in the region.

Of those workers undertaking LDC work practices to reach employment in North-West QLD, the majority (59%) were employed in the Mining industry in 2011 (up from 57% in 2006). A further 7% were employed in the Construction industry and 32% in Other industries (which includes Agriculture, Forestry and Fishing and Health Care and Social Assistance).

Fast Facts – Workforce indicators				
Total Workforce	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	11,978	13,261	1,283	11%
Work (POW) in the region	13,284	15,357	2,073	16%
LDC to work in the region	2,742	3,973	1,231	45%
Proportion of people working in the region who LDC	21%	26%	-	5 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in North-West QLD by industry of employment benchmarked against total Mining Australia, 2006 and 2011



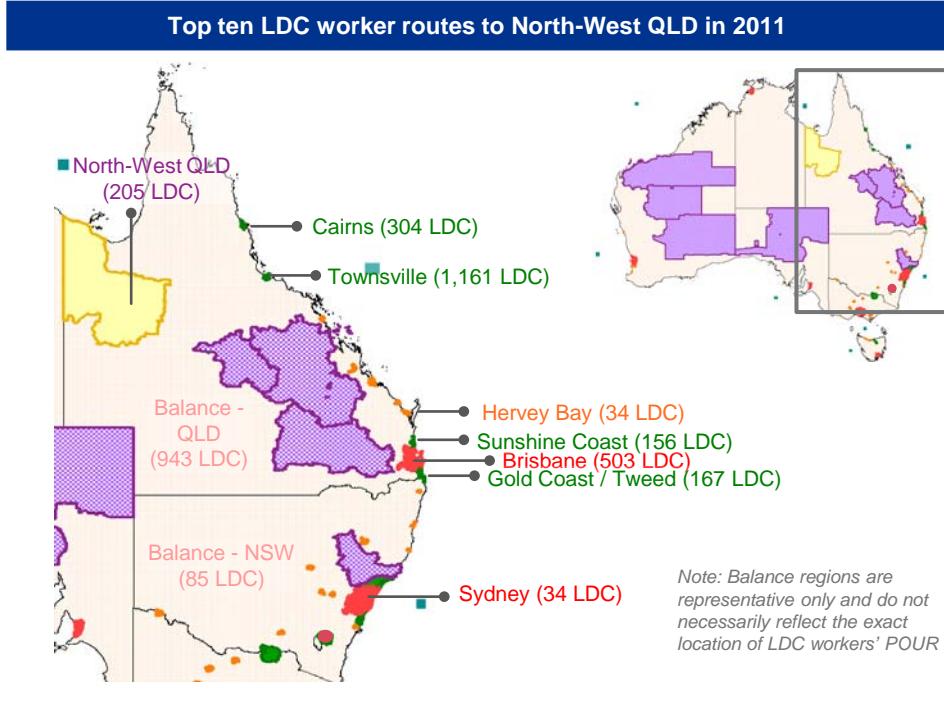
Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# North-West QLD

## Top ten LDC worker routes

Top ten LDC worker routes to North-West QLD ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Townsville (QLD)	1,161	29%	148	15%	
2	Balance – QLD	943	24%	288	44%	
3	Brisbane (QLD)	503	13%	220	78%	
4	Cairns (QLD)	304	8%	147	94%	
5	North-West QLD	205	5%	76	59%	
6	Gold Coast-Tweed (QLD/NSW)	167	4%	103	161%	
7	Sunshine Coast (QLD)	156	4%	89	133%	
8	Balance – NSW	85	2%	45	113%	
9	Hervey Bay (QLD)	34	1%	27	386%	
10	Sydney (NSW)	34	1%	28	467%	
	Remainder	381	10%	60	19%	
	<b>Total</b>	<b>3,973</b>	-	<b>1,231</b>	<b>45%</b>	

In 2011, 3,973 people were utilising LDC work practices to reach work in North-West QLD, the majority of whom were commuting from within the state of Queensland. Of the top ten LDC worker routes to North-West QLD (ranked by POUR in 2011), over one-quarter (29% or 1,161) of these LDC workers usually lived in Townsville. Another one-quarter (24% or 943 workers) were commuting from Balance-QLD, and 13% or 503 workers were commuting from Brisbane.



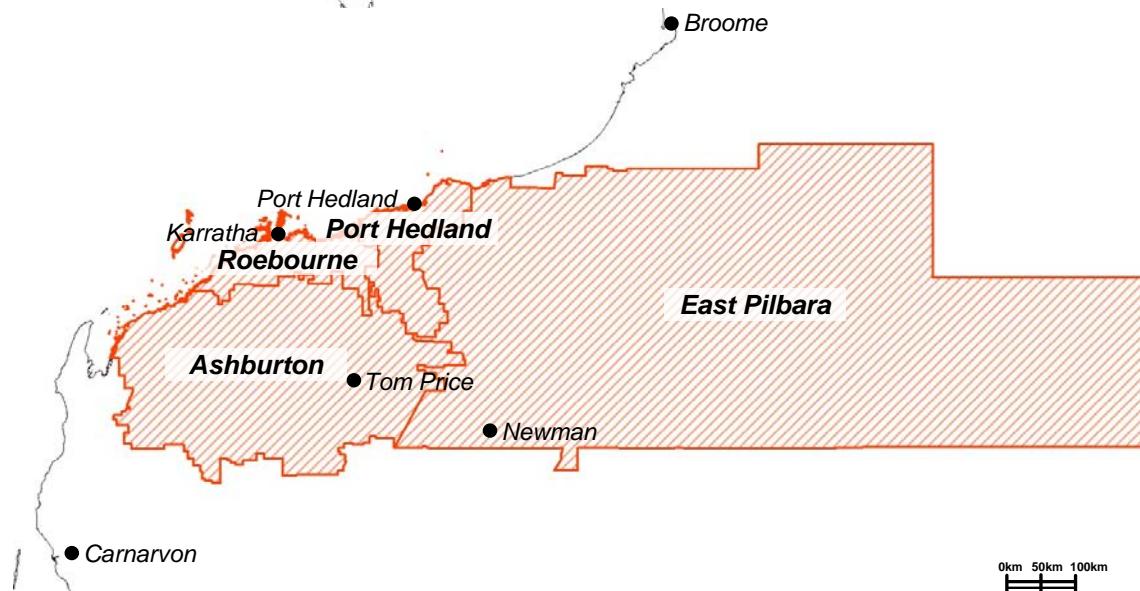
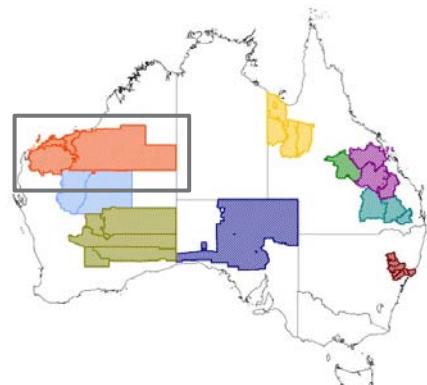
The LDC worker routes to experience the greatest increase (in absolute terms) between 2006 and 2011, includes people commuting to North-West QLD from Balance-QLD (up 288), followed by Brisbane (up 220). In relative terms however, the LDC worker route from Sydney to North-West QLD has experienced the greatest percentage growth, up 467% in the five-years to 2011 (albeit off a small base).

# Australia's Mining Regions

## Pilbara

# Pilbara

## Residential population overview



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

The Pilbara Mining Region includes the townships of Karratha, Tom Price, Newman and Port Hedland. Karratha is located approximately 1,300km north of Perth. The Pilbara economy is dominated by iron ore mining and petroleum, oil and gas production. Australia's largest export commodity is iron ore and approximately 95% of this is produced in the Pilbara (*Pilbara Development Commission, 2012*).

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	62,736	42.3% <sup>1</sup>
Total dwellings	12,563	13.7% <sup>1</sup>
Average household size	2.94	0.03 <sup>2</sup>
Own their own home	23%	-10.8
High income earners	42%	25.5
Year 12 attainment	47%	7.4
Bachelor degree or higher	11%	1.0

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

According to the ABS, the Pilbara has experienced significant resident population growth over the five-years to 2011 at an average annual rate of 7.3% (compared to the Regional Australian average of 0.8%). Resident population growth has outpaced growth in occupied private dwellings and this may be attributable to a substantial increase in the number of residents living in non-private dwellings (158%). In 2011, almost two-thirds (65%) of residents in non-private dwellings were living in staff quarters. This may be linked to the growing investment of mining in the region and its growing workforce.

Between 2006 and 2011, the proportion of high income earners increased by 25.5 percentage points and this compares to an average increase of 2.7 percentage points for Regional Australia. At the time of the 2011 Census, 42% of Pilbara resident workers were defined as high income earners and this compared with 5% across Regional Australia.

In 2011, 42% of residents had completed year 12 and this level of education attainment compared with 37% for Regional Australia.

# Pilbara

## Working population overview

In 2011, there were 32,373 employed residents living in the Pilbara. Over the five-years to 2011, the number of Pilbara residents working increased by 12,846 or 66% and this compares with a 10% increase for total Australia. The region's workforce growth rate is fuelled by the strong level of mining and mining allied infrastructure projects. This includes those people undertaking LDC work practices on a temporary basis in order to fill the strong demand for labour during the construction phase of a mine's lifecycle.

At the time of the 2011 Census, there were a total of 45,467 workers in the Pilbara. Due to the number of employment opportunities in the region, the Pilbara is a net importer of jobs. Of the 45,467 people working in the Pilbara, 41% or 18,703 were undertaking LDC work practices. The number of LDC workers in the Pilbara increased by 173% over the five-years to 2011. In 2006, the proportion of workers in the region that undertook LDC practices was 29% and this increased by 12 percentage points to reach 41% in 2011. There has been an increase in the propensity of workers in the region to undertake LDC work practices in the Pilbara.

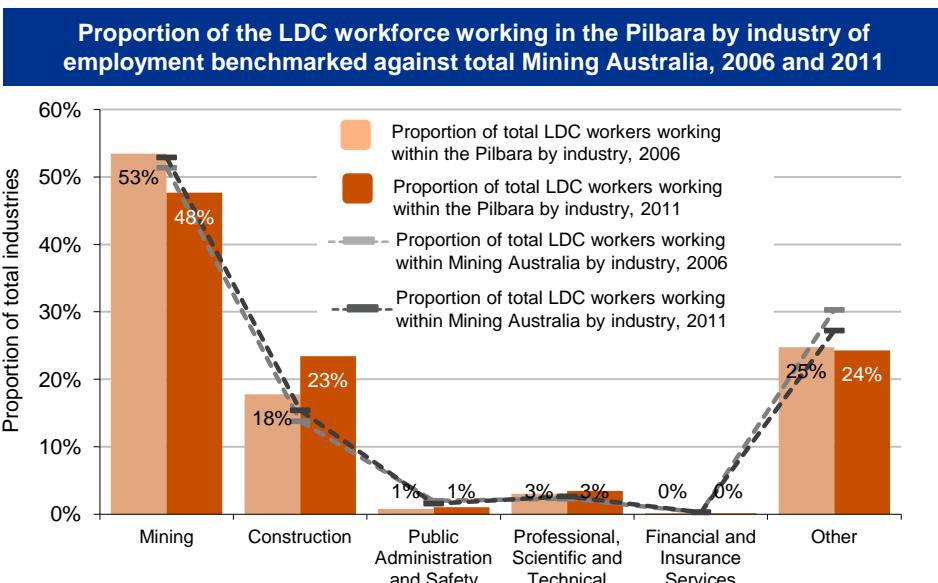
Almost half (8,916 or 48%) of the 18,703 LDC workers in the Pilbara were employed in the Mining industry in 2011. The Mining industry is the region's largest employer of LDC workers. In 2011, the LDC workforce was dominated by workers in the Mining industry, however there was a 5 percentage point decrease from 2006. The number of LDC workers employed in the Construction industry experienced the largest total percentage growth in the five-years to 2011 increasing by 260%. The corresponding growth among Mining industry LDC workers was 144% which was less than the growth in the total LDC workforce in the Pilbara (173%).

In 2006, the proportion of LDC workers employed in the Mining and Construction industries combined was 71% and interestingly this combined proportion remained unchanged over the five-years to 2011. In other words, the 5 percentage point increase in the Construction industry LDC workforce was offset by the 5 percentage point drop in the Mining industry LDC workforce.

In absolute terms, the Mining industry added the most LDC workers between 2006 and 2011 (5,257 or 44%).

Total Workforce	Fast Facts – Workforce indicators		Change from 2006	
	2006	2011	No.	%
Live (POUR) in the region	19,527	32,373	12,846	66%
Work (POW) in the region	23,563	45,467	21,904	93%
LDC to work in the region	6,840	18,703	11,863	173%
Proportion of people working in the region who LDC	29%	41%	-	12 <sup>1</sup>

<sup>1</sup> Percentage point change



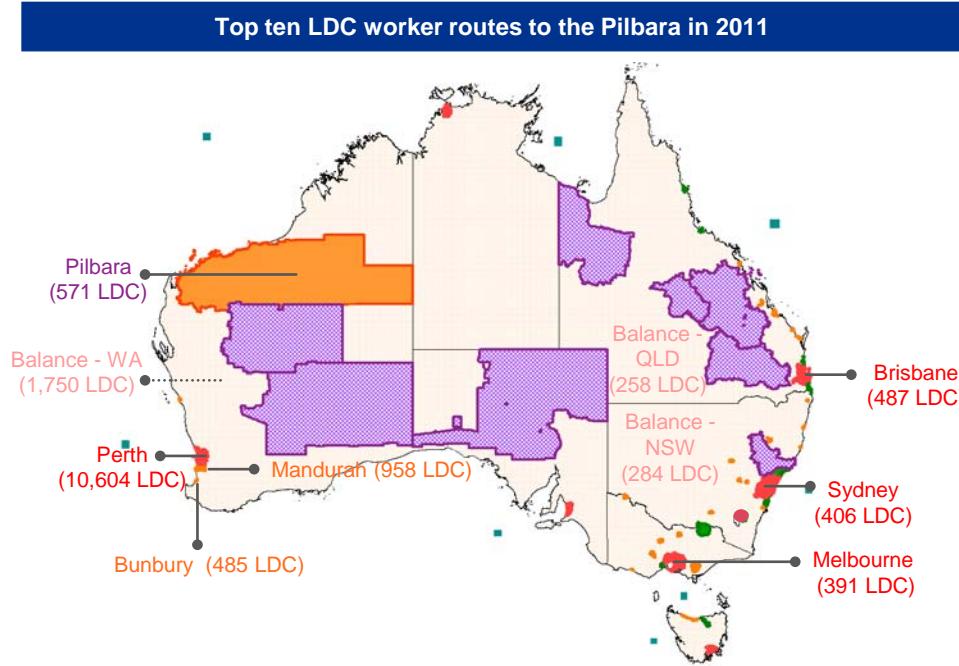
Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Pilbara

## Top ten LDC worker routes

Top ten LDC worker routes to the Pilbara ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Perth (WA)	10,604	57%	6,314	147%	
2	Balance – WA	1,750	9%	981	128%	
3	Mandurah (WA)	958	5%	624	187%	
4	Pilbara (QLD)	571	3%	286	100%	
5	Brisbane (QLD)	487	3%	391	407%	
6	Bunbury (WA)	485	3%	330	213%	
7	Sydney (NSW)	406	2%	357	729%	
8	Melbourne (VIC)	391	2%	303	344%	
9	Balance – NSW	284	2%	233	457%	
10	Balance – QLD	258	1%	211	449%	
<i>Remainder</i>		2,509	13%	1,833	271%	
<b>Total</b>		<b>18,703</b>	-	<b>11,863</b>	<b>173%</b>	

In 2011, Perth was the single largest source of LDC workers to the Pilbara, with 10,604 or 57% of LDC workers in the Pilbara travelling from their POUR in Perth to a POW in the Pilbara. Furthermore, between 2006 and 2011 the largest absolute growth in LDC workers to the Pilbara was from Perth (up 6,314). In 2006, Perth was also the top source of LDC workers to the Pilbara (4,290 or 63%). Over the five-years to 2011, Perth has decreased in market share by 6 percentage points (from 63% to 57%), losing ground to other Capital City regions including Brisbane, and Regional Cities further afield.



Although the majority of travel to the Pilbara is intrastate, the impact of LDC workers travelling to the Pilbara is far-reaching, with workers increasingly commuting from Queensland, New South Wales and Victoria.

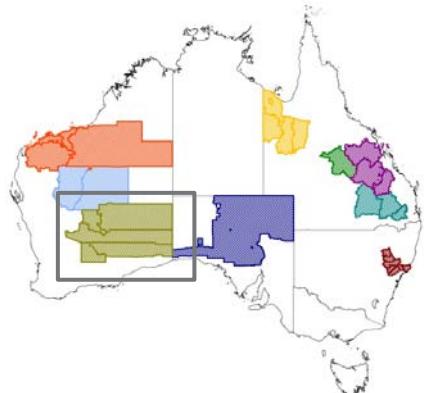
In 2006, the average distance LDC workers travelled to reach work in the Pilbara was 1,330km and 63% commuted from Perth. By 2011, the average commuter distance had increased to 1,460km (up 10%) with an increase in the number of LDC workers travelling from Brisbane, Sydney and Melbourne.

# Australia's Mining Regions

## **Kalgoorlie-Boulder**

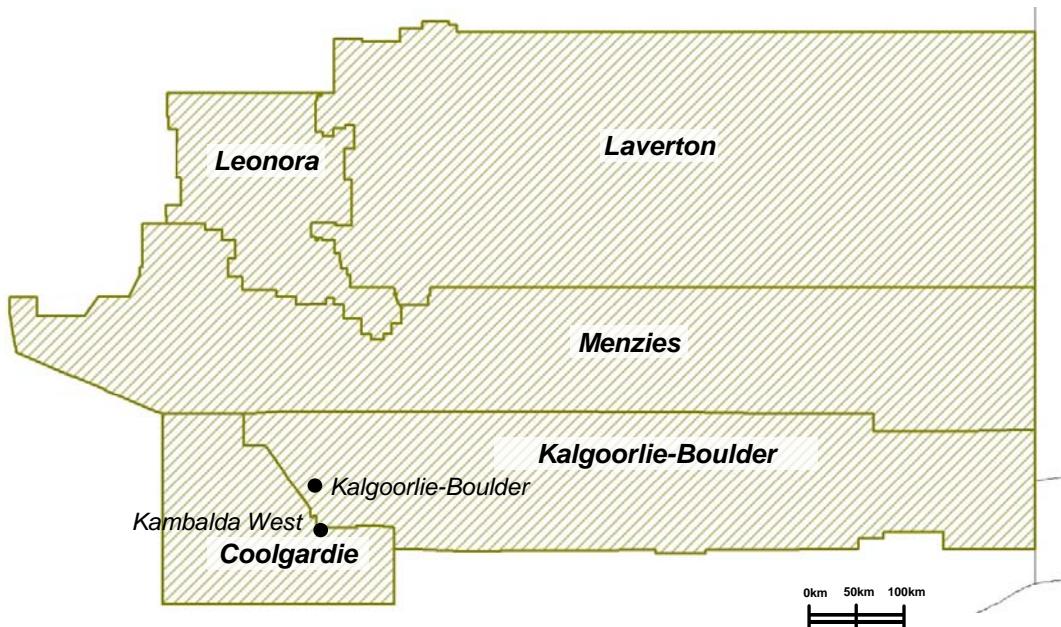
# Kalgoorlie-Boulder

## Residential population overview



The Kalgoorlie-Boulder Region is Australia's largest gold mining region and also produces nickel and other metals. Kalgoorlie-Boulder is located almost 600km north-east of Perth and includes the municipalities of Menzies, Kalgoorlie-Boulder, Laverton, Coolgardie and Leonora.

In 2011, the Kalgoorlie-Boulder Region contained an estimated resident population of 40,694, and the individual township of Kalgoorlie-Boulder contained 30,840 residents. On this basis, 76% of the Kalgoorlie-Boulder Region's resident population is located in the township of Kalgoorlie-Boulder.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

### Fast Facts – Residential indicators

Residential indicator	2011	Percentage point change from 2006
Total resident population	40,694	10.3% <sup>1</sup>
Total dwellings	11,763	7.5% <sup>1</sup>
Average household size	2.68	0.00 <sup>2</sup>
Own their own home	58%	-4.2
High income earners	18%	10.5
Year 12 attainment	42%	5.1
Bachelor degree or higher	11%	1.1

<sup>1</sup> Percentage change    <sup>2</sup>Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

The resident population of the Kalgoorlie-Boulder Region increased by 10.3% over the five-years to 2011 and this translates to an average growth rate of 2.0%.

In the region, 58% of homes are either owned outright by residents or residents are paying off the mortgage. This represents a high level of home ownership when compared to regions including the Pilbara and Central West (23% and 28% respectively in 2011).

The table above shows that in the Kalgoorlie-Boulder Region, the proportion of residents completing year 12 is increasing and so too is the proportion of residents with a Bachelor degree or higher. At the time of the 2011 Census, 18% of resident workers were recording a high income and this compared with a Regional Australian average of 5%.

# Kalgoorlie-Boulder

## Working population overview

At the time of the 2011 Census, there were 19,714 workers living in the Kalgoorlie-Boulder Region and 21,392 employed persons working in the region. Over the five-years to 2011, the number of employed persons living in the Kalgoorlie-Boulder Region increased by 16%. The number of employed persons living in the region increased at a greater rate (19%) than the total resident population (10%). Residents are attracted to the region due to employment opportunities.

Of the 21,392 people working within the region, 6,206 or 29% were undertaking LDC work practices in 2011. In the five years to 2011, the number of people undertaking LDC work practices to reach employment in the region increased by 56%, and this compared with an average increase of 79% across the nine sampled Mining Regions defined in this Report.

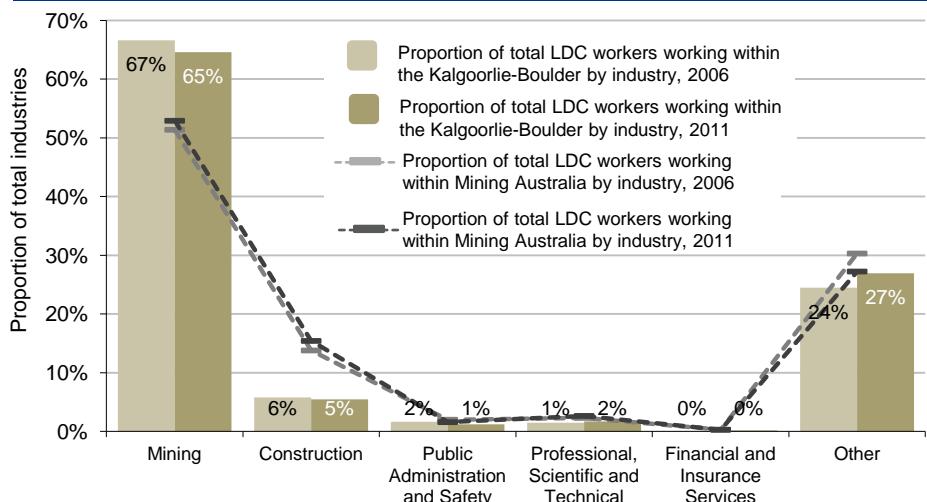
There was an increase in the propensity of workers in the region to participate in LDC work practices over the five-years to 2011. In 2011, 29% of workers in the region undertook LDC work practices compared with 22% in 2006.

In the Kalgoorlie-Boulder Region, 65% of LDC workers were employed in the Mining industry in 2011 and this represented a 2 percentage point decrease from 2006. In absolute terms the Mining industry is clearly the largest industry to participate in LDC work practices in the region. There is no other industry in the region that records more than 5% of the total workforce undertaking LDC workforce practices (excluding 'Other', 27% in 2011). The major mines within the Kalgoorlie-Boulder Region are currently within the operational phase of their lifecycle and therefore there is less demand for construction workers.

Total Workforce	Fast Facts – Workforce indicators			
	2006	2011	Change from 2006	
No.	No.	No.	No.	%
Live (POUR) in the region	17,003	19,714	2,711	16%
Work (POW) in the region	17,959	21,392	3,433	19%
LDC to work in the region	3,966	6,206	2,240	56%
Proportion of people working in the region who LDC	22%	29%	-	7 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in Kalgoorlie-Boulder by industry of employment benchmarked against total Mining Australia, 2006 and 2011



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Kalgoorlie-Boulder

## Top ten LDC worker routes

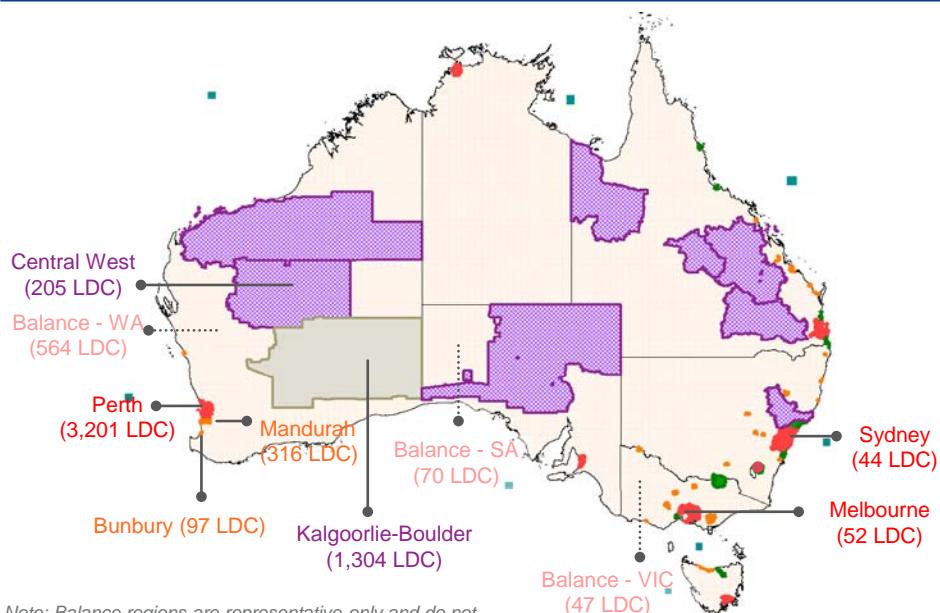
Top ten LDC worker routes to Kalgoorlie-Boulder ranked by POUR as at 2011

Rank	POUR	2011		Change from 2006	
		No.	%	No.	%
1	Perth (WA)	3,201	52%	624	24%
2	Kalgoorlie-Boulder (WA)	1,304	21%	865	197%
3	Balance – WA	564	9%	169	43%
4	Mandurah (WA)	316	5%	99	46%
5	Central West (WA)	205	3%	191	1364%
6	Bunbury (WA)	97	2%	10	11%
7	Balance – SA	70	1%	40	133%
8	Melbourne (VIC)	52	1%	26	100%
9	Balance – VIC	47	1%	24	104%
10	Sydney (NSW)	44	1%	35	389%
	<i>Remainder</i>	306	5%	157	105%
	<b>Total</b>	<b>6,206</b>	-	<b>2,240</b>	<b>56%</b>

The Kalgoorlie-Boulder Region is located close to 600km north-east of Perth. Although Perth was by far the largest source of LDC workers for the Kalgoorlie-Boulder Region in 2011 (3,201 or 52% of total LDC workers), LDC workers were drawn from four states (Western Australia, South Australia, Victoria and New South Wales).

The largest absolute growth in LDC workers to the Kalgoorlie-Boulder Region has been from within the region itself adding 865 workers between 2006 and 2011.

Top ten LDC worker routes to the Kalgoorlie-Boulder in 2011



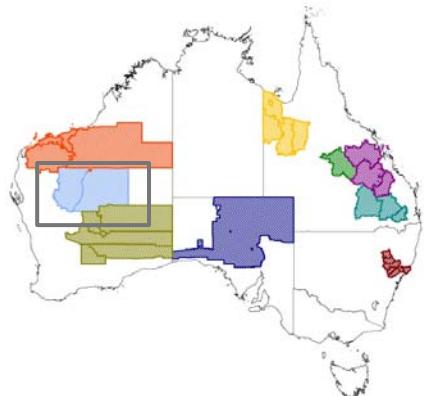
Over the five-years to 2011, there were an additional 24% of LDC workers undertaking the commute from Perth to the Kalgoorlie-Boulder Region, and the number of LDC workers travelling within the region increased by 197% (i.e. their POW in Kalgoorlie-Boulder was 100km or more from their POUR in Kalgoorlie-Boulder).

# Australia's Mining Regions

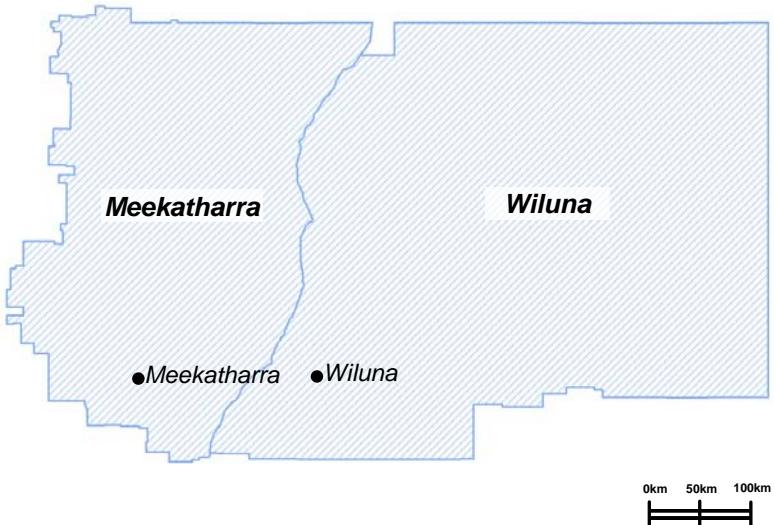
## **Central West**

# Central West

## Residential population overview



The Central West Region is located approximately 650km north-east of Perth in central Western Australia. The Central West Region is bordered by the Pilbara to the north and Kalgoorlie-Boulder to the south. The region is home to a significant Indigenous population.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	2,717	38.1% <sup>1</sup>
Total dwellings	391	5.7% <sup>1</sup>
Average household size	2.93	-0.29 <sup>2</sup>
Own their own home	28%	-1.9
High income earners	28%	22.2
Year 12 attainment	41%	20.7
Bachelor degree or higher	11%	1.3

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - *Definition of Residential Indicator Fast Facts* for detail on the definition of each indicator

The Central West Region contained an estimated resident population of 2,717 in 2011. The resident population base of the region has grown rapidly in the five-years to 2011 at an average annual rate of 6.7% (compared to a Regional Australian average of 0.8%).

Dwelling (occupied private) growth however, has not been as rapid as resident population growth, and this may be due to the growing proportion of residents living in non-private dwellings (118% growth between 2006 and 2011). In particular, the proportion of residents living in staff quarters has increased substantially in the five-years to 2011 (up 16 percentage points), to represent three-quarters of residents living in non-private dwellings. This may be attributed to the growth in the Mining industry in the Central West Region and the demand for non-resident accommodation to house this temporary LDC workforce.

The residential profile above indicates that the level of educational attainment is rising, but the numbers are coming off a very small base.

## Central West

### Working population overview

In 2011, the Central West Region contained a resident population of 2,717. Some 1,368 Central West residents were employed at the time of the 2011 Census. Half of these residents (1,368) were employed at the time of the 2011 Census. Over the five-years to 2011, the number of Central West residents working increased by 543 or 66%. These absolute numbers are small, however they do indicate that the size of the local resident workforce is increasing.

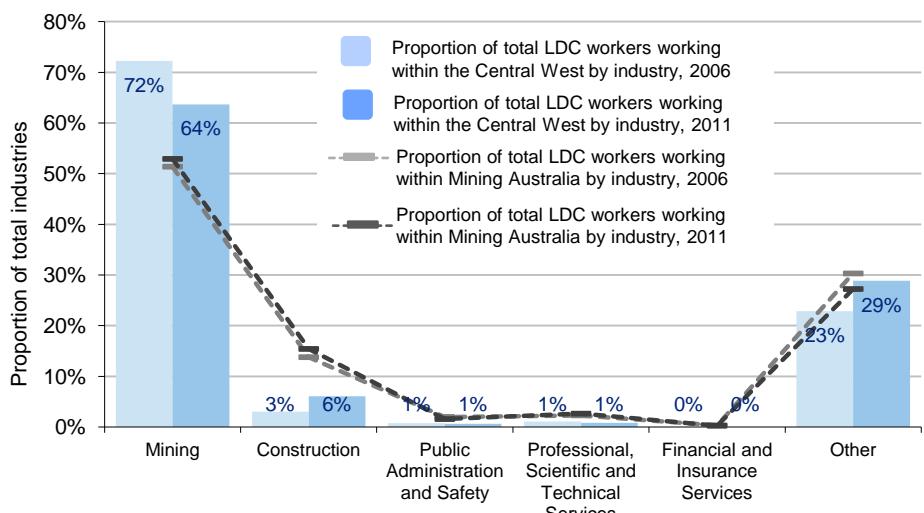
Due to the employment opportunities within the Central West, the region attracts a number of workers and is therefore a net importer of jobs. In 2011, 2,338 employed persons worked in the Central West Region. Some 1,389 or 59% of these workers utilised LDC work practices. However the size of the LDC workforce declined by 291 workers between 2006 and 2011. The proportion of people working in the region who utilise LDC work practices has decreased by 13 percentage points to 59% in the five-years to 2011. This may be attributed to the stage of the lifecycle mining projects are currently at in the Central West and the decline in the size of the total workforce and therefore LDC workforce during the operational versus construction phase of a mine's lifecycle.

The vast majority (64%) of LDC workers in the Central West Region were employed within the Mining industry in 2011 (down from 72% in 2006). This compares to 29% in the Other industry and 6% in the Construction industry.

Total Workforce	Fast Facts – Workforce indicators			
	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	825	1,368	543	66%
Work (POW) in the region	2,336	2,338	2	0%
LDC to work in the region	1,680	1,389	-291	-17%
Proportion of people working in the region who LDC	72%	59%	-	-13 <sup>1</sup>

<sup>1</sup> Percentage point change

#### Proportion of the LDC workforce working in the Central West by industry of employment benchmarked against total Mining Australia, 2006 and 2011



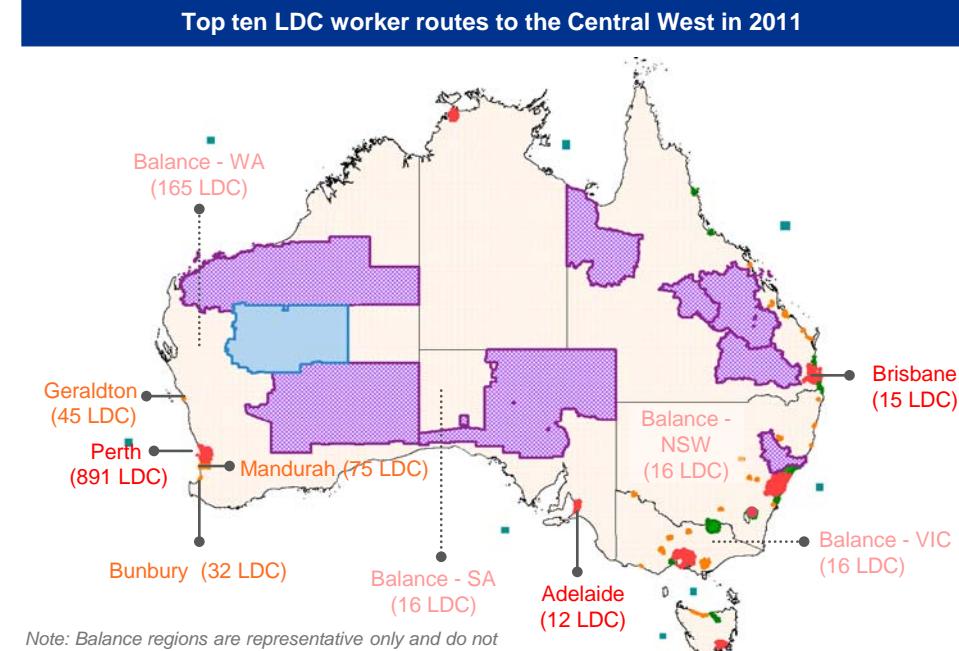
Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Central West

## Top ten LDC worker routes

Top ten LDC worker routes to the Central West ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Perth (WA)	891	64%	-317	-26%	
2	Balance – WA	165	12%	-42	-20%	
3	Mandurah (WA)	75	5%	-27	-26%	
4	Geraldton (WA)	45	3%	-4	-8%	
5	Bunbury (WA)	32	2%	2	7%	
6	Balance – NSW	16	1%	16	-	
7	Balance – SA	16	1%	13	433%	
8	Balance – VIC	16	1%	12	300%	
9	Brisbane (QLD)	15	1%	15	-	
10	Adelaide (SA)	12	1%	12	-	
	Remainder	106	8%	29	38%	
	<b>Total</b>	<b>1,389</b>	<b>-</b>	<b>-291</b>	<b>-17%</b>	

In 2006, Perth was the largest source of LDC workers to the Central West Region (1,208 or 72%). Perth remained the largest source of LDC workers in the region for 2011, however the absolute number from Perth dropped by 317 workers and as a result the proportion of LDC workers sourced from Perth slid to 64%.



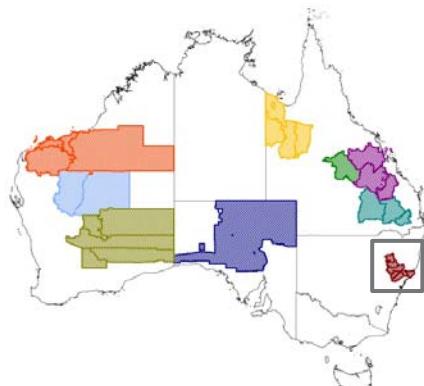
While the majority of LDC workers to the Central West usually resided within the state of Western Australia, the Central West also sourced workers from across four states in 2011 (Western Australia, South Australia, Victoria and Queensland).

# Australia's Mining Regions

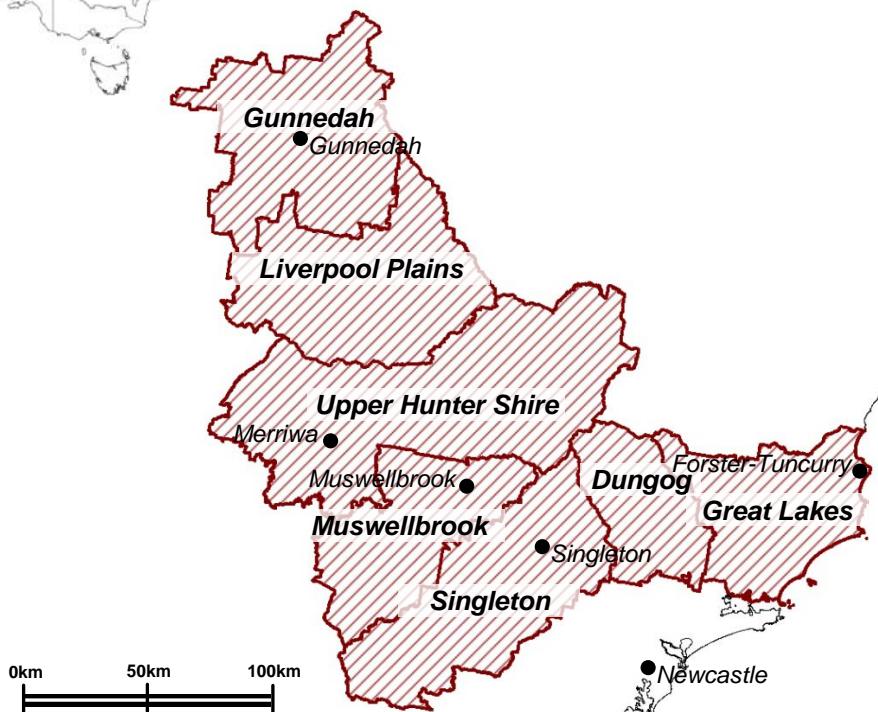
## Hunter Valley

# Hunter Valley

## Residential population overview



The Hunter Valley Region contains a diverse economic base ranging from mining and agriculture, to wine-making and tourism. There were an estimated 118,416 residents living in the Hunter Valley in 2011. The closest major city is Newcastle, located south-west of the Hunter Valley along the New South Wales coast. The largest townships within the Hunter Valley include Forster-Tuncurry (18,902 persons), Singleton (13,962) and Muswellbrook (11,045 persons).



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	118,416	3.0% <sup>1</sup>
Total dwellings	43,340	5.3% <sup>1</sup>
Average household size	2.43	-0.05 <sup>2</sup>
Own their own home	70%	-1.5
High income earners	7%	4.0
Year 12 attainment	32%	3.6
Bachelor degree or higher	9%	1.3

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

In the five-years to 2011, the rate of dwelling (occupied private) growth has outpaced resident population growth (5.3% and 3.0% respectively).

Levels of home ownership among residents of the Hunter Valley are in line with the Regional Australian average, both 70% in 2011.

Levels of educational attainment among residents of the Hunter Valley currently sit below Regional Australian averages, however the region has experienced positive growth in the proportion of residents completing year 12 and obtaining a Bachelor degree or higher (up 3.6 percentage points and 1.3 percentage points respectively between 2006 and 2011).

# Hunter Valley

## Working population overview

At the time of the 2011 Census, there were 48,425 employed persons living in the Hunter Valley (POUR) and also 47,331 persons who worked in the Hunter Valley (POW). This indicates that the Hunter Valley Region is neither a real net importer or net exporter of jobs, rather the region provides adequate employment for its resident working population base. There were however, a small number of LDC workers in the region (1,785 or 4% in 2011). This is only slightly higher than the 2.1% national average.

While the resident workforce has increased by 8% between 2006 and 2011 and the total workforce increased by 10%, the largest growth has however, occurred in the LDC workforce (26%).

One out of every two workers undertaking LDC work practices to reach employment in the Hunter Valley were employed in 'Other' industries in 2011 (down 9 percentage points from 58% in 2006). Further investigation of the 'Other' category shows that in 2011, 8% of all LDC workers travelling to the Hunter Valley were employed in the Agriculture, Forestry and Fishing industry, 6% in the Health Care and Social Assistance industry, and 5% in the Manufacturing industry.

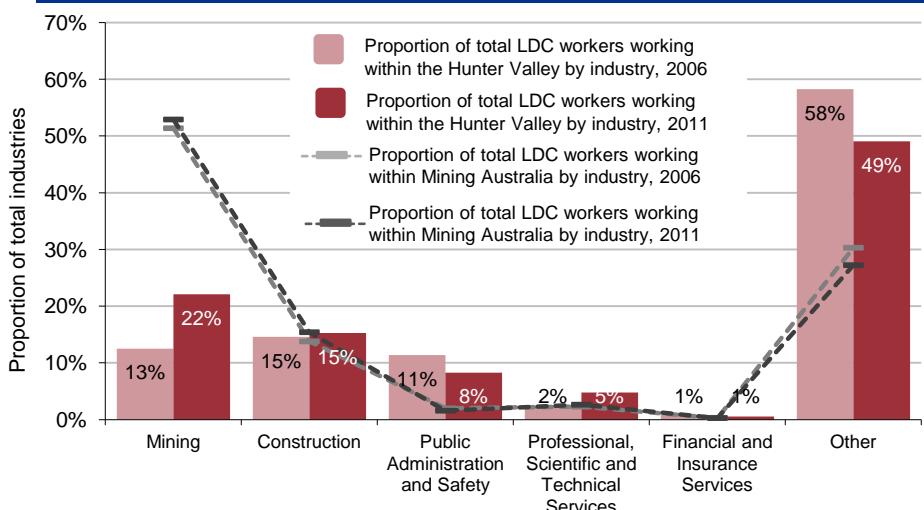
The Mining industry contained the largest proportion of LDC workers in the Hunter Valley at 22% in 2011. The Mining industry also experienced the largest percentage point increase in the proportion of LDC workers in the region in the five-years to 2011 (9 percentage points), followed by Professional, Scientific and Technical Services (3 percentage points).

The largest absolute growth in the LDC workforce was experienced within the Mining industry adding 217 LDC workers over the five-years to 2011. This represented 58% of total LDC growth across all industries of employment within the Hunter Valley between 2006 and 2011.

Total Workforce	Fast Facts – Workforce indicators			
	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	45,018	48,425	3,407	8%
Work (POW) in the region	42,870	47,331	4,461	10%
LDC to work in the region	1,414	1,785	371	26%
Proportion of people working in the region who LDC	3%	4%	-	1 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in the Hunter Valley by industry of employment benchmarked against total Mining Australia, 2006 and 2011



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

# Hunter Valley

## Top ten LDC worker routes

Top ten LDC worker routes to the Hunter Valley ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Sydney (NSW)	617	35%	184	42%	
2	Balance – NSW	354	20%	31	10%	
3	Newcastle (NSW)	281	16%	91	48%	
4	Hunter Valley (NSW)	137	8%	49	56%	
5	Brisbane (QLD)	54	3%	8	17%	
6	Port Macquarie (NSW)	45	3%	24	114%	
7	Tamworth (NSW)	41	2%	1	2%	
8	Gold Coast-Tweed (QLD/NSW)	40	2%	17	74%	
9	Balance – QLD	25	1%	-4	-14%	
10	Wollongong (NSW)	21	1%	-3	-13%	
<i>Remainder</i>		170	10%	-27	-14%	
<b>Total</b>		<b>1,785</b>	-	<b>371</b>	<b>26%</b>	

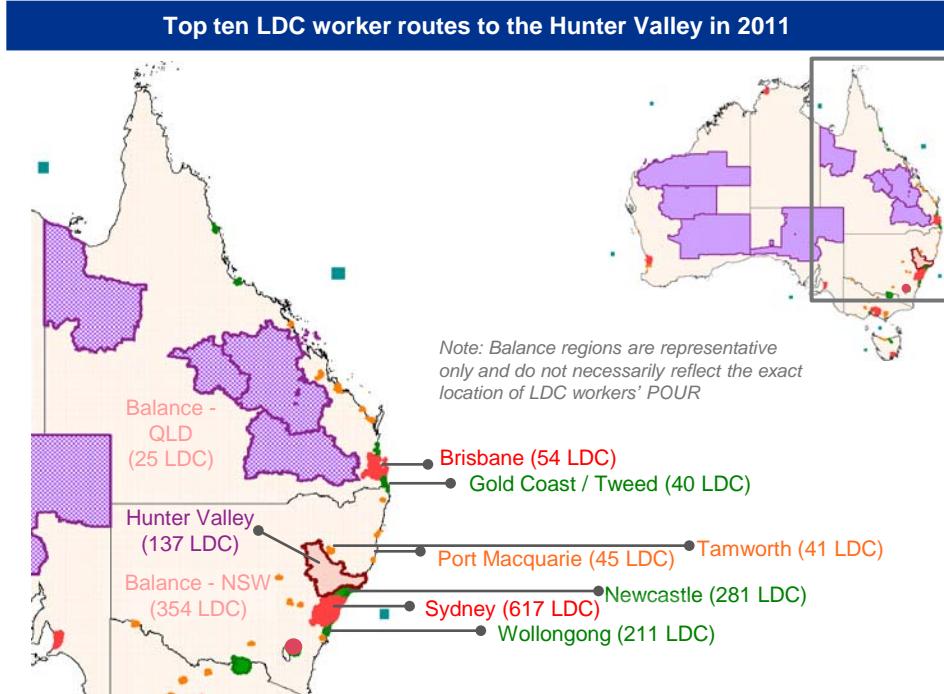
In 2011 there were 1,785 persons who utilised LDC work practices to seek employment within the Hunter Valley. Over one-third were commuting from Sydney (617 or 35%). Another 354 or 20% of LDC workers commuted to the region from Balance-NSW. Together, Sydney and Balance-NSW provided over half the total LDC workers to the region.

Over the five-years to 2011, Sydney also experienced the greatest absolute increase in the number of LDC workers commuting to the Hunter Valley, growing by 184 workers or almost half the total growth in LDC workers (371).

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.



The largest percentage change between 2006 and 2011 however, was in the number of LDC workers commuting from Port Macquarie and Gold Coast-Tweed, increasing by 114% and 74% respectively (albeit off a small base).

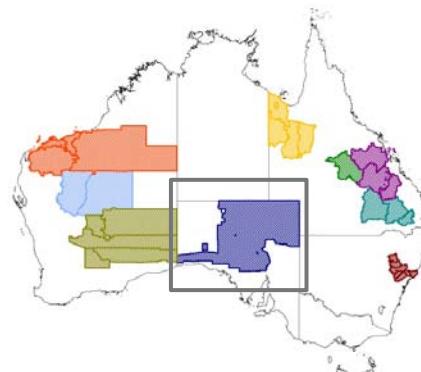
Due to the location of the Hunter Valley, the top ten POUR for LDC workers in the Hunter Valley are predominantly from areas surrounding the Hunter Valley in New South Wales and Queensland.

# Australia's Mining Regions

## **Central South Australia**

# Central South Australia

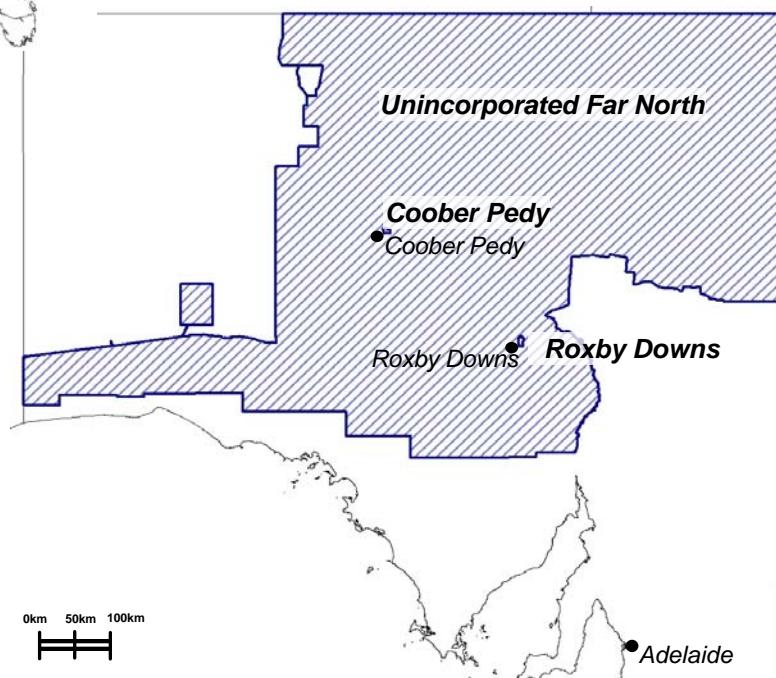
## Residential population overview



Central South Australia is a large geographic Mining Region spreading from parts of the South Australian, Northern Territory and Western Australian borders. The major population centres are co-located next to mines in the towns of Roxby Downs and Coober Pedy.

Roxby Downs was purpose-built to service the Olympic Dam mine while Coober Pedy is surrounded by significant opal mines.

Mining is the main industry of employment in the region and represented 40% of the total workforce at the 2011 Census.



Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

Fast Facts – Residential indicators		
Residential indicator	2011	Percentage point change from 2006
Total resident population	8,735	10.6% <sup>1</sup>
Total dwellings	2,518	0.8% <sup>1</sup>
Average household size	2.49	-0.03 <sup>2</sup>
Own their own home	42%	-6.5
High income earners	22%	14.8
Year 12 attainment	44%	17.9
Bachelor degree or higher	11%	0.9

<sup>1</sup> Percentage change    <sup>2</sup> Absolute change

Please refer to Appendix 2 - Definition of Residential Indicator Fast Facts for detail on the definition of each indicator

Central South Australia has experienced significant resident population growth (10.6%) between 2006 and 2011. Occupied private dwelling growth however, has not kept pace increasing by 0.8% over this same period. This may be explained by the growing number of residents living in non-private dwellings (71%). Furthermore, over half of the residents who live in these non-private dwellings are residing in staff quarters (58%). Mining industry employees who live in Central South Australia may be housed in these staff quarters.

Residents are attracted to Central South Australia largely because of the employment opportunities. At the time of the 2011 Census, close to one-quarter (22%) of residents aged 15 years and over were recording high income levels (compared to the Regional Australian average of 5%).

Levels of resident educational attainment are also rising in the region with rates of year 12 attainment increasing 17.9 percentage points to reach 44% in the five-years to 2011.

# Central South Australia

## Working population overview

As at the 2011 Census, Central South Australia contained a resident population of 8,735. Some 4,671 Central South Australian residents were employed at the time of the 2011 Census. Some 7,098 persons work in the region, indicating that Central South Australia is a net importer of jobs. This is most likely due to the significant presence of Mining in the region. Further, 3,100 of the workers in Central South Australia are undertaking LDC work practices to travel into the region to reach employment. LDC workers represent almost half (44%) of the total workers in the region which is significantly higher than the 21% of total workers who utilise LDC work practices across the combined nine sampled Mining Regions.

The vast majority of LDC workers in Central South Australia were employed within the Mining industry (63% in 2011, up from 52% in 2006). Some 11% of the Mining industry Oil and Gas sub-sector were engaged in LDC work practices in 2011 (326 LDC workers). This compares to an average of 53% across the nine sampled Mining Regions combined in 2011. In fact, over the last five-years to 2011, the Mining industry was the only industry to increase its proportion of LDC workers across Central South Australia.

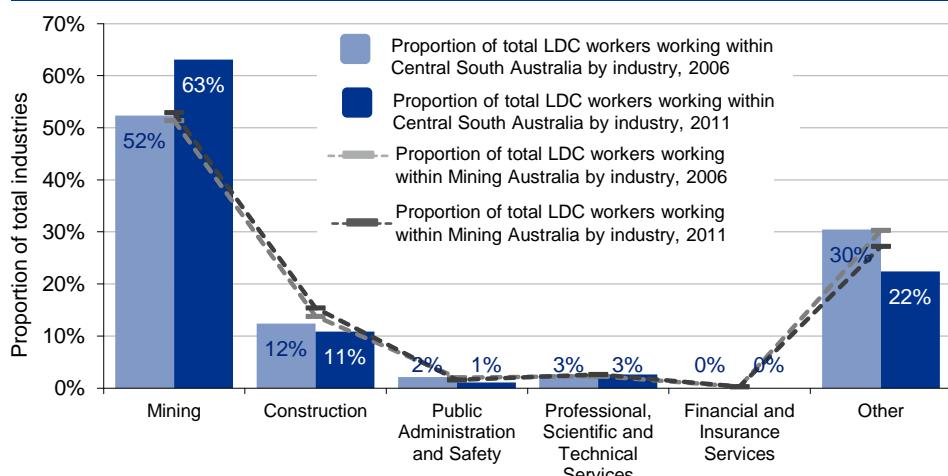
The number of LDC workers employed within the Mining industry in Central South Australia increased by 815 or 71% over the five-years to 2011 which represents 88% of total growth in the LDC workforce over this period.

The strong representation of workers in the region, coupled with the growing rate of LDC workers in the Mining industry highlights the significant role of mining in Central South Australia.

Total Workforce	Fast Facts – Workforce indicators			
	2006	2011	Change from 2006	
	No.	No.	No.	%
Live (POUR) in the region	3,849	4,671	822	21%
Work (POW) in the region	5,466	7,098	1,632	30%
LDC to work in the region	2,178	3,100	922	42%
Proportion of people working in the region who LDC	40%	44%		4 <sup>1</sup>

<sup>1</sup> Percentage point change

### Proportion of the LDC workforce working in Central South Australia by industry of employment benchmarked against total Mining Australia, 2006 and 2011

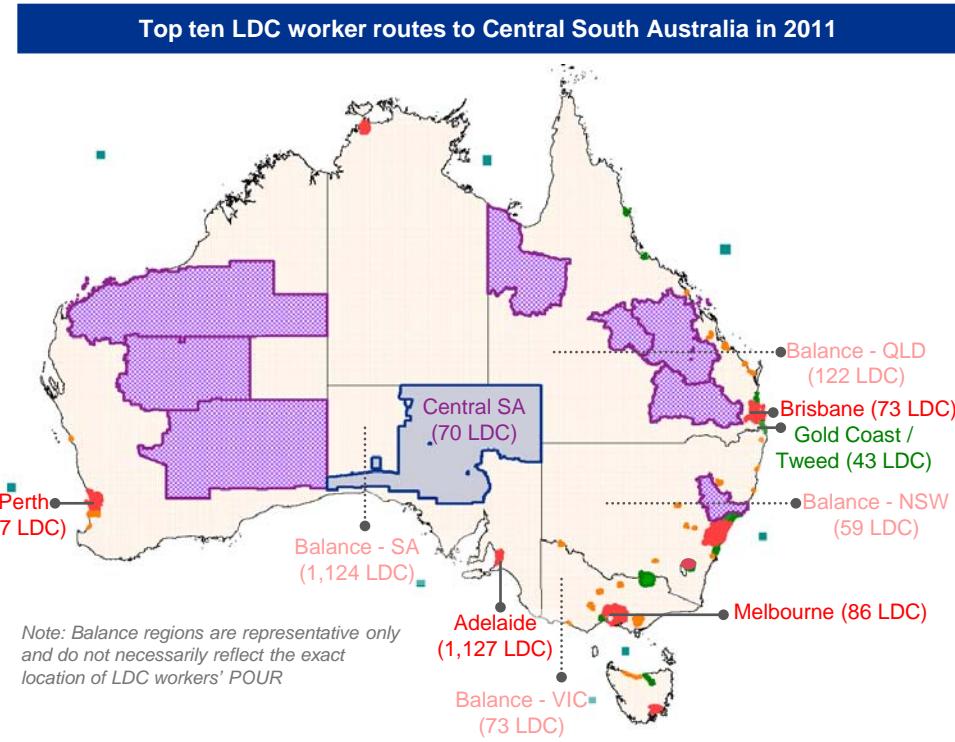


Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

## Central South Australia Top ten LDC worker routes

Top ten LDC worker routes to Central South Australia ranked by POUR as at 2011						
Rank	POUR	2011		Change from 2006		
		No.	%	No.	%	
1	Adelaide (SA)	1,127	36%	301	36%	
2	Balance – SA	1,124	36%	350	45%	
3	Balance – QLD	122	4%	57	88%	
4	Melbourne (VIC)	86	3%	38	79%	
5	Balance – VIC	73	2%	39	115%	
6	Brisbane (QLD)	73	2%	28	62%	
7	Central SA	70	2%	25	56%	
8	Balance – NSW	59	2%	22	59%	
9	Perth (WA)	47	2%	-14	-23%	
10	Gold Coast-Tweed (QLD/NSW)	43	1%	24	126%	
<i>Remainder</i>		276	9%	52	23%	
<b>Total</b>		<b>3,100</b>	-	<b>922</b>	<b>42%</b>	

There were 3,100 LDC workers employed in the Central South Australia Mining Region in 2011. Workers commuting to Central South Australia for employment came from regions right across Australia. South Australia however, provided the majority of workers to the region, representing almost three-quarters of the total LDC workforce (2,251 persons or 72%).



The vast majority of LDC workers commuting to Central South Australia usually reside in Adelaide and Balance-SA (1,127 and 1,124 respectively in 2011). Interestingly, of the 1,124 workers commuting from Balance-SA, the highest concentration of LDC workers were commuting from Port Augusta, although the distribution of the LDC workers remained relatively dispersed. Both Adelaide and Balance-SA also experienced the largest absolute growth in the number of LDC workers travelling to Central South Australia between 2006 and 2011 (651 or 71% of total growth).

# Australia's Mining Regions **Non-resident Accommodation Survey 2012**

# Non-resident Accommodation Survey

## Background

Recognising some of the shortcomings of solely utilising ABS Census data to quantify LDC workers, as part of this Report, KPMG completed a Non-Resident Accommodation Survey in November 2012. A survey of 34 Local Councils was undertaken to cover the nine sampled Mining Regions identified for the purposes of this Report.

Throughout this Report, LDC workers have been defined as persons who travel 100km or more from their POUR (home) to their POW (work). Due to the distance and travel time involved, it is generally not feasible for LDC workers to return to their homes at the completion of their working day, in particular those working in regional and remote parts of Australia.

It is for this reason that Australia's Mining Regions tend to offer some form of accommodation for LDC or non-resident workers while on shift in these regions. Given that employees in the resources sector are one of the most significant users of LDC work practices, a methodology focused on collecting data on the non-resident beds for the Mining/resources-allied industries was undertaken.

Accommodation for LDC or non-resident workers can be provided in many different forms. Worker camps can be set up directly on mining leases or outside the mine site on council ground. These camps generally have a number of Single Person Quarters (SPQ) located on them. Camps which are set up outside of the mine site require a planning permit from council whereas camps located on mining leases do not. Additionally, LDC workers may also live in hotels/motels or caravan parks hired out by the mining company to provide accommodation for their workers.

To measure the extent of non-resident workers within each of the nine sampled Mining Regions defined in this Report, a Non-Resident Accommodation Survey of the 34 Local Councils within the nine sampled Mining Regions was undertaken. The purpose of the Survey was to quantify the accommodation provided to non-resident workers (i.e. number of beds) within each Mining Region (irrespective of the utilisation and occupancy rate of beds, the distance workers may have travelled from their POUR, or the industry in which people utilising these beds are employed in). As shown on the right, the Survey comprised five questions which aimed to quantify the number of non-resident beds by accommodation type.

**Q. 1.) Please identify the non-resident mining accommodation within your Council (non-resident accommodation off mining lease)**

LGA	Non-resident Accommodation Provider / Business Name	Business Address	Closest Township	No. Beds
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

**Q. 2.) For those mining camps that did not require a planning permit with Council, please estimate the number of non-resident accommodation camp bed numbers for each site.**

LGA	Mine	Mine address	Closest Township	No. Beds
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

**Q. 3.) Please identify the Hotels / Motels / Caravan Parks / beds and sites within your Local Council. An estimate of the number of beds for each business is acceptable.**

LGA	Hotel / Motel / Caravan Parks etc.	Business Address	Closest Township	No. Beds
...	...	...	...	...
...	...	...	...	...
...	...	...	...	...

**Q.4.) Please estimate the proportion of all Hotel / Motel / Caravan Park beds / sites etc. in your Local Council that are occupied by non-resident workers on-shift?**

**Q.5.) Do you have any additional comments you would like to make in respect to non-resident accommodation in your Local Council?**

The Non-Resident Accommodation Survey achieved a total response rate of 88%, with a total of 30 out of the 34 Local Councils completing the Survey. The response rate within each of the nine sampled Mining Regions varied. The Survey captured a 100% response rate for five out of the nine sampled Mining Regions (e.g. Galilee Basin, Surat Basin, North-West QLD, Pilbara, and Central South Australia). The lowest response rate was the Central West Region where 50% of Local Councils responded (i.e. one out of two Local Councils).

It is thought that the results of the Survey capture the vast majority of non-resident accommodation contained on council land and mine sites, as those Local Councils who did not respond to the Survey are not thought to have a material impact on the results. For example, one LGA in the Bowen Basin did not respond to the Survey (resulting in a 75% response rate), however this LGA is predominantly an Indigenous shire with no significant mining activity and is therefore not thought to materially impact the results.

The quality of response varied by Local Council and by question. While Local Councils were able to provide a response to Questions 1 and 2 of the Survey (i.e. the number of beds on council land and mining sites), most Local Councils had difficulty in answering Question 4 which asked them to estimate bed numbers in hotels/motels and caravan parks due to limited access to relevant databases that capture full tourist accommodation figures.

Question 5 (do you have any additional comments you would like to make in respect to non-resident accommodation in your Local Council?) was again answered by some but not all Local Councils and was primarily used to provide additional comments regarding qualifying the figures that had been provided in Questions 1 through 4.

The quantitative results of Questions 1 and 2 of the Survey are provided on the following page of this Report. The results of Questions 3, 4 and 5 of the Survey are provided in qualitative form in '*Appendix 3 – Qualitative results for Questions 3, 4 and 5 of the Non-resident Accommodation Survey*'.

Response rate of the Non-resident Accommodation Survey by region			
Region	No. LGA in region	Response rate	Notes
Bowen Basin	4	75%	Woorabinda LGA are not participating due to lack of mining activity within the LGA. Woorabinda is predominantly an Indigenous shire.
Galilee Basin	1	100%	-
Surat Basin	3	100%	-
North-West QLD	5	100%	-
Pilbara	4	100%	-
Kalgoorlie-Boulder	5	80%	Leonora LGA has not yet responded.
Central West	2	50%	Meekatharra are not participating in the Survey.
Hunter Valley	7	86%	Liverpool Plains is not participating in the Survey. There are not many mines in this municipality, and Hunter Valley generally has resident mine workers rather than LDC.
Central South Australia	3	100%	-
<b>Total Mining Australia</b>	<b>34</b>	<b>88%</b>	-

# Non-resident Accommodation Survey

## Results

The table and chart below identify the results from Questions 1 and 2 of the Non-Resident Accommodation Survey (i.e. the total number of non-resident beds located on Council Land and on mine sites) by Mining Region (please note this excludes non-resident beds in hotels/motels and caravan parks as well as private dwellings). Based on the results of this Survey, there were estimated to be 107,655 non-resident accommodation beds across the nine sampled Mining Regions as at November 2012.

Half (50%) or 53,900 of these non-resident beds were located within the Pilbara, over a quarter (29%) were located within the Bowen Basin, 7% in Kalgoorlie-Boulder and 7% in the Surat Basin.

For the purposes of this Report the qualitative responses to Question 3, 4 and 5 of the Survey are documented in Appendix 3.

Number of non-resident beds located on Local Council land or mine sites by Mining Region, November 2012		
Region	Number of non-resident beds	Proportion of total non-resident beds
Bowen Basin	31,230	29%
Galilee Basin	117	0%
Surat Basin	7,011	7%
North-West QLD	3,506	3%
Pilbara	53,900	50%
Kalgoorlie-Boulder	7,436	7%
Central West	1,200	1%
Hunter Valley	0	0%
Central South Australia	3,255	3%
<b>Total Mining Regions</b>	<b>107,655</b>	<b>100%</b>

Source: KPMG Demographics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

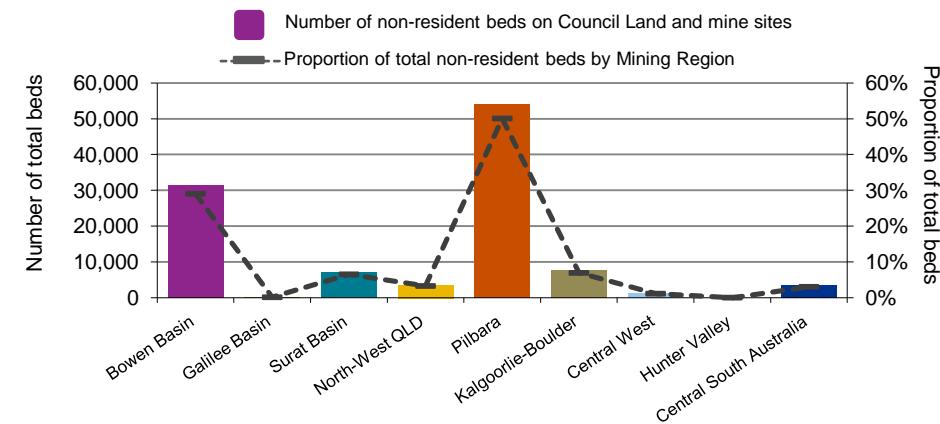
KPMG and the KPMG logo are registered trademarks of KPMG International.

The objective of the Survey was to quantify the number of non-resident accommodation beds available for LDC workers within each Mining Region. The findings from the Survey counted a total of 107,655 non-resident beds in the nine sampled Mining Regions. This provides insight into the capacity of accommodation available for LDC workers regardless of where they usually live or the industry in which they work. The Survey captures overseas workers including Australian citizens who may commute to Australian mines from Bali, for example.

Based on source data from the 2011 Census, there was a total of 55,962 LDC workers in the nine sampled Mining Regions. As summarised in the 'Methodology' section of this Report there are distinct differences between how these datasets are harvested to the extent that they cannot be directly compared. The primary difference being one dataset captures the number of workers at a snapshot in time while the other captures available non-resident beds.

However, the Census-based dataset combined with the KPMG Non-resident Accommodation Survey results provides two bases upon which to estimate the size of the LDC mining and mining-allied workforce in Australia at this point in time. Based on this combination of data, the size of the mining and mining-allied LDC workforce across Australia is currently estimated to be in the order of 100,000 workers.

Total number of non-resident beds on council land and mining sites by Mining Region, November 2012



# Conclusion

## Conclusion

This Report uses Census data that was released by the ABS in October 2012 (for the 2011 Census) and previously in 2007 (for the 2006 Census) to estimate the size of the LDC workforce across Australia. The Journey to Work dataset is the most up-to-date and robust data available to understand commuter flows between Australian workers POUR and POW. This baseline data makes it possible to estimate the size and distribution of LDC workers in Australia (once a distance calculation has been applied). Analysis of Journey to Work data provides valuable insight into the structural change in LDC work practices over time, between geographies and by industry. This Report defines the size and distribution of the Australian LDC workforce across all industries, with an emphasis on the Mining and the Oil and Gas sectors.

In 2011, 2.1% of the total Australian resident workforce were classified as LDC workers, up from 1.7% in 2006. This is a small proportion of the Australian workforce but it is increasing, and 36% of the growth in the LDC workforce is attributed to an increase in the size of the LDC workforce in the Mining industry. In 2011, the LDC workforce comprised a total of 213,773 workers, with 21% of LDC workers employed in the Mining industry and 13% employed in the Construction industry. Furthermore, 7% of all LDC workers were employed in Manufacturing, 6% in the Professional, Scientific and Technical Services, 6% in Public Administration and Safety, 6% in Health Care and Social Assistance, 6% in Transport, Postal and Warehousing, 2% in Financial and Insurance Services and the balance of 33% was spread relatively evenly across the remaining 11 industries.

There has been an 86% growth in persons employed in the Mining industry undertaking LDC over the five-years to 2011. However, at a national level there has been little change in the propensity of Mining industry workers to undertake LDC work practices. This growth has been underpinned by the fact that Mining was the fastest growing industry of employment over this period (65% growth compared to an economy-wide average of 10%), rather than a substantial increase in the propensity for Mining industry workers to undertake LDC. In 2006, 22% of workers from the Mining industry utilised LDC workforce practices; this proportion increased by 3 percentage points to reach 25% in 2011. The Mining industry added a total of 69,666 workers over the five-years to 2011 and 30% (or 20,649) of these additional workers utilised LDC work practices.

While the propensity for Australian workers to utilise LDC work practices has not changed significantly, what has changed is the distribution of these LDC workers, particularly an increase in the proportion of LDC workers employed in remote parts of Australia. There has been an increase in the concentration of LDC workers employed in the nine sampled Mining Regions defined in this Report (except for the Central West region) and this has been most significant in the Pilbara and the Bowen Basin.

Based on the results of the 2011 Census, there was a total of 213,773 LDC workers across Australia, with 30% of LDC workers identifying Capital Cities as their POW and 26% of LDC workers classifying Mining Regions as their workplace destination. In 2011, Sydney was the largest employment destination for total LDC workers in Australia (19,681). The next largest LDC employment destinations were the Pilbara (18,703) and the Bowen Basin (16,554). In 2011, the Pilbara and the Bowen Basin combined attracted a similar number of LDC workers as the combined Sydney and Melbourne Capital City regions (35,257 and 35,273 respectively). Over the five-years to 2011, the number of LDC workers in the Pilbara and the Bowen Basin combined increased by 112% and this compares to 24% growth for Sydney and Melbourne combined. Growth in the Australian resources industry has created strong demand for labour, particularly within the Mining Regions of the Pilbara and the Bowen Basin, and this has impacted the distribution of LDC workers.

There has been an increase in the distance LDC workers are travelling to reach their workplace destination, however the majority of LDC workers are undertaking intrastate commutes. For example, the Perth to Pilbara route is the most travelled LDC route with 57% of all LDC workers in the Pilbara comprising FIFO workers from Perth. However, it is the longer haul routes, such as Brisbane to Pilbara, Bunbury to Pilbara and Sydney to Pilbara that have undergone the greatest percentage growth between 2006 and 2011 (407%, 213% and 729% respectively) albeit off a small base. In 2011, the average distance travelled by LDC workers to reach the Pilbara was 1,460km.

The total size of the LDC workforce in the Bowen Basin increased by 69% over the five-years to 2011 and the fastest growing routes included Brisbane (155%) and Gold Coast-Tweed (379%). In the Bowen Basin, the average distance travelled by the LDC workforce increased by 35% from 262km in 2006 to 354km in 2011. In other words, workers were travelling further to reach their place of employment in the Bowen Basin.

## Conclusion

Based on data from the 2011 Census, there was a total of 44,610 LDC workers classified in the Mining industry in Australia in the week prior to the 2011 Census. Analysis of Census data shows that in the three largest Mining Regions (i.e. the Pilbara, Bowen Basin, Kalgoorlie-Boulder), on average 56% of LDC workers are classified as employed in the Mining industry with the majority of the other LDC workers in mining-allied industries such as Construction (this includes mine site construction, building construction, land preparation, etc), Professional, Scientific and Technical Services and Manufacturing. On this basis, it is evident that for every one LDC Mining industry worker there is roughly one LDC mining-allied worker in Mining Regions across Australia. This assumption combined with the knowledge that the 2011 Census was conducted 18 months ago and does not include overseas visitors, and evidence from the KPMG Survey, confirming that the Census data is susceptible to undercounting suggests that the size of the mining and mining-allied LDC workforce across Australia is currently estimated to be in the order of 100,000 workers.

The data presented in this Report provides a baseline to understanding where LDC workers live and work and how these commuter flows differ by industry, region and over time. Recognising the short-comings, this Report is an important first-step in filling the recognised data gaps surrounding, quantifying and understanding the LDC workforce in Australia.

# Appendices

## Appendix 1 – Technical Notes

### Long Distance Commuter Worker Definition

For the purposes of this Report, LDC workers are defined as those people who travel 100km or more between where they usually live and where they work. LDC workers are often referred to as fly-in / fly-out workers and this refers to workers who travel from their usual place of residence to their place of work which is significantly far enough to make a daily commute impractical. It includes those people who fly-in / fly-out, drive-in / drive-out, bus-in / bus-out, ship-in / ship-out or other transport combinations.

### ABS Census Source Data – Introduced Random Error

Tables of Census data are subject to random perturbation to protect the confidentiality of individuals in accordance with the Census and Statistics Act 1905. It is not possible to determine which individual figures from tables of Census data have been affected by random error adjustments.

It is important to note that the source data obtained for this Report was done in consultation with the ABS. This is due to the problems associated with aggregating data from small areas to obtain statistics about larger geographical areas where the small areas data table has a very large number of cells (for this Report it was greater than 2 million per industry group).

### Establishing Commuter Travel Distances

For this Report source data was obtained from the ABS at the Statistical Local Area (SLA) level. That is, commuters are tagged to an SLA of usual residence and an SLA where they work. In order to determine the distance a commuter travels between an SLA of usual residence and an SLA of work, KPMG has taken a straight line distance between the geographic centroid of each SLA and filtered for only commutes of 100km or more. The shortcoming of this methodology is that for SLAs that are geographically very large, the commuting distances may not even closely reflect a typical commute between SLAs where resident population or employment is concentrated in areas other than the geographic centroid.

As part of this Report, KPMG has considered (and have included or excluded) those SLA centroid to centroid distance calculations that are not meaningful, based on the location of population centres and employment. One example is where the distance calculated between the centroids of the Roxby Downs and Unincorporated Far North SLAs in South Australia is over 200km, however most workers travelling from Roxby Downs to Unincorporated Far North are likely to be commuting to the Olympic Dam mine site, roughly 10km away.

### Major Assumptions

- Commutes to “Off-shore Areas and Migratory” SLAs are always classified as LDC, unless they also reside in the same “Off-shore Areas and Migratory” SLA.
- Where the Census table indicates a commute including a “STATE No Usual Address” SLA, or a “STATE No Fixed Address” SLA (eg. “NSW No Usual Address”), or a “STATE Undefined” SLA (eg. “WA Undefined”), it is considered to be an LDC when the paired SLA is in another State or Territory.
- Where the Census table indicates a commute including a “CAPITAL CITY Undefined” SLA (eg. “Melbourne Undefined”), it is considered to be an LDC when the paired SLA centroid is 100km or more from the Capital City border.

### Long Distance Commuter workforce totals

Source tables of Census data were obtained for journeys to work by industry for the 2006 and 2011 Censuses. Due to the presence of introduced random errors in the source tables, there is a small difference between the total number of LDCs calculated using source data not broken down by industry, and the number of LDCs calculated using source data broken down by industry then summed together to form a total. For the purposes of this Report, all LDC totals presented are the sum of industry level source journey to work data, which preserves additivity of industry level LDC breakdowns provided.

## Appendix 2 – Definition of Residential Indicator Fast Facts

Fast Facts – Residential indicator definition	
Residential indicator	Definition
Total resident population	Total Estimated Residential Population (as at 30 June)
Total dwellings	Total occupied private dwellings (Census Count)
Average household size	Average number of residents per occupied private dwelling (Census Count)
Own their own home	Proportion of total occupied private dwellings which are owned outright or in the process of being purchased with a mortgage, excluding not stated (Census Count)
High income earners	Proportion of residents aged 15 years and over earning an individual income of \$2,000 or more per week, excluding negative income, nil income and not stated (Census Count)
Year 12 attainment	Proportion of residents aged 15 years and over who have completed year 12 (Census Count)
Bachelor degree or higher	Proportion of residents aged 20 years and over who have obtained a Bachelor degree or higher (Census Count)

Source: KPMG Demographics; Based on data from the Australian Bureau of Statistics

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

KPMG and the KPMG logo are registered trademarks of KPMG International.

## Appendix 3 – Qualitative results for Questions 3, 4 and 5 of the Non-resident Accommodation Survey

### Qualitative results for Questions 3, 4 and 5 of the Non-resident Accommodation Survey (i.e. the number of beds in hotels/motels within each Local Council and additional comments)

**Bowen Basin:** The overall quality of responses to Questions 3 and 4 were varied. While some councils were able to provide estimates of the number of beds located in hotels/motels/caravan parks, others were only able to estimate the number of rooms. Some were unable to provide any information, therefore total bed numbers could not be accurately calculated. Estimates provided on the proportion of beds utilised by mining and/or mining-allied workers were relatively high at 70% or more. Question 5 provided space for councils to make any additional comment they felt could assist with the Report. One shire within the Bowen Basin added the comment that non-resident workers in their shire were also housed in private dwellings owned and rented out by mining companies.

**Galilee Basin:** It is estimated that there are approximately 425 beds in hotels/motels/caravan parks etc. in the Galilee Basin, however only a small percentage (less than 5%) were occupied by mining/mining-allied workers. The Galilee Basin also estimated that there are approximately 10 private dwellings within the region being rented to mining companies or contractors.

**Surat Basin:** There are estimated to be a significant number of beds (14,200) in hotels/motels/caravan parks located within the Surat Basin. Due to the region attracting a significant tourist population, most Local Councils were not able to estimate the proportion of beds occupied by mining/mining-allied workers. While some councils in the Surat Basin are highly impacted by mining (e.g. an estimated 63% or more of beds may be occupied by mining-allied workers) others contain hotels with no bookings for mining workers. Some councils also made mention of private dwellings that were being utilised by mining companies to house their workforce. Associated with growth in mining activity in the region, one council also advised that a number of new non-resident beds (some 1,900) have been approved for development on council land.

**North-West QLD:** There are estimated to be in excess of 1,700 non-resident beds located in hotels/motels/caravan parks in the region. Of the two councils who responded, both estimated that 60% of these beds were occupied by mining/mining-allied workers. One council also advised that private dwellings were being used by mining companies to house some of the workforce as well as in new houses that were being developed on mine sites themselves.

**Pilbara:** It is estimated that there are close to 5,000 beds in hotels/motels/caravan parks in the Pilbara. The proportion of these beds occupied by mining/mining-allied workers varied by council, with one council estimating 50%, another 80%, and the remaining two not providing any estimates.

**Kalgoorlie-Boulder:** While some councils were able to provide estimates of the number of beds located in hotels/motels/caravan parks, others were only able to estimate the number of rooms and others were not able to provide any information. Based on these patchy results, there are estimated to be in excess of 950 beds in hotels/motels/caravan parks in the region. Estimates on the proportion of beds utilised by mining and/or mining-allied workers varied from 25% in councils who self-identified as not impacted by non-resident workers, to approximately 50% in councils who also attract healthy tourist populations, and up to 90% in another council. One council also made reference to the desire to see greater incentives for mining companies to house worker accommodation in towns when mines are of a reasonable travelling distance.

**Central West:** Based on the one out of two Local Councils who responded to the Survey, it was evident that there was not a significant amount of accommodation within the council's township (i.e. council land) with an estimated 25 beds in hotels/motels/caravan parks. No further information was provided.

**Hunter Valley:** Just over half of the Local Councils within the Hunter Valley provided information on the number of beds in hotels/motels/caravan parks. This exercise was made difficult in the Hunter Valley due to the significant tourist and therefore hotel/motel base in the region. Based on four out of seven councils who responded, there were estimated to be in excess of 1,700 beds. Estimates on the proportion of beds utilised by mining and/or mining-allied workers varied from less than 5% to 60%.

**Central South Australia:** It is estimated that there are approximately 1,880 beds in hotels/motels/caravan parks in Central South Australia. The proportion of these beds occupied by mining/mining-allied workers varied by council however, with one council estimating 10%-15%, another 20% and the third 50%. These occupancy rates were largely determined by the extent to which mining companies catered for their employees within each Local Council (which was stated to be quite high in some areas).



*cutting through complexity*<sup>TM</sup>

© 2013 KPMG, an Australian partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity. All rights reserved.

The KPMG name, logo and "cutting through complexity" are registered trademarks or trademarks of KPMG International).

Liability limited by a scheme approved under Professional Standards Legislation.