

Strategic Analysis Paper

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The Impact of Skilled Labour Shortages on the Pilbara Region

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Summary

The minerals and energy industry continues to make a significant contribution to employment and wider economic activity in the communities of regional Australia, and to governments directly through taxes and royalties. Skilled labour shortages, however, will continue to have an impact on the nation's future growth and development prospects, especially in the minerals and energy industry. Resource projects underway or in advanced stages across Western Australia, many located in the Pilbara region, are worth approximately \$280 billion. One ongoing risk to these resource projects is the constraint on supply from skilled labour shortages. This remains a critical issue with long-term implications and direct consequences for mineral and energy projects, regional Australia and the national economy.

Analysis

By 2014, an additional labour force of 26,000 skilled workers may be needed on resource projects around Western Australia, particularly in the Pilbara, Mid West and Goldfields regions.

In 2020, according to the Chamber of Commerce and Industry of Western Australia (CCIWA), the State is likely to require an additional 400,000 skilled workers. There is expected, however, to be a shortfall of 150,000 workers.

A lack of skilled workers will place at risk future resource projects in Western Australia. The State's Department of State Development estimates that 'there are currently \$150 billion worth of projects either committed or under consideration for the State during the next few years'. Research by the CCIWA puts this amount closer to \$200 billion.

The Pilbara region of northwest Western Australia, considered 'Australia's most productive region', has many resource projects planned. Three of the State's four 'super projects' are located in the Pilbara: Woodside's Pluto LNG project (2010) near Karratha, Chevron's Gorgon Project (2014) and Wheatstone (2015). The fourth, Woodside's Browse LNG development (2016/17), is located further north in WA's Kimberley region. Increased iron ore mining operations in the Pilbara also look set to drive the region's economic activity and exports.

The ongoing expansion and development in regional Australia, especially northwest Australia's Pilbara and Kimberley regions, underlines their long-term economic significance to the national economy.

The regions' critical infrastructure is a vital part of Australia's current and future prosperity.

The Pilbara, with a resident population base of 45,000 people, can be considered one of the most productive regions in the nation.

In 2006-07, the Pilbara region delivered \$7.1 billion to the Commonwealth in taxes and royalties¹. It also provided twenty per cent of total national merchandise export taxes and royalties, with the value of its exports in 2007 exceeding \$33 billion.

The Pilbara's significance is not just the role it plays in the national economy, but also its central role in Western Australia's economy and growth prospects. This highly productive region is promoted by the Shire of Roebourne, home to Karratha and Dampier, as the region that provides the State with approximately 45 per cent of its export income, 61 per cent of its gross resource output and 23 per cent of Gross State Product.

There is a growing realisation among the broader Australian community, including the southeast part of the nation, that the Pilbara region played a pivotal role during the Global Financial Crisis (GFC), when its exports of minerals and energy helped prevent Australia from slipping into recession.

One key issue that continues to pose a potential brake on many planned resource projects in regional Australia, particularly the Pilbara, is the lack of skilled workers.

Between 2002 and 2007, skills shortages were identified, alongside export bottlenecks, as a capacity constraint. The significance is that the shortages led to Australia losing global market share in eight mineral commodities, including coal and iron ore.

In 2010, skills shortages remain a threat to the confidence and capacity of Australian businesses, especially resource projects in the Pilbara. This situation is set to worsen as more projects are planned to start over the next five years.

Research conducted by Ai Group and Deloitte in May 2010, found that one-third of company executives claimed that the risk of skills shortages restricting the effective operation of their businesses was 'high or extreme'. The same research found two-thirds of companies surveyed had difficulty in filling vacancies.

While there is also a growing awareness that the national economy relies heavily on exports from the resource sectors, especially in north-western Western Australia and Queensland, it is likely that reliance on these parts of regional Australia will continue over the medium- and long-term.

The ports at Port Hedland and Dampier are the 'two highest export tonnage ports in Australia'. Alongside Cape Lambert and Onslow, and the soon to be constructed deep-water port at Anketell near Karratha, these ports have the task of meeting the growing level of demand from existing and additional resource developments.

The capacity of the Pilbara's ports is vital as they can be seen as 'gateways to the global market'. When considering that 99.5 per cent of Australia's trade by volume is carried by sea, the ongoing security and protection of these ports, and their sea lines of communication, are issues of national significance.

¹ *The Shire of Roebourne, Western Australia, 2010*

As the Australian Shipowners Association highlights, ‘mining operations, oil and gas operations and mining support activities – all rely on ships/vessels that employ seafaring skills in various ways and to varying degrees’.

Regional Australia needs a skilled workforce. A lack of skilled workers in the Pilbara will constrain the region’s capacity to grow. Therefore, can Australia afford to ignore the challenge of skills shortages facing the Pilbara region?

Skills Shortages

Industry and state and local governments are all pursuing policies to make the Pilbara and its key regional centres become a place of choice, where people choose to live, work and raise families. Port Hedland and Karratha, the “Pilbara Cities”, are slated to become major cities of the future. Whatever the economic situation, the Pilbara must become a sustainable region that can endure tough times and capitalise on the boom periods.

The need for viable and sustainable communities in the Pilbara region is not just in the interests of Western Australia, but also in the national interest.

As Andrew Forrest from Fortescue Metals Group stated in *The Pilbara Plan 2008*, where he cites both his confidence and concern for the Pilbara:

The Pilbara is not a short term quarry. It will sustain major wealth generation for Australia for hundreds of years. The Pilbara therefore can and must host long term, fully sustainable and high quality living Pilbara communities.

As the region becomes economically more important to the nation, there will be a greater need to tackle core problems, which may place a brake on future growth. Labour and skill shortages are an important element that must be addressed to ensure the region’s future growth and development. One immediate implication of labour shortages is the upward pressure placed on labour costs.

According to the Western Australian Chamber of Minerals and Energy (CME), the development of Western Australia, and in particular the Pilbara region, is subject to ‘the key growth enablers of people, energy and water’. The rapid growth in the Pilbara, however, has placed more pressure on those ‘growth enablers’.

Even prior to the GFC, a major constraint on growth was the availability of labour and a skilled workforce. In the post-GFC environment, the CME identified in its *Developing a Growth Outlook for WA’s Minerals and Energy Industry* report that, in the short-term, access to capital is the ‘more likely growth constraint rather than access to people, energy or water’. Over the long-term, however, it is limits on the so-called “growth enablers” that will continue to have an adverse impact on the ability of the Pilbara to capitalise on future growth.

The CME states that ‘skilled labour demand remains a critical issue’. Strategic initiatives have been suggested by the CME to address this issue. Increased demand in the minerals and energy sector requires more highly qualified professionals and technical staff. The CME advocates ‘an increased commitment to education and training’ and ‘continued support for the skilled migration scheme’. Such measures provide industry with the required number of suitably qualified people to work on projects. The CME also notes that skilled workers are required in the construction and housing sectors.

The Pilbara Region and Employment Projections to 2020

Ongoing demand in the minerals and energy sector will continue to create labour shortages in Australia, especially the Pilbara region. This will see workforce shortages compounded by increasing demand in a variety of occupational categories, such as engineering and geoscience.

The CME survey in 2008 of minerals and energy companies regarding their expected workforce demand through to 2020, found that the period of highest demand across Western Australia would be 2008-2014, with the projected peak demand in 2012 when the minerals and energy sector's labour demand will be approximately 38,000 workers.

This demand for labour in the Pilbara region has its implications. To attract and retain workers it will have to face competition from other regions across Western Australia, which will also be seeking more workers.

According to the CME, 'the highest growth regions are expected to be the Mid-West, Goldfields/Esperance and the Pilbara'. In 2014 alone, the additional demand for workers in those three regions (over 2007 figures) is estimated to be 60,000, 3,000 and 14,000 respectively.

The unevenness of demand for labour and skills across sectors, including the minerals and energy sector, will create gaps and lags across various occupations and skills. This is especially likely to occur during the construction phases of projects in the Pilbara region. The Pilbara Industry's Community Council report of April 2010 states that 'the projected construction activity generates construction employment reaching over 22,000 in 2010'. Nearly all of these additional workers are expected to be fly-in fly-out (FIFO), depending on the location of the project.

The *Resourcing the Future: National Resources Sector Employment Taskforce Report* of July 2010 found 'there is significant potential for skills gaps to emerge between 2011 and 2013 as construction of new resources projects commences.' The peaks in demand are likely to occur in 2012 and 2013 because of the anticipated peak in construction of major infrastructure projects.

The reliance on FIFO will have an impact on regional communities, especially if the workers are flown in from regions well outside those where mineral and energy operations are conducted. Confidence in the long-term viability of the Pilbara region and, over time, potentially the "Pilbara Cities", could wane if an outside workforce is flown in and out to conduct lucrative work, at the expense of locals and others willing to consider living permanently in the north-west of Australia.

Much of the wealth created by FIFO workers in the Pilbara is not spent where it is earned. A 2010 Commonwealth Bank of Australia Economic Utility Report indicated that many FIFO workers who earn their money in the Pilbara spend it elsewhere. Many local government authorities (LGA) in the Pilbara appreciate that mining companies decide to use FIFO based on economic regions for their resource projects. Many LGAs, however, claim that FIFO arrangements undermine the long-term viability of developing sustainable communities in regional Australia.

(Figure 1) Regional Perspectives of Pilbara Population Growth, 2015 & 2020

	Resident 2015	Construction 2015	FIFO 2015	Resident 2020	Construction 2020	FIFO 2020
Dampier/Karratha/ Burrup-Roebourne	23,424 (81.3%)	3,800 (13.2%)	1,591 (5.5%)	25,002 (89.2%)	1,300 (4.6%)	1,691 (6.0%)
Port Hedland	19,012 (90.3%)	1,000 (4.7%)	1,050 (5.0%)	19,870 (94.7%)	n/a	1,110 (5.3%)
Onslow	2,360 (6.1%)	1,500 (38.9%)	n/a	2360 (100%)	n/a	n/a
Newman	8286 (89.4%)	n/a	980 (10.6%)	8,286 (89.4%)	n/a	980 (10.6%)
Rest of East Pilbara	535 (3.3%)	81 (0.5%)	15,784 (92.6%)	535 (2.6%)	400 (2.0%)	19556 (95.4%)
Ashburton (excluding Onslow)	7,468 (41.1%)	2,581 (14.2%)	8,119 (44.7%)	6,456 (37.5%)	400 (2.4%)	10,348 (60.1%)

Source: Planning for Resources Growth in the Pilbara: Revised employment & population projections to 2020 for Pilbara Industry's Community Council, April 2010

To alleviate some of the issues caused by workforce shortages, however, some major resource companies are employing new technologies to manage operations remotely. Many of these firms also rely on FIFO rosters. According to Mike Waller from Heuris Partners Ltd, 'the strongest projected employment growth is in FIFO: current projections in 2015 and 2020 are some 10,300 and 16,000 higher than the July 2008 projections'. The continuing reliance by firms on FIFO, expressed as a percentage, is expected to increase by 83 per cent between 2010 and 2015. This will increase a further 23 per cent from 2015 to 2020. By 2015 some 90 per cent of the FIFO population will be involved in the iron ore industry.

Over the long-term, FIFO arrangements may become unsustainable. If a large proportion of a company's workforce remains organised around FIFO rosters, it will be exposed to risks such as the impact of future increases in the cost of fuel and possible disruptions to fuel supplies, which in turn will have an impact on the commercial viability of regional airlines and air charter companies. To avoid this scenario, exacerbated most likely by "peak oil" conditions, it is necessary to look at options that create and support regional workforces that live close to where there is demand for their labour.

Confronting constraints to economic capacity

Increasing Indigenous participation and employment in the resource sector is just one element in addressing that situation. Many minerals and energy projects have dedicated Indigenous training and employment to assist Indigenous people become part of their workforce. The minerals industry claims to be the largest private sector employer of Indigenous people, with five per cent of its direct workforce identifying as being Indigenous Australian. As the mining, resource and energy sector grows, it will continue to play an important role in the employment of Indigenous Australians, especially those living in regions such as the Pilbara.

Another element is the dedicated creation of regional workforce plans. They could focus on the specific needs of a particular region, factoring in the particular geographic and workforce requirements, and coordinate a response across government to provide assistance to industry and the local community. Greater engagement by government with industry stakeholders will better inform workforce training and employment. Skills development is a shared responsibility between Commonwealth, State and Territory Governments.

The Minerals Council of Australia, Chamber of Minerals and Energy Western Australia and Queensland Resources Council, in a joint submission on skills to the Australian Government, stated that ‘most operations in remote and regional locations prefer local workers and are committed to increased employment of local Indigenous people who can meet their employability requirements’. The challenge for this sector, however, is that many Indigenous people located in these areas experience ‘low levels of literacy, numeracy and fitness for work attributes, which precludes them from taking up training opportunities’.

The Australian Institute of Mining and Metallurgy (AusIMM) is another key stakeholder in regional Australia that has informed the government about what it views as constraints on the supply of skilled workers. Representing minerals sector professionals, AusIMM claims that supply constraints can be addressed immediately by adding a host of jobs for mining professionals to the Skilled Occupations List². Other issues addressed include taxation reform, improving funding to universities, creation of courses for industry outcomes, as well as dedicated geotechnical engineering training at the undergraduate level.

AusIMM also argues that there is an urgent need to address the lack of women working in the industry. Suggestions include closing the gender pay gap, improving workplace cultures within the resource sector, and making ‘childcare expenses in rural and regional Australia tax deductible’.

Another element for consideration is Australia’s ageing society and its consequent transition effects on the workforce over the next decade. The demographic impact of such a shift in the age and availability of skilled workers in the minerals and energy sector could see an increasing proportion of the workforce scaling-back their total number of hours worked per week, or leaving the workforce altogether through retirement or semi-retirement.

At present, the majority of employees in the minerals and energy sector work full time. Their median age is 40 years, compared with a median age for all industries in Australia of 37 years. The shift in Australia’s demographic base could mean a decline in productivity and economic growth due to a reduction in the size of the available Australian labour force.

Skilled migration and sustainable population issues are two elements that must be considered when addressing future skill shortages.

The National Resources Sector Employment Taskforce has shown that it has listened to the concerns of industry and stakeholders. The Australian Government has received the Taskforce’s *Resourcing the*

² The Australian Government’s Department of Immigration and Citizenship’s Skilled Occupation List, as per its most recent schedule, August 2010, still does not list the following Australian Standard Classification of Occupations (ASCO code listed in brackets): Extractive Metallurgist (2119-15); Geologist (2112-11); Geophysicist (2112-13); and Natural and Physical Science Professionals (nec) (2119-79).

Future: National Resources Sector Employment Taskforce Report. Although many of the proposals are yet to come online, its in-depth stakeholder engagement process is an indication that the Australian Government is all too well aware of the strategic importance of a skilled workforce, both now and into the future.

Importantly, many more skilled workers will be needed across the nation over the next decade, particularly on resource projects in regional Australia.

Therefore, strategic initiatives and policies must be implemented by government to provide the right training, employment and investment conditions for the natural resources sector. Continued and improved engagement by government with industry and stakeholders is essential.

The long-term viability of resource projects in the regions, especially the Pilbara, is dependent on a ready supply of skilled workers to allow access to the economic advantages such developments will bring to the national economy.

Any opinions or views expressed in this paper are those of the individual author, unless stated to be those of Future Directions International.

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