



## Definitions and data sources

There is no official source of data on the number of FIFO workers in Australia, however, 2011 Census data can be used to provide an indication of the characteristics of FIFO workers.

For the purposes of this analysis, FIFO workers are defined as people who, at the time of the 2011 Census, were:

1. Employed in the Mining industry or the Heavy and Civil Engineering Construction sector<sup>1</sup>; and
2. Counted in the Census at a location that was not their usual residence.

The combined Mining industry and Heavy and Civil Engineering Construction sector are together referred to as the 'resources sector' in this paper. The Heavy and Civil Engineering Construction sector includes the construction of roads, railways, ports and pipelines which are sometimes associated with Mining projects. Construction work associated with the resources sector is usually short-term work and often conducted on a fly-in, fly-out (or drive-in, drive-out) basis.<sup>2</sup> Heavy and Civil Engineering Construction is included in the definition of the resources sector in order to account for the construction phase of resource sector investment and development projects.

It should be noted that the definition above is only a proxy for FIFO workers. The definition does not capture FIFO workers who were counted in the Census at their place of usual residence (for example, because they were on leave). The definition may also capture some workers who do not have a regular fly-in fly-out working arrangement, but who happened to be travelling for work at the time of the Census. Overall, the definition is likely to give an inaccurate indication of the *number* of FIFO workers, but is likely to give a good indication of their broad *characteristics*.

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<sup>1</sup> Definitions of these sectors can be found in the *Australian and New Zealand Standard Industry Classification 2006* (ANZSIC): <http://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0>

<sup>2</sup> National Resource Sector Employment Taskforce, *Resourcing the Future*, July 2010.

## Overview of the resources sector

As at May 2013, the resources sector employed 325,300 people or 2.8% of the Australian workforce.<sup>3</sup> Reflecting strong demand for commodities from Australia's trading partners, employment in the sector has risen strongly in the five years to May 2013, increasing by 101,600 (or 46.1%). However, over the past year, employment in the sector has declined by 9200 (or 2.7%), reflecting the completion of large projects as mines transition from a construction phase to a less labour intensive operational phase, lower commodity prices, and the deferral of a number of major resources projects.

Despite the recent decline in employment, the resources sector remains one of the most important in Australia due to its sizeable economic contribution. There is still a strong pipeline of investment projects in the resources industry, which is expected to continue generating employment growth in the years to come, albeit at a slower pace. Employment in the sector is projected to increase by 21,500 (or 6.4%) in the five years to November 2017.

## Characteristics of FIFO workers

At the time of the August 2011 Census, approximately 257,900 workers in Australia reported that they were employed in the resources sector<sup>4</sup>. Of these, around 39,600 (or 15.3% of employment in the sector) were counted in the Census at a location that was not their usual residence (hereafter these people are referred to as 'FIFO workers').

The labour market characteristics of these FIFO workers were similar to the resources sector as a whole. They were most often males aged 25-44 years and employed as Machinery Operators and Drivers or Technicians and Trades Workers. Most worked long, full time hours for relatively high pay.

## Age, sex and marital status

Among FIFO workers aged 15-64 years, men outnumbered women by 7 to 1 (88.1% male, 11.9% female) whereas in the Australian workforce as a whole, men and women accounted for a fairly even share of employment (53.0% male, 47.0% female).

The FIFO workforce was concentrated in the 25-44 age group, accounting for 52.2% of FIFO employment compared with 46.2% in the Australian workforce as a whole. By contrast, workers aged 15-24 years accounted for a low proportion of FIFO workers (10.6%) compared with employment as a whole (15.8%). The lack of young FIFO workers may reflect employers' preference for hiring workers who have attained post-school qualifications or who have had several years of work experience, rather than hiring recent school leavers.

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<sup>3</sup> *ABS Labour Force, Australia, Detailed, Quarterly*, cat. no. 6291.0.55.003, DEEWR trend, May 2013 (latest available)

<sup>4</sup> This figure reflects the size of the sector at August 2011, and therefore does not reflect employment growth in the sector since that time. Also, this figure is likely to be an underestimate. Data from the Labour Force Survey show that there were around 295,300 people employed in the sector in August 2011. Census data tend to understate the level of employment, due in part to differences in data collection methods and in particular, due to the relatively large number of people in the Census who did not provide a response to the labour force status question (975,929 people nationally) and due to some people in the Census either not providing a response to the industry of employment question, or providing a response which was insufficiently detailed to enable categorisation (around 233,900 employed people nationally).

The most common marital status among FIFO men was married (46.1%) whereas the most common marital status among FIFO women was never married (57.9%). This could be related to the younger age profile of FIFO women compared with FIFO men (with a median age of 34 years for women and 40 years for men).

**Table 1: Age and sex of FIFO workers and all workers (%), 2011**

<b>FIFO Workers</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
15-24 years	9.8	16.5	10.6
25-44 years	51.6	56.5	52.2
45-64 years	38.6	27.0	37.2
<i>Total, FIFO workers</i>	100.0	100.0	100.0
<b>All Workers</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
15-24 years	15.1	16.6	15.8
25-44 years	46.9	45.6	46.2
45-64 years	38.0	37.8	37.9
<i>Total, All Workers</i>	100.0	100.0	100.0

Source: ABS 2011 Census of Population and Housing, based on place of enumeration.

### Working hours and income

At the time of the Census, roughly two in three Australian workers aged 15-64 years reported that they worked full time hours in the previous week (68.2%). A higher proportion of men worked full time hours (81.7%) compared with women (53.0%).

By contrast, almost all FIFO workers worked full time hours (94.7%). This was true for both FIFO men (95.3% full time) and FIFO women (90.2% full time).

FIFO workers were more likely to work long hours and to be highly paid. More than half (54.9%) of FIFO workers worked more than 60 hours in the week prior to the Census compared with only 7.7% of the workforce as a whole. However, FIFO workers were also more likely to be highly paid, with more than half of FIFO men (53.4%) and 31.0% of FIFO women having a usual personal income of \$2000 or more per week, compared with only 10.3% of all workers.

### FIFO occupation groups

At the time of the Census, the three most common occupations in the Australian workforce were Professionals (21.8% of workers aged 15-64 years), Clerical and Administrative Workers (15.1%) and Technicians and Trades Workers (14.6%, see Table 2). By comparison, the FIFO workforce had a significantly higher proportion of workers employed as Machinery Operators and Drivers (32.9% or 12,700 workers) and Technicians and Trades Workers (27.7% or 10,700 workers). Professionals also accounted for a large proportion of the FIFO workforce (14.4% or 5500 workers), albeit a lower proportion than the workforce as a whole (21.8%).

**Table 2: Employment by occupation, workers aged 15-64 years, 2011**

OCCUPATION	FIFO WORKERS (%)			All Workers (%)
	Male	Female	Total	
Managers	7.7	7.5	7.6	12.8
Professionals	12.8	25.8	<b>14.4</b>	<b>21.8</b>
Technicians and Trades Workers	30.4	7.9	<b>27.7</b>	<b>14.6</b>
Community and Personal Service Workers	0.6	2.0	0.8	10.0
Clerical and Administrative Workers	2.4	25.7	5.2	15.1
Sales Workers	0.2	0.5	0.2	9.6
Machinery Operators and Drivers	34.2	22.8	<b>32.9</b>	<b>6.7</b>
Labourers	11.6	7.7	11.1	9.6
<i>Total*</i>	100.0	100.0	100.0	<i>100.0</i>

\*Total may not equal the sum of their components due to rounding of data.

Source: ABS 2011 Census of Population and Housing, based on place of enumeration.

FIFO women were most likely to work as Professionals (25.8% of FIFO women, or 1200), Clerical and Administrative Workers (25.7% or 1200) and Machinery Operators and Drivers (22.8% or 1100).

FIFO male employment was concentrated in two occupation groups: Machinery Operators and Drivers (34.2% or 11,600) and Technicians and Trades Workers (30.4% or 10,300).

### FIFO occupations

At a more detailed level, the single most common FIFO occupation was Drillers, Miners and Shot Firers, which accounted for 18.3% of the FIFO workforce (7140 employed), followed by Metal Fitters and Machinists (7.9% or 3090 employed), Truck Drivers (4.5% or 1760), Other Building and Engineering Technicians<sup>5</sup> (3.8% or 1490) and Electricians (3.6% or 1420).

Four occupations featured in the top 10 occupations for both FIFO men and FIFO women: Drillers, Miners and Shot Firers, Truck Drivers, Other Building and Engineering Technicians and Geologists and Geophysicists (see Table 3).

Traditional trade occupations (such as Metal Fitters and Machinists, Electricians and Structural Steel and Welding Trades Workers) featured in the list of top 10 male FIFO occupations. The top 10 female FIFO occupations included various professional occupations (Geologists and Geophysicists, Occupational and Environmental Health Professionals and Human Resource Professionals) and clerical and administrative occupations (General Clerks, Office Managers and Accounting Clerks).

<sup>5</sup> Other Building and Engineering Technicians includes Maintenance Planners, Metallurgical or Materials Technicians and Mine Deputies.

**Table 3: Top 10 FIFO occupations, men and women aged 15-64 years**

<b>Top 10 FIFO MALE OCCUPATIONS</b>	<b>No.</b>	<b>Top 10 FIFO FEMALE OCCUPATIONS</b>	<b>No.</b>
Drillers, Miners and Shot Firers	6660	Drillers, Miners and Shot Firers	480
Metal Fitters and Machinists	3070	Truck Drivers	380
Electricians	1400	General Clerks	370
Truck Drivers	1380	Geologists and Geophysicists	260
Other Building and Engineering Technicians	1380	Occupational and Environmental Health Professionals	150
Earthmoving Plant Operators	1170	Human Resource Professionals	130
Other Construction and Mining Labourers*	1120	Office Managers	130
Structural Steel and Welding Trades Workers	1070	Other Building and Engineering Technicians	120
Production Managers	830	Contract, Program and Project Administrators	110
Geologists and Geophysicists	750	Accounting Clerks	110

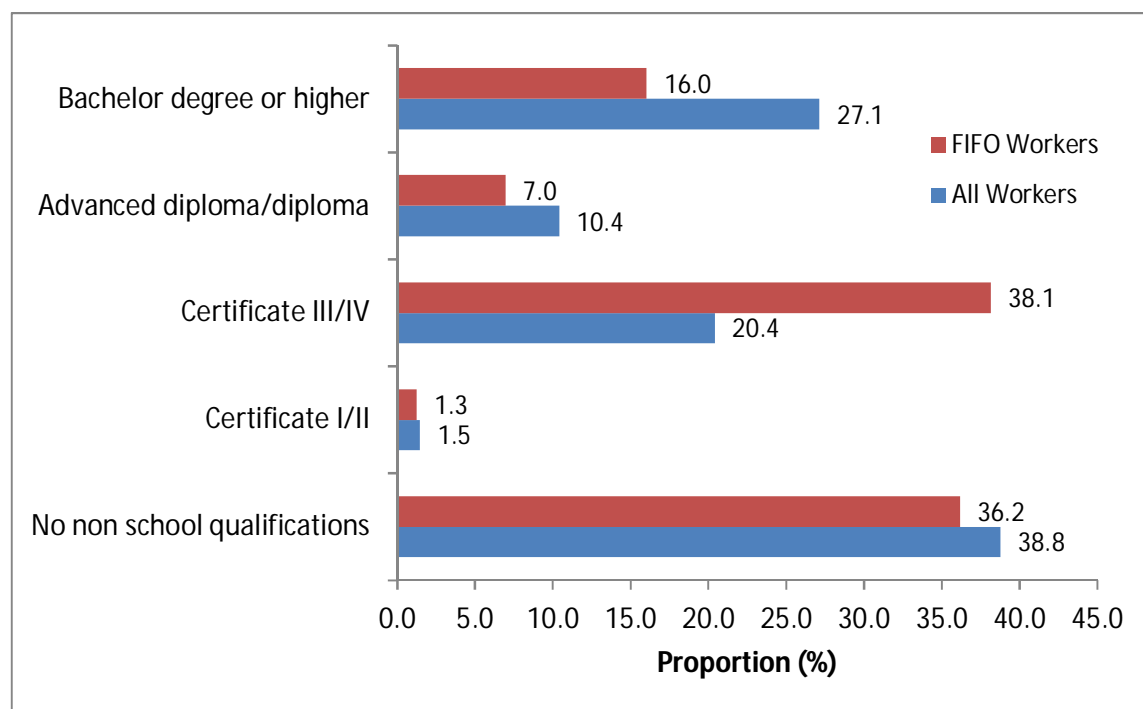
\* Other Construction and Mining Labourers includes Crane Chasers, Driller's Assistants, Lagers, Mining Support Workers (Mineral Ore Processing Labourers) and Surveyor's Assistants.

Source: ABS 2011 Census of Population and Housing, based on place of enumeration, rounded to nearest ten.

### **Non-school qualifications**

At the time of the Census, FIFO workers were slightly more likely to hold a non-school qualification (63.8%) compared with the Australian workforce as a whole (61.2%). The proportion of FIFO workers with a Certificate III/IV (associated with a traditional trade qualification) was significantly higher (38.1%) compared with the workforce as a whole (20.4%), reflecting the resources sector's dependence on trade skills. By contrast, a significantly lower proportion of FIFO workers held a Bachelor Degree or higher (16.0%) compared with employment as a whole (27.1%, see Chart 1).

**Chart 1: Non-school qualifications of workers aged 15-64 years, 2011**



Source: ABS 2011 Census of Population and Housing, based on place of enumeration

Despite the sector's reliance on non-school qualifications and trade qualifications in particular, there was still 36.2% of FIFO workers who did not hold non-school qualifications. Workers without non-school qualifications were most likely to work as Drillers, Miners and Shot Firers, Truck Drivers, Earthmoving Plant Operators and Other Construction and Mining Labourers (which includes Crane Chasers, Drillers' Assistants, Lagers, Mining Support Workers and Surveyors' Assistants).

### Future demand for FIFO occupations

Data on future demand for FIFO workers are not available, however, the Department of Education, Employment and Workplace Relations (DEEWR) produces projections of employment by occupation (across all industries) which can provide an indication of future demand for occupations in which FIFO workers are commonly employed.

DEEWR's employment projections show that the FIFO occupations with the largest projected employment growth over the five years to November 2017 are commonly found not only in Mining, but also in Construction and Manufacturing.

Truck Drivers (13,800), Earthmoving Plant Operators (5300) and Electricians (3000) are the FIFO occupations with the largest projected employment growth over the five years to November 2017 (see Table 4).

DEEWR also has estimates of job *openings*, which provide an indication of the number of job opportunities expected to become available in each occupation over the next five years, either from employment growth or from job turnover. <sup>6</sup> In some occupations, employment may be projected to grow only slightly or even to decline, but job openings may still be high due to turnover.

<sup>6</sup> Department of Education, Employment and Workplace Relations, *Australian Jobs 2013*

Over the five years to November 2017, the number of job openings for Truck Drivers is projected to be high (more than 50,000), and the number of job openings for Electricians and for Earthmoving Plant Operators is projected to be above average (25,001–50,000).

Although the number of job openings for Drillers, Miners and Shot Firers (the most common FIFO occupation) is projected to be above average (25,001–50,000) over the five years to November 2017, employment in this occupation is projected to decline by 3100.

**Table 4: Projected employment growth and future job openings to November 2017, across all industries**

Occupation	Employment growth November 2012 to November 2017 ('000s)	Projected Employment Level November 2017 ('000s)	Future Job Openings to November 2017 <sup>7</sup>
Truck Drivers	13.8	198.2	High (More than 50,000)
Earthmoving Plant Operators	5.3	58.7	Above average (25,001–50,000)
Electricians	3.0	143.3	Above average (25,001–50,000)
Structural Steel and Welding Trades Workers	1.4	87.9	High (More than 50,000)
Other Building and Engineering Technicians	0.9	25.5	Average (10,001–25,000)
Production Managers	0.9	58.4	Above average (25,001–50,000)
Geologists and Geophysicists	0.2	11.2	Low (Up to 5,000)
Other Construction and Mining Labourers	-0.7	8.6	Below average (5,001–10,000)
Drillers, Miners and Shot Firers	-3.1	44.9	Above average (25,001–50,000)
Metal Fitters and Machinists	-3.7	114.8	Above average (25,001–50,000)

Source: DEEWR Projections to November 2017 and DEEWR Occupational Gross Replacement Rates

### Potential opportunities for job seekers

Employment in the resources sector has risen strongly over the past five years, but the decline over the past year, and the relatively low projected employment growth over the next five years, suggests that there are likely to be fewer opportunities for FIFO employment in the resources sector than there have been in recent years.

That said, opportunities for FIFO employment may arise from job turnover, which may generate a significant number of vacancies, especially if job turnover occurs at a higher rate among FIFO workers due to the long hours and difficult working conditions.

<sup>7</sup> Job openings include both the number of new jobs expected to be created over the next five years and the number of openings likely due to job turnover (workers leaving their occupation group for other employment or leaving the workforce).

A large proportion of FIFO workers holds either a formal trade qualification (i.e. a Certificate III/IV) or a Bachelor Degree or higher, which suggests that workers who hold these qualifications may have the greatest chances of obtaining FIFO work. However, demand for trade skills varies markedly by occupation. For example, DEEWR's skill shortage research indicates that in terms of trades relevant to the resources sector, shortages are mainly in engineering and automotive trades, while construction trades relevant to the resources sector are not in shortage. Moreover, the research also shows that there is generally strong competition for vacancies for skilled roles, and that employers in this sector have very specific skill and experience requirements and most applicants, even those who hold relevant qualifications, do not meet their needs. The strong competition for jobs is unlikely to change in the future as employment growth slows and completions from higher education courses continue to rise over the next few years.

The relatively low proportion of 15-24 year olds among FIFO workers may reflect the sector's need for workers with non-school qualifications and/or some years of work experience. While more than a third of FIFO workers hold no non-school qualifications, employment opportunities for job seekers who hold only a Certificate I are very rare, according to SkillsDMC (the industry skills council for drilling, mining, quarrying and civil infrastructure)<sup>8</sup>.

Competition for lower skilled vacancies may be even greater than for higher skilled vacancies. At a minimum, job seekers will need strong employability skills (such as enthusiasm, communication skills, team work, reliability) and ideally, relevant work experience, to maximise their chances of gaining employment in the sector. FIFO occupations that commonly require a lower level qualification include Drillers, Miners and Shot Firers, Truck Drivers, Earthmoving Plant Operators and Other Mining Construction Labourers.

Labour Market Research and Analysis Branch

Department of Education, Employment and Workplace Relations

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<sup>8</sup> [http://www.skillsdmc.com.au/pathways/entry\\_requirements\\_in\\_five\\_industry\\_sectors](http://www.skillsdmc.com.au/pathways/entry_requirements_in_five_industry_sectors)