



# Economic outlook for specific Victorian industries

30 April 2010

Report by Access Economics Pty Limited for  
**Skills Victoria**

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## Executive Summary

Skills Victoria commissioned Access Economics to provide an outlook for the Victorian labour market in 2010, and to incorporate into this report information gathered during consultations from the 16 Industry Training Advisory Bodies (ITABs) conducted in December 2009.

The past year has been a challenging one for most industries in Victoria, with the year starting amid the depths of the global financial crisis, but with that crisis generally easing through the year. At the start of 2010 some industries (or components of industries) continue to face low demand, while others are concerned about widespread skill shortages re-emerging.

What are the key issues which have affected ITABs over the past year and/or are seen as important over the coming years?

Through the report Access Economics attempts to split these into supply side issues (developments which affect the structure of the industry or how it produces goods and services) and demand side issues (developments which affect the quantum or type of goods and services demanded from the sector).

### Key supply side issues

Key supply side issues affecting a number of industries include the following:

- The ongoing effects of **globalisation** which in some cases mean ongoing industry consolidation and rationalisation. The automotive industry is an area where significant global restructuring and consolidation is occurring, which in some cases affects local operations. In business services there is a continued trend towards greater outsourcing of services.
- Continuing fallout from the global financial crisis, including **the strength of the \$A**, as the Australian economy performed far better through the crisis than most other developed economies. That means more intense pressure from imported products in some sectors. For example, Victorian forestry exports are now much less competitive, as are manufactured chemical products. However in the case of furnishing, the lower cost of imported components provided some significant opportunities for local businesses.
- A greater focus on **environment and sustainability issues**, with some sectors looking for greater opportunities to work with sustainable materials, along with greater consideration of environmental sustainability when designing new facilities. The movement towards lean manufacturing is also resulting in greater sustainability as companies look to reduce energy and water usage, and waste. For primary industries, increased variability of climatic conditions along with declining water security and quality are major issues which may fundamentally affect what the sector can produce.
- A range of **government policies** are influencing how industries perform and how training occurs. In transport and storage, proposed reforms to the graduated licensing system to meet the increased demand for drivers is seen as risking under-skilled drivers being licensed. For sport and recreation, additional training needs flow from duty of care obligations for the responsible service of alcohol, while further training needs also flow from encouraging a greater awareness of health and wellbeing in sport. The National

Broadband Network (NBN) rollout is likely to result in shortages of skilled telecommunications workers.

- Changes to the way businesses operate due to **technology**. A greater prevalence of online booking systems for retailers and the tourism sector mean skills and training are required in e-communications and web management skills. The culture and recreation sector has had to adapt to the introduction of digital television and radio, while companies in the metals and engineering sector have been investing significantly in production equipment upgrades and e-commerce to improve efficiency.
- The **ageing of Australia's population** remains a slow burner of an issue, but one which sees some sectors concerned about how they will obtain sufficient staff once baby boomers start to retire in greater numbers. The community services and health industry faces the additional consequence of increased demand for its services due to an ageing population.
- The availability of appropriate **infrastructure**, with the transport sector seeing frequent bottlenecks. Upgrades to the rail network and ports over time are likely to affect the mode of goods distribution.

### Key demand side issues

Key demand side issues affecting a number of industries include the following:

- The ongoing **fallout from the global financial crisis (GFC)** remains a key short term cyclical issue affecting the demand for goods and services. Underlying consumer and business demand was weak at the start of 2009 but has improved, while government support worked the other way through 2009. The culture and recreation sector suffered from reduced discretionary spending, though government stimulus spending boosted spending on sporting and recreation infrastructure and benefited the home entertainment and digital media industries. In forestry the global financial crisis threatened the viability of a number of forestry investment vehicles, but as the economy improves a notable pickup in housing activity may pose problems at the other end of the sector. Plans for new mining activity suffered as commodity prices tumbled, but a rebound in commodity prices suggests mining activity and new investment again have some powerful support.
- A greater emphasis on **sustainability** which has brought about greater demand for green products. In business services and manufacturing environmental sustainability is required in day-to-day operations to remain competitive. This is leading to demand for skills and training in sustainable development, corporate social responsibility, triple bottom line, and environmental social governance. Minimum energy ratings for new homes are likely to drive change in the types of skills required in the furnishing sector, along with greater demand for electricians with 'green skills'.
- **Changing demographics with an ageing population** is changing the types of goods and services being demanded in some sectors. More rapid overall population growth of late and the corresponding growth in demand for new housing are expected to flow through to increased demand for Victorian timber products.
- More broadly, **social trends** are also producing changes in demand for some goods and services. Factors affecting the food processing industry include the increased prominence of healthy eating. There has been growth in product labelling information

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such as the Daily Intake Guide labelling in the past three years, lifting information requirements and increased need for accountability in the food product design and production process.

### Occupations in demand

Occupations in demand were generally specific to the coverage of the respective ITABs. However there was some commonality across areas, including:

- Mention was made by nearly all ITABs of the need for **emerging green occupations** which will be required in the future, including skills in measuring and reducing carbon pollution, skills to reduce waste (particularly in the manufacturing process), and skills to install energy saving devices.
- A rapidly growing and **ageing population** is seeing demand for certain occupations increase, from construction workers (to build the required housing) to aged care and health workers.

Some skills are still in critical shortage, despite a surge in training. Reasons for this include demand continuing to outstrip supply or people not entering the workforce in relevant occupations once they have completed training. The latter in some cases includes international students who go on to work in different areas after completing training and then gaining permanent residence.

The content and in some cases quality of training provided by registered training organisations (RTOs) was a common theme among consultations with ITABs. The ITABs reported that employers are often unwilling to undertake necessary training because there is a mismatch between the skills required and those provided within training courses. That is, the courses available do not contain all the elements required for their staff, or alternatively contains content that is not relevant. In some cases it was felt that the training did not include relevant updated technology and processes which are required in today's provision of services and products. Many ITABs are working with the RTOs to try to tailor courses specifically for individual employer's requirements, which is expected to result in increased uptake of training by many employers.

### Prospects for job growth

The advice from ITABs on skill needs is couched within this document in the context of Access Economics' labour market forecasts. There are two sets of employment forecasts. The first are forecasts by broad Australian and New Zealand Standard Industry Classification (ANZSIC) industry, and are presented at the regional and metropolitan level, as well as for total Victoria. The forecasts for specific ITABs have been created by taking ABS ANZSIC employment data at a detailed level and aggregating these categories to broadly match the ITAB coverage. A detailed list of which ANZSIC classifications map to each ITAB can be found in Appendix A. Note that the sum of the ITAB employment numbers do not equal total employment for Victoria, as some classifications are not included in any ITAB.

Access Economics' forecasts of industry output and employment growth over time include elements of 'structural change', where some industries gain importance in their share of the economy's output or employment over time while others decline. Structural change is a continuous process across any economy. Structural change can result from both market

influences (including technological advances and changes in consumer tastes/spending patterns and trade) and government-related influences (microeconomic reforms applying to different industries).

The key structural change for Australia as a whole over the past two decades has been the decline in the relative sizes of the manufacturing and agricultural sectors, and the considerable expansion in the share of output contributed by the services sector. Industries such as mining and construction have been more cyclical over time, responding to changes in global and domestic economic conditions respectively.

Those structural changes which are leading to the services sectors becoming a larger share of the economy will continue over time, as will productivity growth which tends to limit job gains in sectors such as farming, manufacturing and utilities.

Beyond those however there is a strong cyclical rebound underway in the Victorian labour market. The muted impact of the GFC in Australia saw the unemployment rate peak at a far lower level than had been feared, and the closing months of 2009 saw a significant number of new jobs created.

Access Economics' forecasts are for jobs growth in Victoria of 3.8% in 2010, followed by 3.3% growth in 2011 and 1.7% growth in 2012. The short term profile is notably stronger than allowed for in last year's Treasury mid-year update, which in large part reflects the very rapid pace of jobs growth towards the end of 2009, which notably exceeded expectations.

**Access Economics believes that the state has emerged from the crisis in good shape and recovery looks set to continue.** The greatest short term risk is to manufacturers who are still battling tough conditions, amid a return to a higher exchange rate and climbing interest rates. Strong population gains in Victoria will drive employment onward, as well as encouraging demand in the already healthier than average housing construction sector.

Beyond short term cyclical effects, the strongest prospects for jobs growth over the coming years remain in key community services sectors such as public administration and safety, education and training, and health care and social assistance.

Note that jobs growth is only one of the key elements which drives training demand. There is also training of new entrants who replace those who retire, as well as training associated with other job turnover as people switch between jobs.

Many occupations require an upgrading of skills over time for existing employees (including due to many of the broader economic and social factors identified in this document). Indeed, an upgrading of skills for current employees forms a key focus of the specific training recommendations provided by ITABs in this report.

**Access Economics**  
**30 April 2010**

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## 1 Introduction

Skills Victoria commissioned Access Economics to provide an outlook for the Victorian labour market in 2010, and to incorporate into this report information gathered during consultations from the 16 Industry Training Advisory Bodies (ITABs) conducted in December 2009.

This report presents Access Economics' views of the economic and employment outlook in 16 Victorian industries, with forecasts by industry and metro/regional split (at the one digit ANZSIC level) given in the following chapter. The discussion of the outlook for each industry which then follows takes into account the individual advice offered by the sixteen ITABs, and in some cases reproduces advice gathered from the ITABs (for example, the lists of qualification shortages have been provided by the ITABs).

More specifically, this report contains:

- a synthesis of Access Economics analysis of each industry with the ITAB advice (ITAB advice is presented under the heading "Summary of ITAB advice and consultation", while Access Economics' general view on the industry is contained under the heading "Industry outlook");
- the labour market outlook for 2010 and beyond for each industry;
- occupations in demand for 2010 for each industry;
- a brief assessment of the soundness of the advice provided by the ITABs on the skills and training needs of their industries where necessary.

In general the advice presented by each ITAB is indeed sound. Each ITAB appears to have consulted widely with industry participants (if not at the time of consultation, in the months following) so as to obtain guidance on specific issues faced and the expected outlook for the future.

Access Economics has, in the main, restricted comments about the specific ITAB advice to comments regarding the economic conditions facing each industry.

The discussion for each industry which follows starts by noting:

- **Coverage:** The occupations covered by each industry.
- **Specific industry and business cycle drivers:** the factors of particular importance to the industry and overall economic factors to watch out for.
- **Recent relative sectoral performance rating:** with past rates of job growth rated as Low, Below Average, Average, Above Average, or High. These ratings are compared to all other ITABs. It should be noted that total ITAB employment does not equal total Victorian employment.
- **Forecast relative sectoral performance rating:** presents Access Economics' assessment of future rates of job growth as Low, Below Average, Average, Above Average or High over 2010 and 2011. Again, these ratings are compared to all other ITABs.

## 2 Industry forecasts

Access Economics' forecasts for employment growth in Victoria are presented in this chapter. Forecasts are shown for employment by industry at the 1 digit ANZSIC level, firstly for Victoria as a whole and then separately for metropolitan and regional Victoria. A table showing the concordance between the ITAB industries and the matching Australian Bureau of Statistics (ABS) industry classification is shown in Appendix A.

Table 2.1 presents employment forecasts for the state from Access Economics and the Victorian Department of Treasury and Finance. The Victorian 2009-10 Budget Update released on 26 November 2009 shows a relatively modest recovery in employment was expected at that time. Access Economics' latest forecasts for jobs growth are somewhat stronger over 2009-10 and 2010-11. In part this is due to Access Economics' forecasts being more recent, taking into account the very rapid pace of jobs growth towards the end of 2009, which notably exceeded expectations.

**Table 2.1: Total employment forecasts – Victoria**

	2009-10	2010-11	2011-12	2012-13
Access Economics	2.3%	3.4%	2.1%	1.0%
Department of Treasury and Finance, Victoria	0.25%	1.25%	1.75%	1.75%

Source: Access Economics, Department of Treasury and Finance

Access Economics believes that the state has emerged from the crisis in good shape and recovery looks set to continue. The greatest short term risk is to manufacturers who are still battling tough conditions, amid a return to a higher exchange rate and climbing interest rates. Strong population gains in Victoria will drive employment onward, as well as encouraging demand in the already healthier than average housing construction sector.

The following tables show the employment level for each major industry in 2009, followed by expected employment growth over the next three years. The projections are shown for Victoria as a whole, and then split into metropolitan Victoria (Melbourne) and regional Victoria.

Overall, the manufacturing industry in Victoria employs the greatest number of people in total, including those working in the metals and engineering, TCF&L, food, beverage and tobacco, and wood pulp and paper sectors. The manufacturing industry is not expected to emerge from the downturn until 2011, due to a combination of factors such as reduced demand for output, commodity prices and exchange rates. Overall, we expect manufacturing employment to continue to decline over time (consistent with the historic trend) as technology helps deliver strong productivity gains.

On the other hand, financial and insurance services is expected to record a turnaround in fortunes in 2010 with the strongest rate of jobs growth expected, following job losses in 2008 and 2009. As one of the hardest hit industries through the global financial crisis, jobs are seen as returning in line with improving business confidence. Employment in the mining industry may improve in the short term on the back of promising oil and gas prospects as commodity prices

rebound. Beyond short term cyclical effects in 2010, the strongest prospects for jobs growth over the coming years remain in key community services sector such as public administration and safety, education and training, and health care and social assistance.

**Table 2.2: Employment forecasts by industry – Victoria**

Industry	2009 level	2010 % change	2011 % change	2012 % change
Agriculture, Forestry and Fishing	77,357	4.0	1.5	-2.2
Mining	10,230	11.8	1.2	-2.6
Manufacturing	272,312	-0.1	0.6	-1.2
Electricity, Gas, Water and Waste Services	27,797	-3.2	4.1	2.7
Construction	201,210	1.4	4.0	1.4
Wholesale Trade	103,115	2.3	1.8	0.7
Retail Trade	260,569	5.4	2.3	1.1
Accommodation and Food Services	157,200	3.7	4.0	2.8
Transport, Postal and Warehousing	127,075	-0.2	3.8	1.9
Information Media and Telecommunications	59,085	1.3	1.8	0.8
Financial and Insurance Services	91,989	13.6	2.7	1.7
Rental, Hiring and Real Estate Services	34,044	0.8	4.6	1.9
Professional, Scientific and Technical Services	185,617	7.6	4.0	2.6
Administrative and Support Services	83,380	8.5	3.7	2.4
Public Administration and Safety	108,254	-1.2	4.8	3.1
Education and Training	186,424	5.3	4.5	3.1
Health Care and Social Assistance	264,788	6.4	4.7	3.3
Arts and Recreation Services	57,269	4.1	4.1	1.9
Other Services	93,792	1.0	3.1	1.8
Blue collar	731,212	2.6	3.0	0.5
White collar	1,670,302	4.3	3.4	2.1
<b>Total</b>	<b>2,401,514</b>	<b>3.8</b>	<b>3.3</b>	<b>1.7</b>

Source: Access Economics, ABS

Employment forecasts for metropolitan and regional Victoria are provided in Table 2.3 and Table 2.4. On average, regional Victoria represents a quarter of total employment.

Prospects for jobs growth remain stronger for Melbourne than they do for regional Victoria as a whole as migration and business consolidation favour the capital. Melbourne receives most of the benefit of expansion of business services, while ongoing infrastructure development and population growth is also stronger in the capital.

**Table 2.3: Employment forecasts by industry – metropolitan Victoria**

<b>Industry</b>	<b>2009 level</b>	<b>2010 % change</b>	<b>2011 % change</b>	<b>2012 % change</b>
Agriculture, Forestry and Fishing	11,991	5.8	1.7	-1.6
Mining	5,180	11.7	1.7	-2.5
Manufacturing	202,692	0.4	0.6	-1.0
Electricity, Gas, Water and Waste Services	16,523	-1.7	3.4	3.0
Construction	148,504	2.1	3.8	1.6
Wholesale Trade	85,806	3.0	1.6	0.8
Retail Trade	189,165	5.4	2.7	1.2
Accommodation and Food Services	116,316	3.5	4.5	2.9
Transport, Postal and Warehousing	98,698	-0.2	4.2	2.1
Information Media and Telecommunications	48,518	1.0	2.2	0.8
Financial and Insurance Services	81,454	13.6	2.8	1.7
Rental, Hiring and Real Estate Services	27,397	0.9	4.8	2.0
Professional, Scientific and Technical Services	159,121	7.9	3.9	2.7
Administrative and Support Services	65,955	8.9	3.7	2.5
Public Administration and Safety	80,586	-0.9	4.9	3.3
Education and Training	139,697	5.0	4.9	3.1
Health Care and Social Assistance	189,761	6.1	5.3	3.4
Arts and Recreation Services	44,750	5.0	3.9	2.1
Other Services	69,657	0.2	4.0	1.9
Blue collar	482,290	3.3	3.1	0.9
White collar	1,299,492	4.3	3.6	2.2
<b>Total</b>	<b>1,781,782</b>	<b>4.0</b>	<b>3.5</b>	<b>1.9</b>

Source: Access Economics, ABS

**Table 2.4: Employment forecasts by industry – regional Victoria**

<b>Industry</b>	<b>2009 level</b>	<b>2010 % change</b>	<b>2011 % change</b>	<b>2012 % change</b>
Agriculture, Forestry and Fishing	65,366	3.6	1.5	-2.3
Mining	5,049	12.0	0.7	-2.7
Manufacturing	69,620	-1.5	0.4	-1.8
Electricity, Gas, Water and Waste Services	11,273	-5.4	5.2	2.3
Construction	52,705	-0.8	4.5	0.8
Wholesale Trade	17,308	-1.1	3.0	-0.1
Retail Trade	71,403	5.4	1.4	0.8
Accommodation and Food Services	40,883	4.2	2.7	2.4
Transport, Postal and Warehousing	28,376	0.1	2.4	1.5
Information Media and Telecommunications	10,566	2.4	0.0	0.4
Financial and Insurance Services	10,534	13.6	1.6	1.3
Rental, Hiring and Real Estate Services	6,647	0.5	3.8	1.4
Professional, Scientific and Technical Services	26,495	5.8	4.3	2.1
Administrative and Support Services	17,425	6.7	3.8	1.8
Public Administration and Safety	27,667	-1.9	4.3	2.7
Education and Training	46,727	6.3	3.1	2.9
Health Care and Social Assistance	75,027	7.3	3.3	3.1
Arts and Recreation Services	12,519	1.1	5.1	1.1
Other Services	24,134	3.1	0.8	1.8
Blue collar	248,922	1.2	2.8	-0.2
White collar	370,810	4.4	2.3	1.8
<b>Total</b>	<b>619,731</b>	<b>3.1</b>	<b>2.5</b>	<b>1.0</b>

Source: Access Economics, ABS

### 3 Manufacturing and Engineering

**Coverage:** Aerospace, Engineering (Fabrication trades), Engineering (Mechanical trades), Engineering (Other), Mining, Shared – Metals and Engineering, Automotive components, Chemical, Hydrocarbon and Oils, Non-metallic Mineral Products, Plastics, Rubber and Cables.

**Specific industry and business cycle drivers:** Carbon trading schemes in Australia and worldwide, the exchange rate, oil prices, raw material prices.

**Recent relative sectoral performance rating:** Average.

**Expected relative sectoral performance rating:** Low.

#### Summary of ITAB advice and consultation

The Manufacturing and Engineering Skills Advisory Board (MESAB) have advised the key drivers of change in the industry are:

- Globalisation and the global financial crisis (supply and demand side)
- Government policies and regulation (supply side)
- Technological change (supply side).

In particular, the advice provided by MESAB addresses these key change drivers and skill and training implications for the following industry sectors:

- Mining – metal, gold, mineral sand, quarry
- Manufacturing – petroleum refining, coal manufacturing
- Manufacturing – industrial gas, chemicals, pharmaceuticals
- Manufacturing – motor vehicle, auto components
- Manufacturing – transport equipment, trailers, bodies
- Manufacturing – computer and electronic equipment, whitegoods.

**Globalisation** has seen many sectors covered by MESAB struggle against growing volumes of imports (for example the plastics and chemicals sector) and the rising \$A which is making domestic manufactured products less competitive on the world market. Like many other industries, the demand for skills in metals and engineering fell during the **global financial crisis**, although companies used a range of measures to hold onto staff. This has had differing impacts on training – many large companies reduced discretionary spending (including on training), although the GFC seems to have provided the incentive for many small and medium enterprises (SMEs) to provide training associated with the introduction of lean manufacturing processes.

Another impact of globalisation and the GFC on the industry is the restructure of the automotive manufacturing and component sectors. These are currently heavily concentrated

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in Victoria, making local communities particularly vulnerable to the decline in locally manufactured new vehicle sales seen during the GFC and after the withdrawal of the federal investment allowance. Re-skilling and up-skilling during this consolidation phase is an option, though for many companies this has been cost prohibitive.

MESAB believes that a stumbling block with regards to training for this industry is the seeming inability for public RTOs to meet the specific training requirements in a suitably flexible and workplace relevant format. This is leading to reliance on private providers and difficulties in adequately training or up-skilling current and potential employees. MESAB estimates that less than a third of current operators, production and process workers in the Victorian manufacturing sectors have an appropriate level qualification for their occupation. However, more than two thirds of manufacturing employers surveyed by the Australian Industry Group (AIG) indicated that they would prefer to meet their future skills needs through retraining of existing staff.

**Regulatory standards** imposed at the state and Federal level have a direct impact on training requirements for this industry. The environmental standard ISO 14001 requires people with excellent auditing skills and a good understanding of the standards regulation the Petroleum refining manufacturing industry. The quality management standard ISO 9001 will require skills in measuring and auditing procedures for carbon pollution. HAZCHEM and OH&S training are required for the industry as well, although are generally conducted within the company in conjunction with other operational training such as process manufacturing and standard operating procedures. While most new regulation improves workers safety and skills, MESAB is concerned that the Competency Based Progression and Completion (CBP&C) for apprenticeships has been poorly implemented and lacks sufficient quality assurance, which is undermining the objective of growing employer support for the apprenticeship training system.

**Technological change** has also driven demand for skills in the industry, as companies have been investing in production equipment upgrades and e-commerce to improve efficiency. Skill needs for these changes need to be addressed, and will increase in demand as companies continue to streamline processes to take advantage of lean manufacturing gains. For instance, skilled welders who can work with new-generation and composite materials continue to be in demand. With the uptake of new technology, a need for mechatronics skills has also developed.

On the supply side, government developments such as an emissions trading policy will require companies to adopt green skills and improve sustainability measures. In general, the industry has already taken steps to establish their carbon footprint and done some pre-planning for whatever form the policy takes. Businesses are already trying to reduce energy use and water consumption. However, more training is required in waste management, energy/water use, improving business practices, and use of technology.

## Industry outlook

Victoria's **mining** industry is not as large as those in Western Australia and Queensland, although the end of the mining boom hurt the State's mining industry nonetheless. A recovery in the minerals and energy industries is expected, on the back of commodity hungry global growth, which will support demand. On the supply side, increased willingness to invest in

mining projects will expand the domestic industry. Access Economics sees the volume of Australian exports rising by 50% in the five years to 2013-14, with mineral and energy exports accounting for more than half of that lift.

Going forward, Victoria's fortunes in this sector are likely to be closely linked to oil and gas production, as well as to developments in Australia's response to climate change and carbon pricing. A number of lucrative sites in the Otway and Gippsland Basins may provide the State with opportunities for longer term expansion. That said, Victoria's brown coal deposits remain most at risk to increased carbon prices.

Nationally, the **plastics and chemicals** sector shrunk in size by almost one-tenth during 2009 – a result which was worse than that seen in the recession of the early 1990s. This sector has been ceding ground to Asia and other imports for some time now, as new plants with good economies of scale come on stream elsewhere, and as a long history of too little investment in new plants in Australia weighs on the cost competitiveness of local output. But the recent weakness came with a downturn in business and household demand for a range of plastics and chemicals (house paint and tyres are two good examples), while the resurgence in the \$A has also led to a pick up in the pace of imports. However, chemical fertiliser demand is on the increase, and Australia's recovering economy will generate increased demand for a range of plastics and chemicals even if an increased share of that demand will go to imports rather than to local producers. Moreover, unless the sector sees more investment relatively soon and the \$A returns to more sensible levels (that is, its longer term average of around US 70 cents), it is hard to forecast anything other than longer term underperformance of this industry sector.

**Metals manufacturers** rode the global and Australian business cycles from their peak to trough, capitalising on high investment in world markets as well as strong domestic construction demand. That said, the downfall was rapid with production in both international and domestic markets responding closely to declining demand. However, global demand has been strengthening for several months and should continue to strengthen through 2010 and into 2011, and domestic demand is expected to follow the same (if not more muted) path. Given the ability of production to pick up the slack created in recent times, this is therefore one part of Australia's wider manufacturing sector which should see a relatively healthy recovery, and it should also see it sooner than most other parts of manufacturing.

The fall off in the pace of **car production** in 2009 was high, with national production dropping from 325,000 cars to 225,000 cars. That is the lowest level of production in Australia in half a century. This decline throws into question the critical mass for car making and auto part manufacturing in Australia. This is a concern particularly for Victoria, as the state comprises a large portion of the automotive manufacturing and automotive component industry. Australian car production is recovering alongside the rest of the Australian economy, but from a much worse starting point. Added to this, stimulus measures saw a surge in car imports thanks to the investment allowance, while the tariff on imported cars fell further at the beginning of 2010.

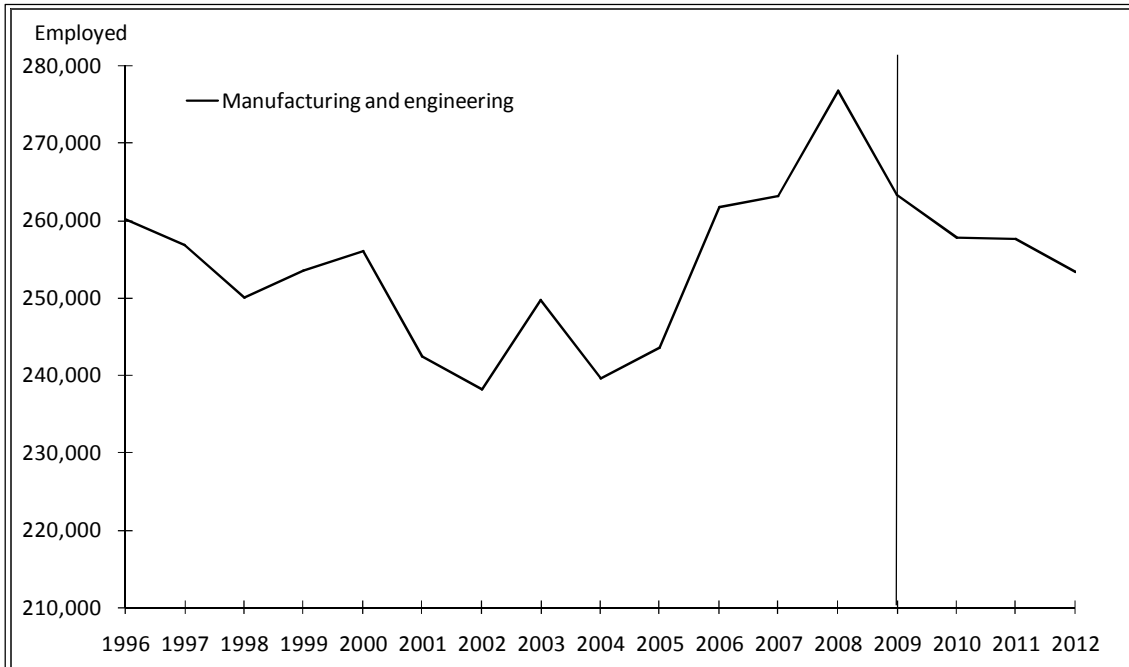
Employment in this industry<sup>1</sup> fell in 2009, and is expected to fall further over the next couple of years, due to greater import competition (and conversely a tougher export market). Within

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<sup>1</sup> The manufacturing and engineering industry for the purposes of employment forecasts comprises of many different ANZSIC categories, the largest of which are non-metallic mineral product manufacturing and architectural, engineering and technical services. For a complete list, see Appendix A.

this group, mining employment should rise, although the decline in chemical and other materials manufacturing more than offsets this growth.

**Chart 3.1: Total employment in the metals and engineering industry – Victoria**



Source: Access Economics, ABS

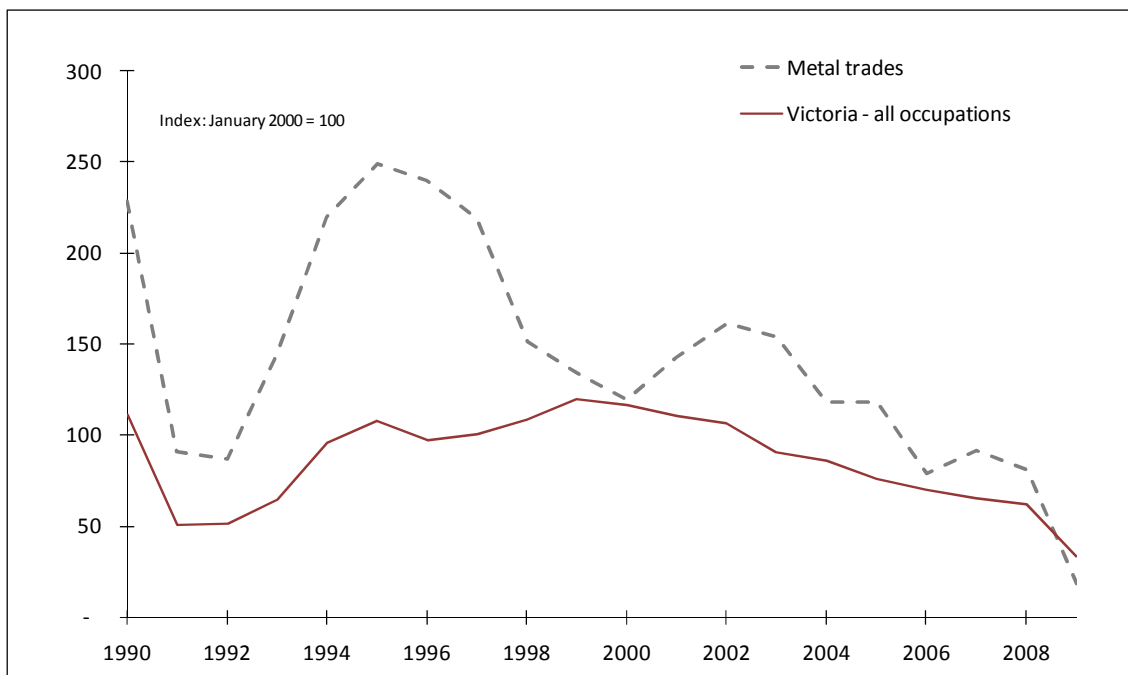
### Occupations in demand

Chart 3.2 shows that the recession in the early 1990s saw a fall in the demand for the metal trades in Victoria (and also throughout Australia). The fall in 2009 has been worse than that experienced during the recession. Indeed this was a new low point for the metals trade vacancy index. However, the index has risen from its low point in the first half of 2009, and vacancies in the metal trades should rise over the course of 2010.

As a result of reduced training during the downturn, skills shortages in the industry are becoming increasingly evident as production picks up. Companies have expressed difficulty in attracting local chemical engineers and industrial chemists and recently have been sourcing skilled migrants from overseas for these occupations.

The return to the resources boom will see increasing demand for mining occupations while, subject to risks around interest and exchange rates, falling unemployment could see some strength return to the demand for automotive component manufacturing occupations.

**Chart 3.2: Index of job vacancies, metal trades – Victoria**



The National Skill Needs List presents occupations for which there is a shortage on a national scale, and for which the government is willing to provide incentives to employers and apprentices in order to boost numbers. Of the 60 occupations on the list for January 2010, 15 of these were related to the metals and engineering industry. They are:

- Fitter
- Metal Machinist (First class)
- Toolmaker
- Aircraft Maintenance Engineer (Avionics)
- Aircraft Maintenance Engineer (Mechanical)
- Locksmith
- Metal Fabricator
- Pressure Welder
- Welder (First class)
- Sheetmetal Worker (First class)
- Refrigeration and air-conditioning mechanic
- Electronic equipment tradesperson
- Boatbuilder and repairer
- Flat glass tradesperson
- Optical mechanic.

MESAB has advised that it believes the occupations in demand to be:

- Fitter
- Toolmaker

- 
- Aircraft Maintenance Engineer – Avionics and Mechanical
  - Metal Fabricators and Welders
  - Boatbuilders
  - Mechatronics tradespersons
  - Welders
  - Production and process workers

### **Critical skills shortages**

MESAB has advised the following occupations are experiencing a critical skills shortage:

- Fitter
- Toolmaker
- Aircraft Maintenance Engineer – Avionics and Mechanical
- Metal Fabricators and Welders

### **Qualifications required:**

The following qualifications are required for the occupations identified as being in high demand:

**Fitters:** Certificate III in Engineering – Mechanical Trade

**Toolmaker:** Certificate III in Engineering – Mechanical Trade

**Aircraft Maintenance Engineer – Avionics and Mechanical:** Certificate IV in Aeroskills (Avionics & Mechanical)

#### **Metal Fabricators and Welders:**

- Certificate III in Engineering – Fabrication Trade
- Certificate IV in Engineering

**Boatbuilders:** Certificate III in Marine Craft Construction

#### **Mechatronics tradespeople:**

- Certificate III in Engineering – Mechanical Trade
- Certificate IV in Engineering

**Welders:** Certificate III in Engineering – Fabrication Trade

#### **Production and process workers:**

- Certificate II and III in Process Manufacturing
- Certificate II and III in Production Technology
- Certificates II – III in Competitive Manufacturing

### Emerging green skills

There are a number of opportunities also opening up within the industry relating to green skills, including:

- Alternate power technology for vehicles
- Solar technology
- Renewable energy

## Appendix A: Industry concordance

Table A.1: Concordance between ITAB industry structure and ABS ANZSIC classification

ITAB Industry	ANZSIC Industry
Automotive	<ul style="list-style-type: none"> <li>Motor Vehicle and Motor Vehicle Part Manufacturing</li> <li>Other Transport Equipment Manufacturing</li> <li>Motor Vehicle and Motor Vehicle Parts Wholesaling</li> <li>Motor Vehicle Retailing</li> <li>Motor Vehicle Parts and Tyre Retailing</li> <li>Automotive Repair and Maintenance</li> </ul>
Building and construction	<ul style="list-style-type: none"> <li>Residential Building Construction</li> <li>Non-Residential Building Construction</li> <li>Heavy and Civil Engineering Construction</li> <li>Land Development and Site Preparation Services</li> <li>Building Structure Services</li> <li>Building Installation Services</li> <li>Building Completion Services</li> <li>Other Construction Services</li> </ul>
Business services	<ul style="list-style-type: none"> <li>Waste Collection Services</li> <li>Waste Treatment, Disposal and Remediation Services</li> <li>Central Banking</li> <li>Depository Financial Intermediation</li> <li>Non-Depository Financing</li> <li>Financial Asset Investing</li> <li>Life Insurance</li> <li>Health and General Insurance</li> <li>Superannuation Funds</li> <li>Auxiliary Finance and Investment Services</li> <li>Auxiliary Insurance Services</li> <li>Motor Vehicle and Transport Equipment Rental and Hiring</li> <li>Farm Animal and Bloodstock Leasing</li> <li>Other Goods and Equipment Rental and Hiring</li> <li>Non-Financial Intangible Assets (Except Copyrights) Leasing</li> <li>Property Operators</li> </ul>

<b>ITAB Industry</b>	<b>ANZSIC Industry</b>
	Real Estate Services
	Scientific Research Services
	Legal and Accounting Services
	Advertising Services
	Market Research and Statistical Services
	Management and Related Consulting Services
	Other Professional, Scientific and Technical Services
	Computer System Design and Related Services
	Employment Services
	Other Administrative Services
	Building Cleaning, Pest Control and Gardening Services
	Packaging Services
Community services & health	
	Hospitals
	Medical Services
	Pathology and Diagnostic Imaging Services
	Allied Health Services
	Other Health Care Services
	Residential Care Services
	Child Care Services
	Other Social Assistance Services
Cultural & recreation	
	Motion Picture and Video Activities
	Sound Recording and Music Publishing
	Radio Broadcasting
	Television Broadcasting
	Libraries and Archives
	Museum Operation
	Creative and Performing Arts Activities
	Sports and Physical Recreation Activities
	Amusement and Other Recreation Activities
Electro-technology & communication	
	Printing and Printing Support Services
	Reproduction of Recorded Media
	Electricity Generation
	Electricity Transmission

ITAB Industry	ANZSIC Industry
Food	Electricity Distribution On Selling Electricity and Electricity Market Operation Gas Supply Newspaper, Periodical, Book and Directory Publishing Software Publishing Internet Publishing and Broadcasting Telecommunications Services Internet Service Providers and Web Search Portals Data Processing, Web Hosting and Electronic Information Storage Services Other Information Services
Forestry	Food, Beverage and Tobacco Product Manufacturing  Forestry and Logging Forestry Support Services Log Sawmilling and Timber Dressing Other Wood Product Manufacturing Pulp, Paper and Paperboard Manufacturing Converted Paper Product Manufacturing
Furniture	Furniture Manufacturing
Manufacturing and engineering	Mining Other Manufacturing Petroleum, Coal, Chemical, Polymer and Rubber Product Manufacturing Non-Metallic Mineral Product Manufacturing Primary Metal and Fabricated Metal Product Manufacturing Professional and Scientific Equipment Manufacturing Computer and Electronic Equipment Manufacturing Electrical Equipment Manufacturing Domestic Appliance Manufacturing Pump, Compressor, Heating and Ventilation Equipment Specialised Machinery and Equipment Manufacturing Other Machinery and Equipment Manufacturing Architectural, Engineering and Technical Services Machinery and Equipment Repair and Maintenance

<b>ITAB Industry</b>	<b>ANZSIC Industry</b>
Primary industry	Nursery and Floriculture Production Mushroom and Vegetable Growing Fruit and Tree Nut Growing Sheep, Beef Cattle and Grain Farming Other Crop Growing Dairy Cattle Farming Poultry Farming Deer Farming Other Livestock Farming Aquaculture Fishing Hunting and Trapping Agriculture and Fishing Support Services Parks and Gardens Operations Veterinary Services
Racing	Horse and Dog Racing Activities
Service Industries	Agricultural Product Wholesaling Mineral, Metal and Chemical Wholesaling Timber and Hardware Goods Wholesaling Specialised Industrial Machinery and Equipment Wholesaling Other Machinery and Equipment Wholesaling Grocery, Liquor and Tobacco Product Wholesaling Textile, Clothing and Footwear Wholesaling Pharmaceutical and Toiletry Goods Wholesaling Furniture, Floor Covering and Other Goods Wholesaling Commission-Based Wholesaling Motor Vehicle Parts and Tyre Retailing Fuel Retailing Supermarket and Grocery Stores Specialised Food Retailing Furniture, Floor Coverings, Houseware and Textile Goods Retailing Electrical and Electronic Goods Retailing Hardware, Building and Garden Supplies Retailing

ITAB Industry	ANZSIC Industry
Textile, clothing & footwear	Recreational Goods Retailing Clothing, Footwear and Personal Accessory Retailing Department Stores Pharmaceutical and Other Store-Based Retailing Non-Store Retailing Retail Commission-Based Buying and/or Selling Accommodation and Food Services Travel Agency and Tour Arrangement Services Gambling Activities Personal Care Services Funeral, Crematorium and Cemetery Services Other Personal Services  Textile Manufacturing Leather Tanning, Fur Dressing and Leather Product Manufacturing Textile Product Manufacturing Knitted Product Manufacturing Clothing and Footwear Manufacturing
Transport, distribution & logistics	Transport, Postal and Warehousing
Water	Water Supply, Sewerage and Drainage Services

## **Appendix B: Industry consultation**

This appendix has been provided in confidence to Skills Victoria.

## Appendix C: Australian Apprenticeships – National Skills Needs List, January 2010

This regularly updated list includes trades which are experiencing persistent skills shortage on a national level, based on DEEWR labour market research. The Federal Government offers incentives for employers to take on apprentices in these fields, as well as benefits for the apprentices themselves. These include the Support for Adult Australian Apprentices payment, Tools For Your Trade payment, Rural and Regional Skills Shortage incentive and the Securing Australian Apprenticeships initiative.

The trades included on the January 2010 list are shown in the table below, grouped by each ITAB.

ITAB	Trades needed
Automotive	Automotive electrician, Panel beater, Motor mechanic, Vehicle body maker, Vehicle painter, Vehicle trimmer
Building and construction	Bricklayer, Carpenter, Carpenter and joiner, Drainer, Fibrous plasterer, Gasfitter, General plumber, Mechanical services and air-conditioning plumber, Painter and decorator, Roof plumber, Roof slater and tiler, Solid plasterer, Stonemason, Wall and floor tiler
Business services	n/a
Community services and health	n/a
Culture and rec	n/a
Electro-tech and comms	Binder and finisher, Communications Linesperson, Electrical powerline tradesperson, Electrician (Special class), Electronic equipment tradesperson, General Communications Tradesperson, Printing Machinist, Screen printer
Food processing	Baker, Butcher (including smallgoods producers), Pastry cook
Forestry	Wood machinist (A-grade)
Furnishing	Binder and finisher, Fitter, Floor finisher, Furniture finisher, Furniture upholsterer, Landscape Gardener, Painter and decorator, Picture framer
Metals and engineering	Aircraft maintenance engineer (Avionics), Aircraft maintenance engineer (Mechanical), Boat builder and repairer, Electronic equipment tradesperson, Fitter, Flat glass tradesperson, Locksmith, Metal fabricator, Optical mechanic, Pressure welder, Refrigeration and air-conditioning mechanic, Sheetmetal worker (First class), Toolmaker, Welder (First class)
Primary	Tree surgeon
Racing	n/a
TCF	n/a
Water	n/a
Wholesale/retail/tourism/hosp	Cook, Hairdresser

Source: [www.australianapprenticeships.gov.au](http://www.australianapprenticeships.gov.au)