



# EMPLOYMENT AND SKILLS SNAPSHOT: METAL AND MINERAL MINING AND MANUFACTURING

## 1 Introduction

This report provides an overview of employment and skills in the metal and mineral mining and related manufacturing sectors.

The mining sector has three sub-sectors: coal, precious metals (gold and silver) and other non-metals (minerals). This report covers all three sub-sectors as well as those parts of the manufacturing sector (such as cement, lime and concrete products) which are generally a flow-on from the mining sector.

For this report, information on the future skills needs of workers is focussed on the coal and gold mining sub-sectors, although comment is included on the mining-related manufacturing sector as well.

## 2 Key Points

- As at March 2010, the mining sector employed only a fraction (0.3%) of the New Zealand workforce but mining production contributed almost \$2 billion to the economy in 2008.
- From March 2003 to March 2010, employment in the metal and mineral mining sector increased by 12%, compared to a 2% increase in total employment.
- Recruitment and retention, particularly amongst higher skilled employees is an issue for this industry.
  - Highly skilled workers such as geologists and mining engineers are in high demand and there is no mining degree programme offered in New Zealand.
  - Retention, particularly in the coal mining sector, is difficult, largely because of the attractiveness of employment in the Australian mining industry. This will impact on the ease of generating new growth in this area.
- Both the mining and related manufacturing sectors have the potential to employ relatively lower skilled workers. Some of the areas under consideration for mining expansion are areas of higher unemployment such as Northland or are sparsely populated such as Southland where expansion is likely to draw employment and skills in from outside the region.



### 3. The metal and mineral mining sector

#### Overview

The volume of New Zealand mining operations is heavily dominated by minerals used predominantly for roading and construction purposes. Mining for precious metals (predominantly gold and silver) makes up a miniscule percentage of the total volume of output (0.0001%) but accounts for over a third of the total annual mining revenue and 0.4% of GDP<sup>1</sup>. Coal mining comprises just over 10% of mining production and more than 36% of the total annual revenue.

Table 1 shows the total New Zealand production (in tonnage and revenue terms) for gold, silver, non-metals and coal in 2008.

**Table 1: Annual revenue from gold, silver, minerals and coal, with reported tonnage of production for 2008**

Mineral	Volume of Production	Annual Revenue	Revenue per tonne
Gold	16 tonnes	\$626 million	\$38 million
Silver	31 tonnes	\$19 million	\$600,000
Non metals (minerals)	42 million tonnes	\$537 million	\$12
Coal	5 million tonnes	\$688 million	\$140 <sup>2</sup>

Source: 2008 Mining Production Statistics, Crown Minerals, Ministry for Economic Development

Table 1 shows that despite the low volume in the production of gold and silver in 2008, the annual revenue generated per tonne of production was high - especially for gold. New Zealand's gold production in 2008 was concentrated in two mines: Macreas Mine in Eastern Otago in the South Island, and Martha Hill Mine in Waihi, in the central North Island.

In comparison, non-metallic mining and coal produced a very large volume of mining product in 2008 but at a relatively low value per tonne. The greatest volume in the non-metallic mining sector came from rock, sand and gravel for roads (21 million tonnes), followed by building (8 million tonnes) and fill (4 million tonnes). Where practicable, production tends to occur close to the point of end-use given the high cost of haulage relative to the value per tonne.

<sup>1</sup> A. V Haworth and R.G. Barker, "Overview of the New Zealand Mining Industry 2008/09". In 2005, the latest year for which detailed statistics are available, mining (excluding petroleum) accounted for about 0.4% of GDP, while the contribution of industrial mineral processing was an additional 0.6%.

<sup>2</sup> Total revenue for coal not available for 2008, so 2007 price per tonne (\$140.22) is used here: this is likely to be an underestimate of the total revenue generated from coal in 2008.



## ***Employment in the metal and mineral mining sector***

Table 2 shows the sub-sectors in the mining sector and the level of employment as at March 2010.

**Table 2: Employment in the metal and mineral mining sector**

<b>ANZSIC code<sup>3</sup></b>	<b>Industrial Category</b>	<b>Employment as at March 2010<sup>4</sup></b>	<b>Employment growth 2003 – 2010<sup>5</sup></b>	<b>Employment share as at March 2010</b>
B060	Coal mining	711	-1%	0.03%
B080	Metal ore mining (i.e. gold, silver)	808	7%	0.04%
B091	Construction material mining	2035	3%	0.09%
B099	Other non-metallic mineral mining and quarrying <sup>6</sup>	82	-3%	0.00%
B109	Other mining support services <sup>7</sup>	851	22%	0.04%
B101	Exploration <sup>8</sup>	2061	58%	0.09%
	<b>Total</b>	<b>6,549</b>	<b>12%</b>	<b>0.3%</b>
	<b>Total New Zealand workforce</b>	<b>2,170,600</b>	<b>2%</b>	

Source: Department of Labour Employment Estimates

As at March 2010<sup>9</sup>, 6,549 people were employed in the metal and mineral mining sector listed in Table 2 above. This represented 0.3% of New Zealand's total workforce.

<sup>3</sup> ANZSIC 06 – Australia and New Zealand Standard Industry Classification, 2006.

<sup>4</sup> Many contractors in the extractive industries above are classified under 'Other mining support services' instead of under the specific industries they contract to. Consequently, employment estimates may not directly match those derived from other sources.

<sup>5</sup> This column shows annual average percentage change from March 2003 to March 2010.

<sup>6</sup> This subsector consists of mining and quarrying non-metallic minerals except construction materials. Primary activities include abrasive mining for abrasive materials, alabaster, alum, alunite, barite, chrysoprase, diamonds, diatomite, fluorspar and gemstones and quarrying for felspar and flint.

<sup>7</sup> This subsector consists of units mainly engaged in providing mining support services integral to the mining process. Primary activities include cementing oil and gas well castings, directional drilling and re-drilling, mining draining and pumping service, oil and gas field support services etc.

<sup>8</sup> Exploration includes petroleum exploration (crude petroleum and natural gas) and minerals exploration.

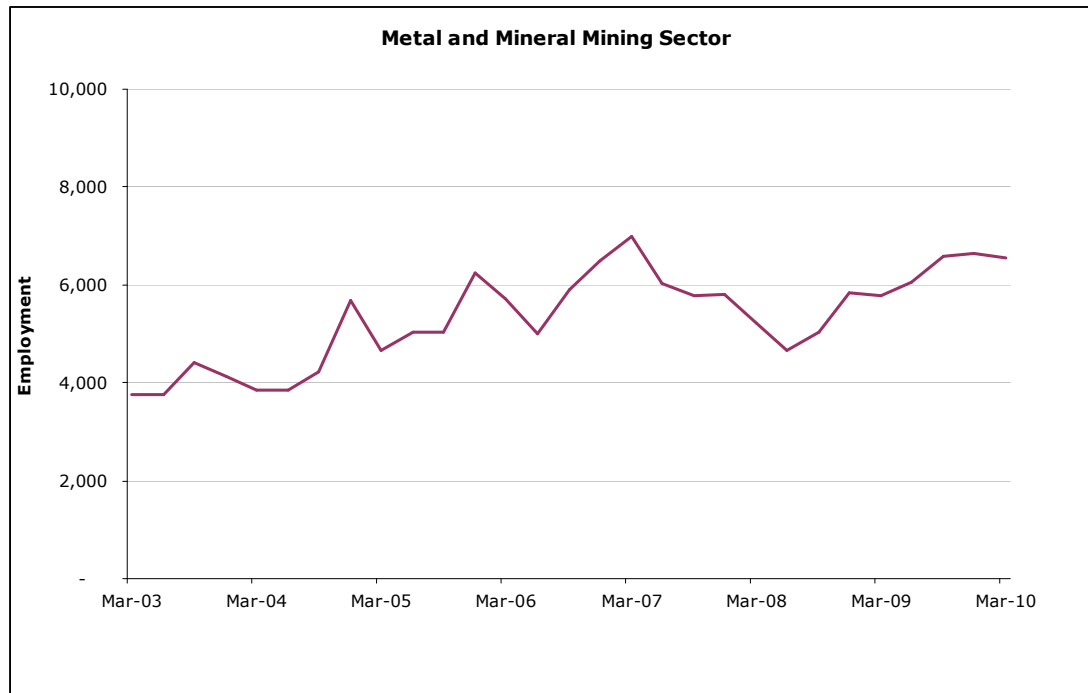
<sup>9</sup> Department of Labour Employment Estimates (DEE).



### **Employment growth in the metal and mineral mining sector**

From March 2003 to March 2010, employment in the metal and mineral mining sector increased by 2,806 – an annual average increase of 12% (see Figure 1). In comparison, over the same period, total employment in New Zealand grew by an annual average of 2% per annum.

**Figure 1: Employment trends within metal and mineral mining sector, March 2003 – March 2010**



Source: Department of Labour Employment Estimates

### **The Trans-Tasman labour market**

In addition to domestic employment, approximately 4,500 New Zealand-born workers are employed in the Australian mining sector as at 2006<sup>10</sup>. Australia's current resource boom, higher relative wages<sup>11</sup>, and the open labour market between the two countries, has had a marked effect on the New Zealand labour market for mining personnel. In 2006, Australia employed 4,478 New Zealand-born miners, compared to the 2,643 workers employed in the New Zealand mining industry that year<sup>12</sup>.

As a result, the New Zealand mining sector, and coal in particular, often finds it difficult to attract and retain experienced workers. Underground coal mine

<sup>10</sup> Australian Bureau of Statistics 2006.

<sup>11</sup> Australian yearly incomes for mining and construction labourers in 2006 were 35% higher after adjustment for purchasing power differences.

<sup>12</sup> The Department will soon be providing the Minister with a report that makes a comparison between the New Zealand-born workforce in New Zealand and those in Australia.



employers state that staff need to remain supervised by experienced staff until they have more than five years of on-the-job experience.

Gold mining employers can generally train staff more quickly due to the less complex and less hazardous nature of New Zealand's two main gold mines.

### ***Employment by region***

Figure 2 shows the percentage of workers employed in the mining sector in each of the regional council areas and the March 2010 unemployment rate<sup>13</sup> for that region.

For the metal and mineral mining sector, the largest percentage of workers was employed<sup>14</sup> in the Waikato region (1,640 or 25%) as at March 2010. This was followed by Taranaki (1,074 or 16.4%) and the Otago region (918 or 14%).

### ***Future employment opportunities per region***

Some of the areas in the conservation estate under consideration by the Government for mining expansion are areas of higher unemployment such as Northland. Others are sparsely populated such as Southland where expansion is likely to draw employment and skills in from outside the region.

Based on discussions with Solid Energy, the region most likely to experience future growth in the mining sector is the Southland region. However, the unemployment rate in this region is low (3.3%) compared to the March 2010 national level of 6.1%. This suggests that the future demand for workers in this region may not be able to be met locally. As a result, employers in the mining sector may have to provide incentives to attract workers from neighbouring regions where there is a higher unemployment rate. The Otago region with its 6.3% unemployment rate, is a possible source area.

The recent announcement that Petrobras was awarded a five year exploration permit to drill for oil off the East Coast of New Zealand may provide some short term employment benefits for this region. However, Petrobras is likely to bring in its own specialist staff for the exploration stage. Longer term benefits will depend on the outcomes from their drilling programme.

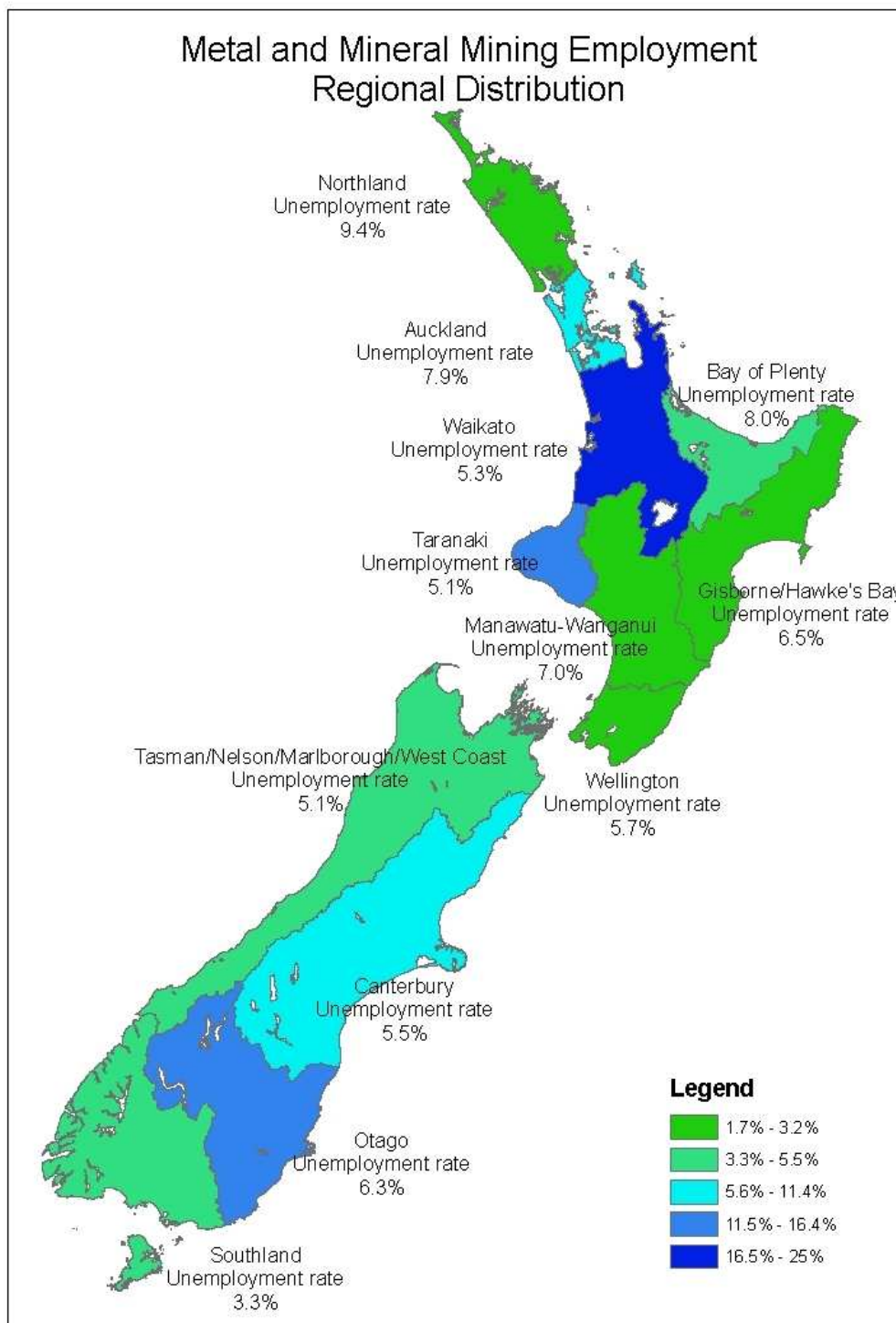
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<sup>13</sup> Sourced from the HLFS.

<sup>14</sup> Sourced from preliminary Regional Employment Estimates (DREE) from the Department of Labour. 5



**Figure 2: Regional employment within the metal and mineral mining sector and unemployment rate by regional council, March 2010**



Source: (Provisional) Department of Labour Regional Employment Estimates, March 2010 Household Labour Force Survey, Statistics New Zealand, March 2010 quarter.



### Skills profile

Table 3 below shows that employees within the metal and mineral mining sector tend to have relatively low qualifications. They have markedly more workers with no qualifications and less workers with advanced qualifications than the national average, with the exception of the exploration sector. The high proportion of workers with a bachelor degree or higher employed in the exploration sector is due to the fact that this sector employs mainly geologists and geotechnical engineers who tend to be highly qualified.

The relatively low qualifications among mining workers reflect the fact that on-the-job experience is recognised as being much more pertinent to the job than qualification levels. The underground mining area, although not specifically listed in Table 3, requires a greater proportion of workers with tertiary level qualifications (including bachelor degree or higher)<sup>15</sup>.

**Table 3: Qualifications mix across the metal and mineral mining sector, 2006**

Industry	No qualification	School qualification	Post school	Bachelor degree or higher
Coal mining	33%	23%	33%	10%
Metal Ore Mining	31%	30%	24%	15%
Construction material mining	42%	29%	23%	7%
Other non-metallic mineral mining and quarrying	38%	27%	27%	8%
Other mining support services	27%	30%	29%	9%
Exploration	21%	26%	30%	23%
Mineral, metal and chemical wholesaling	24%	39%	22%	14%
<b>Total</b>	<b>34%</b>	<b>28%</b>	<b>27%</b>	<b>11%</b>
<b>Total New Zealand workforce</b>	<b>19%</b>	<b>35%</b>	<b>27%</b>	<b>19%</b>

Source: Census of Population and Dwellings, 2006

Some sub-degree level qualifications within the mining industry may rise in future. The Minister of Labour intends to propose a regulatory change to improve safety in underground mining by raising the minimum qualification for managing small underground coal mines (ie where not more than eight people usually work). This would require a minimum of a coal mine underviewer certificate for this managerial role. A similar qualification or higher is already required in Australian mining states.

<sup>15</sup> Based on discussions with Solid Energy, the Institution of Professional Engineers New Zealand (IPENZ) and Pike River Coal.



### **Skills development and training**

While the following two tables seem to indicate that industry training levels have decreased, this is not the case. Recent administrative changes in the way enrolments are counted by the Extractive Industry Training Organisation (EXITO) has led to a more accurate reflection of active trainees.

**Table 4a: Number of companies working with Extractive Industry Training Organisation (EXITO) and trainees in programmes**

Year	Companies employing EXITO trainees	Number of EXITO trainees
2007	388	3,453
2008	390	3,755
2009	381	3,714
2010	292	2,555

Source: EXITO

**Table 4b: Number of trainees in the Extractives area**

	Sep-08	Sep-09	Change	% Change
Extractives trainees	4,905	4,537	-368	-7.5%
<b>All trainees</b>	<b>133,807</b>	<b>133,119</b>	<b>-688</b>	<b>-0.5%</b>
Modern Apprentices	26	28	2	8%
<b>All Modern Apprentices</b>	<b>12,456</b>	<b>12,854</b>	<b>398</b>	<b>3%</b>

Source: Tertiary Education Commission

According to Tertiary Education Commission data, there has been a very slight increase in the number of Modern Apprentices in this industry area. (See Table 4b above.)

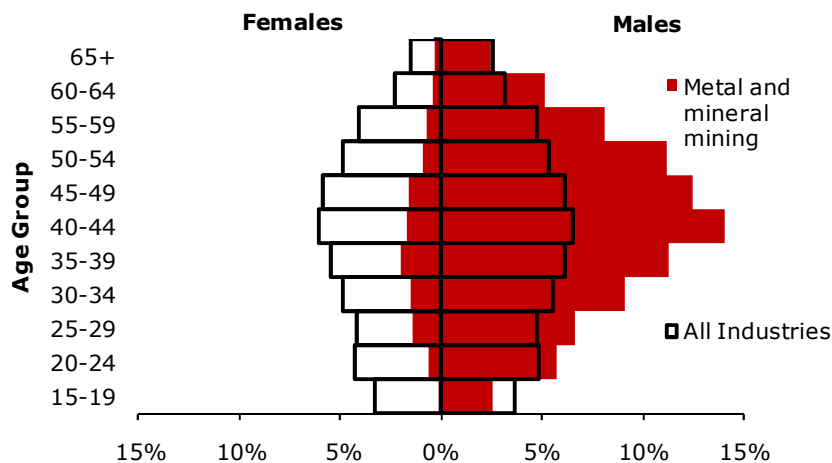
The length of time required for training unskilled workers differs by mining operation type: open-cast mining, as used in both gold and coal mining in New Zealand, requires six to twelve months of training, while more complex and hazardous underground gold and coal mining requires twelve to eighteen months of training.



### Demographic profile of the metal and mineral mining sector

In 2006, the overwhelming majority (88.1%) of employees within the metal and mineral mining sector were male (see Figure 3 below).

**Figure 3: Age and gender breakdown in the metal and mineral mining sector, compared with the total working age population, 2006**



Source: 2006 Census of Population and Dwellings

This gender distribution occurs similarly in Australia where an Australian government taskforce report<sup>16</sup> suggested that future growth in this industry would be favourably impacted by recruiting more female workers.

The age profile of the workforce in the metal and mineral mining sector in 2006 was similar to the national average. In terms of older workers, 18.1% of the workforce were aged 55 years and over, which was similar to the all industry average of 18.4%. This indicates that in the coming years, retirements are unlikely to be especially high across this industry relative to some other industries in New Zealand.

<sup>16</sup> Resourcing the Future: National Resources Sector Employment Taskforce Discussion Paper. March 2010. Department of Education, Employment and Workplace Relations, Canberra. 51 pp.



## 4. Supply of and demand for mining workers

### Overview

Recent research from the metal and mineral mining industries indicates that four out of ten workers and managers are intending to leave their job in the next ten years<sup>17</sup>. Given the age distribution of the workforce, these may not be age-related retirements.

In order to maintain current production of mines in New Zealand, two factors that affect the demand for mining workers, as identified by industry sources, are:

- the average turnover rate in the New Zealand metal and mineral mining industry of 10%<sup>18</sup> requires approximately 570<sup>19</sup> new workers per year, and
- backfilling the projected retirement of 40% of the current mining workforce over the next ten years is estimated to require approximately 230 workers per year.

Coal mining employers, in particular, foresee that attracting suitable staff will be a major constraint on their future growth for years to come:

*“The skills shortage in the underground coal industry is almost at what I would consider to be crisis level and the lag to recruit and train is significant. The only answer for an operating mine such as ours [Pike River] is in offshore recruitment with all the challenges that that brings.” – Dick Knapp, Pike River Coal*

These findings highlight that simply to maintain current production, considerable levels of recruitment are currently required from within New Zealand and overseas.

### Highly skilled technical workers

Technically skilled workers with graduate degrees (one in five underground coal mine workers) are the most difficult to obtain. For example, Canterbury and Otago geology/ environmental science programmes contribute about ten suitably qualified but inexperienced workers each year to Solid Energy’s graduate entry programme but this fills only half of the required positions.

New Zealand universities no longer offer a mining degree qualification. As a result, mining engineering graduates have to be recruited from overseas, the closest source being Australia. Given the international shortage of such professionals, this is likely to create problems for recruitment within New Zealand. Mining engineers will be needed at the rate of thirty per year, to cover attrition and retirement in the sector. The Institute of Professional Engineers New

<sup>17</sup> EXITO Industry Research Project, Precious Minerals and Mining Industry Report. January 2010. Performance Matters, Ltd. Christchurch. 147 pp.

<sup>18</sup> Estimate from Solid Energy, Human Resources Department.

<sup>19</sup> Table 2 lists the number of workers in the metal and mineral mining sector as 6,549 people. The 851 people who are listed as support services have not been included in future employment demand for mining skills training and recruitment.



Zealand notes the continued listing of mining engineers on the Immediate Skills Shortage List<sup>20</sup> and states that

“Significant and sustained growth in the mineral industry may lead to a need to establish and operate education programmes in the tertiary sector.”<sup>21</sup>

The Immediate Skills Shortage List also includes two other occupations: maintenance planner<sup>22</sup> and earth science technician<sup>23</sup> which are specific to the oil and gas industry<sup>24</sup>.

Mining companies tend to recruit mining graduates from universities or through extensive international networks. While graduates in geology, environmental studies, metallurgy and geotechnical engineering can be sourced from within New Zealand (programmes are offered at the University of Waikato, Canterbury University and Auckland University), mining employers indicate that most geologists and mining engineers come from overseas (mostly Australia).

### ***Low skilled but qualified workers***

New recruits in the mining sector need to be numerate and literate, drug-free, with a good work history and able to withstand difficult working conditions over long hours of shift work. They often need certificates enabling them to work with heavy machinery. For example, heavy truck drivers (the second most common occupation in mining in 2006) all need a heavy vehicle driver’s licence. Some underground mine employers screen applicants by psychometric testing as well. Random drug testing in this sector is routine and teamwork skills are essential.

According to industry sources, low skilled but qualified workers are needed at a rate of approximately 500 people per year to maintain current production for all New Zealand mines. Most of these people are needed for opencast mining operations which is typical of most coal and non-precious metal mining. However, the coal industry alone requires 200 new recruits per year and 50 of these are for underground mining operations<sup>25</sup>.

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<sup>20</sup> Immigration New Zealand, Essential Skills in Demand List

<sup>21</sup> Maximising our Mineral Potential: Stocktake of Schedule 4 of the Crown Minerals Act and Beyond. IPENZ May 4, 2010. 12 pp.

<sup>22</sup> A maintenance planner requires a bachelor of engineering and a minimum of five years experience in the oil and gas industry.

<sup>23</sup> An earth science technician requires a bachelor of science majoring in earth science and a minimum of five years experience in the oil and gas industry.

<sup>24</sup> The Essential Skills in demand List can be downloaded at <http://www.immigration.govt.nz/migrant/stream/work/skilledmigrant/LinkAdministration/ToolboxLinks/essentialskills.htm?level=1>

<sup>25</sup> Based on industry estimates



### ***Attracting mining workers to New Zealand***

Technical staff (such as mining engineers) are especially difficult to source in New Zealand, as the nearest mining engineering schools are in Australia. Ideal candidates require at least a bachelor's degree in mining, engineering and/or environmental science and five to ten years' work experience. Mining engineers continue to be in short supply around the world as demand for mineral resources continues to expand.

New Zealand is unable to compete with the very high salaries paid overseas to experienced miners. However, there may be other factors that would encourage miners to work in New Zealand. In particular, for married miners, the more settled lifestyle and the ability to live and work in the same place as one's family, are seen as attractive. This is in stark contrast to the fly-in, fly-out pattern established by Australian mining operations with extended work-periods away from home, followed by extended off-periods.

Ensuring that there is adequate accommodation, infrastructure and amenities near to current and proposed mines will be needed, however, if this potential advantage is to be exploited.



## 5 The metal and mineral manufacturing sector

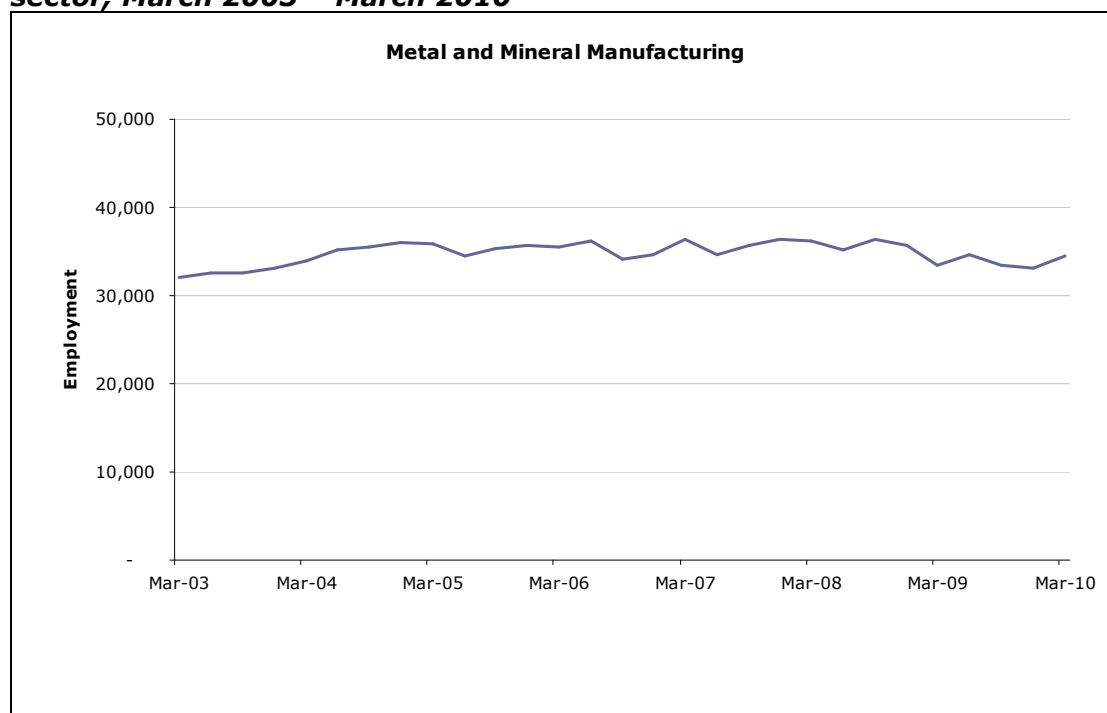
### ***Employment and growth in the metal and mineral manufacturing sector***

As at March 2010<sup>26</sup>, 34,481 people were employed in the metal and mineral manufacturing sector listed in Table 5 below. This represented 1.6% of New Zealand's total workforce.

From March 2003 to March 2010, employment in the metal and mineral manufacturing sector increased by 2,447 – an annual average increase of 8% (see Figure 4). In comparison, over the same period, total employment in New Zealand grew by, on an average, 2% per annum.

The slight decline in employment in the related manufacturing sector from March 2008 to March 2009 reflects the downturn in the overall manufacturing sector as a result of the recession.

**Figure 4: Employment trends within metal and mineral manufacturing sector, March 2003 – March 2010**



Source: Department of Labour Employment Estimates

<sup>26</sup> Department of Labour Employment Estimates (DEE).



Despite the relatively flat employment of the sector as a whole, some sub-sectors incurred marked increases or decreases in employment over this same period, as identified in Table 5 below.

**Table 5: Employment in the metal and mineral manufacturing sector**

ANZSIC code	Industrial Category	Employment as at March 2010	Employment growth 2003 – 2010 <sup>27</sup>	Employment share as at March 2010
C201	Glass and glass products	1,345	8%	0.06%
C202	Ceramic products	541	-46%	0.02%
C203	Cement, lime, plaster and concrete products	5,552	15%	0.26%
C209	Other non-metallic mineral products	707	43%	0.03%
C211	Basic ferrous metal manufacturing	1,900	-9%	0.09%
C212	Basic ferrous metal product manufacturing	774	-26%	0.04%
C213	Basic non-ferrous metal manufacturing	1,182	-16%	0.05%
C214	Basic non-ferrous metal product manufacturing	1,227	-38%	0.06%
C221	Iron and steel forging	170	-43%	0.01%
C222	Structural metal product manufacturing	12,080	11%	0.56%
C223	Metal container manufacturing	1,642	-12%	0.08%
C224	Other sheet metal product manufacturing	3,215	27%	0.15%
C229	Other fabricated metal product manufacturing	9,856	-8%	0.45%
F332	Mineral, metal and chemical wholesaling	7,518	32%	0.35%
	<b>Total</b>	<b>34,481</b>	<b>8%</b>	<b>1.6%</b>
	<b>Total New Zealand workforce</b>	<b>2,170,600</b>	<b>2%</b>	

Source: Department of Labour Employment Estimates

Additional input is required from industry to explain this intra-sector volatility.

<sup>27</sup> This column shows annual average percentage change.



### ***Employment by region***

Figure 5 below shows the percentage of workers employed in the metal and mineral manufacturing sector in each of the regional council areas and the March 2010 unemployment rate<sup>28</sup> for that region.

The largest share of employment<sup>29</sup> for this sector in March 2010 was in Auckland (17,038 or 35.5%), due to Auckland's relatively large manufacturing base. This was followed by Canterbury (7,232 or 15.1%) and the Waikato (5,508 or 11.5%).

### ***Future employment growth opportunities by region***

The regions most likely to experience growth in the mining-related manufacturing sector in the future are Auckland, Waikato and Canterbury. The high unemployment rate in the Auckland region (7.9%, compared to the March 2010 quarter national unemployment level of 6.1%) implies that workers could potentially be employed locally.

However, the demand for workers in the Waikato and Canterbury regions may not be able to be met locally. As a result, employers in the mining-related manufacturing sector in the Waikato region may have to provide incentives to attract workers from neighbouring regions where there is a higher unemployment rate, such as from the Bay of Plenty region (8.0% unemployment rate). However, this could prove to be very difficult for the Canterbury region.

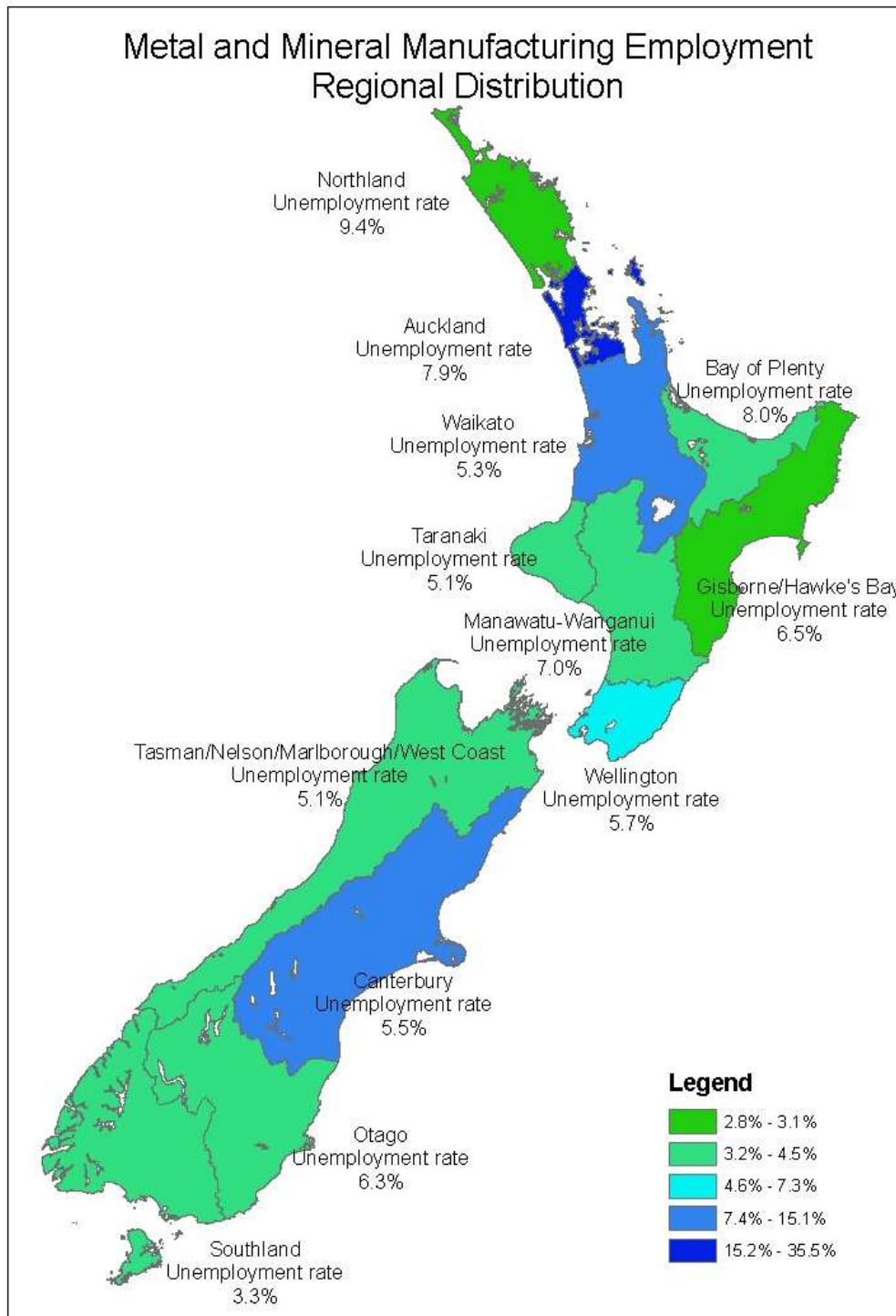
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<sup>28</sup> Sourced from the HLFS.

<sup>29</sup> Sourced from preliminary Regional Employment Estimates (DREE) from the Department of Labour. 15



**Figure 5: Regional employment within the metal and mineral manufacturing sector and unemployment rate by regional council, March 2010**



Source: (Provisional) Department of Labour Regional Employment Estimates, March 2010  
Household Labour Force Survey, Statistics New Zealand, March 2010 quarter



### **Skills profile**

Similar to the mining sector, employees within the metal and mineral mining and manufacturing sector tend to have relatively low qualifications (see Table 6). They have more workers with no qualifications than the national average, and considerably fewer workers with advanced qualifications than the national average. In the related manufacturing area, many mining-manufacturing jobs require low skill levels.

**Table 6: Qualifications mix across the mining-related manufacturing sector, 2006**

<b>Industry</b>	<b>No qualification</b>	<b>School qualification</b>	<b>Post school</b>	<b>Bachelor degree or higher</b>
Glass and glass product manufacturing	27%	34%	29%	9%
Ceramic product manufacturing	22%	39%	25%	14%
Cement, lime, plaster and concrete product manufacturing	39%	33%	22%	7%
Other non-metallic mineral product manufacturing	22%	38%	30%	10%
Basic ferrous metal manufacturing	23%	31%	34%	12%
Basic ferrous metal product manufacturing	33%	26%	35%	5%
Basic non-ferrous metal manufacturing	27%	26%	37%	10%
Basic non-ferrous metal product manufacturing	32%	35%	24%	9%
Iron and steel forging	30%	31%	33%	6%
Structural metal product manufacturing	27%	35%	32%	5%
Metal container manufacturing	25%	31%	39%	5%
Other sheet metal product manufacturing	23%	33%	39%	6%
Other fabricated metal product manufacturing	29%	32%	33%	6%
<b>Total</b>	<b>29%</b>	<b>33%</b>	<b>30%</b>	<b>8%</b>
<b>Total New Zealand workforce</b>	<b>19%</b>	<b>35%</b>	<b>27%</b>	<b>19%</b>

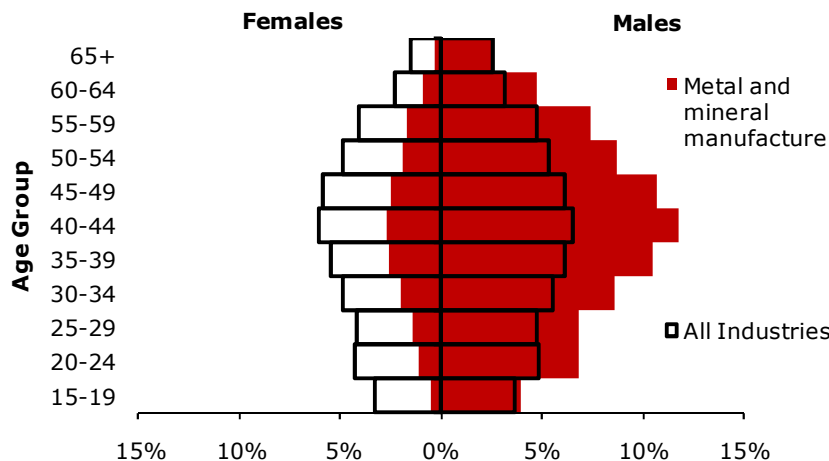
Source: Census of Population and Dwellings, 2006



### **Demographic profile of the metal and mineral manufacturing sector**

As in the metal and mineral mining sector, employees in the metal and mineral manufacturing sector were predominantly male (82.1%) as shown in Figure 6.

**Figure 6: Age and gender breakdown in the metal and mineral manufacturing sector, compared with the total working age population, 2006**



Source: 2006 Census of Population and Dwellings

Figure 6 shows that, as in the metal and mineral mining sector, the ageing of the workforce in the metal and mineral manufacturing sector is comparable to the overall New Zealand population.

### **Future employment needs in the coal manufacturing sector**

The proposed lignite conversion projects in Southland, including coal to fertiliser and coal to transport fuels, could require several hundred people over the next five to ten years. However, it is unlikely that employers could source these people from Southland, which currently has the lowest regional unemployment rate in New Zealand (3.3% compared to a national average of 6.1% as at the March 2010 quarter).

Professional experts with five to ten years experience in chemical and processing engineering will be needed. It is likely that these will have to be sourced from overseas.

A significant labour investment of both skilled and unskilled workers will also be needed for the construction of new plants for these projects. In addition, the proposed conversion projects will require very large capital injections for their development.



For more information, please contact the **Labour Market Skills Team** at [info@dol.govt.nz](mailto:info@dol.govt.nz) or for further employment and skills snapshots please visit <http://www.dol.govt.nz/services/LMI/tools/skillsinsight/snapshots/index.asp>.