Department of Education and Early Childhood Development

State of the Valley

A profile of the Latrobe Valley

Published by the Communications Division
for Department of Education and Early Childhood Development

Melbourne, March 2012

Authorised by the Department of Education
and Early Childhood Development,
2 Treasury Place, East Melbourne, Victoria, 3002.

ISBN 978-0-7594-0694-0

Design by www.paulhambly.com

Accessibility

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Executive Summary: Snapshot of the Latrobe Valley

The Victorian Government requires a highly coordinated approach to develop a long-term plan for future industry and employment as the Latrobe Valley transitions to a low-carbon economy.

Introduction

Historically, the Latrobe Valley has relied on its extensive natural resources in agriculture, manufacturing, oil and gas production and particularly the coal-fired electricity sector. However, over the last two decades, the Latrobe Valley has experienced significant economic, social and physical changes. Many of these began with the privatisation of the electricity, gas and water sectors in the 1990s. Others have been driven by population growth, technological change, population ageing, globalisation, climate change and the shift to a low-carbon future.

The complexity and competing pressures these factors present highlight the importance of developing an integrated approach to linking key policy and planning initiatives in the region to help address the range of challenges the Latrobe Valley now faces.

The Victorian Government recognises that the Latrobe Valley requires a highly coordinated approach in the development of targeted and informed strategies to develop a long-term plan for future industry and employment as the Latrobe Valley transitions to a low-carbon economy. Understanding the Latrobe Valley as it is today is central to this.

The *State of the Valley* report is a central component of the *Skilling the Valley* initiative. It is an important evidence base which will inform the development of actions and activities as identified by the Victorian Government's *Latrobe Valley Industry and Employment Roadmap* (the Roadmap).

State Government initiatives

Under two major strategies, the Government has allocated $30 million of funding to support the Latrobe Valley through its transition to a low-carbon economy:

1: The *Latrobe Valley Industry and Employment Roadmap* ($5m)

The $5 million *Latrobe Valley Industry and Employment Roadmap* is the Government's lead strategy for Gippsland region and spans from 2011–2014. The development of the Roadmap is managed by the Department of Planning and Community Development. It has been designed to support local communities and industry in meeting current and future challenges by creating local jobs, attracting new industries and investment and developing new technologies to reduce carbon emissions.

The Roadmap will:

- build on existing local and regional economic plans and strategies, utilising the evidence base from concurrent work to help inform decisions
- inform the activities of the *Latrobe Valley Advantage Fund*
- link work across new regional development projects
- strengthen networks between state departments and the region's local governments and local institutions
- identify more opportunities for new industry and leverage more investment locally.

The Roadmap is being developed in partnership across Commonwealth, state and local government (Baw Baw, Latrobe City and Wellington), Regional Development Australia, education and training institutions, and business and community sectors across the Latrobe Valley. The overarching strategy will be delivered to the Latrobe Valley community by July 2012. The *State of the Valley* report provides a primary evidence base to inform the Roadmap.

2: The Latrobe Valley Advantage Fund ($25m)

The *Latrobe Valley Advantage Fund* is supporting new investment that creates sustainable job opportunities in the Gippsland region and promotes innovation and research and development capabilities within the region.

- $10m – *Skilling the Valley* – initiatives that focus on leveraging appropriate and targeted skills and training to support the Latrobe Valley as it transitions to a low-carbon future (funded by Skills Victoria, Department of Education and Early Childhood Development).
- $10m – *Latrobe Valley Industry and Infrastructure Fund* – facilitates new employment opportunities and leverages new private sector investment through the provision of enabling infrastructure in the region (funded by Regional Development Victoria, Department of Planning and Community Development).
- $5m – *Energy Technology Innovation Strategy* – designed to drive advances in low emission technologies and to secure Victoria's energy future (Department of Primary Industries).

Objectives of the *State of the Valley* report

The *State of the Valley* report aggregates information from up to 65 current qualitative and quantitative data sources about the Latrobe Valley and, in some cases, the greater Gippsland region. This provides a primary evidence base about Latrobe Valley and Gippsland to be used by relevant stakeholders, community, employers and policy makers as a starting point from which decisions can be made. Collectively, this information uncovers areas of focus, challenge and potential for the Latrobe Valley.

The *State of the Valley* report aims to:

- provide a 'snapshot' of the Latrobe Valley, including information on the region's population, its economy and local industries, its workforce participation and attainment in education, and key indicators of community wellbeing
- describe current knowledge about the region's economy and workforce
- contribute to the evidence base for the *Latrobe Valley Industry and Employment Roadmap*; for long-term economic and job security planning and growth
- recommend areas of action and focus which the *Latrobe Valley Industry and Employment Roadmap* can utilise.

Summary of key indicators

The *State of the Valley* report provides important information for the Roadmap on a range of indicators in the Latrobe Valley, including demography, economy, workforce, education and training and community wellbeing.

A summary about each indicator can be found below.

Population

The report shows that the population of Gippsland and the Latrobe Valley is forecast to grow by 10 per cent over the period to 2026. Much of this growth will be in the major regional centres, but these differ in their capacity to accommodate the growth.

The population profile is also forecast to change, with an increase in the number and proportion of older people (up to 42 per cent in some areas) and a decrease in the number and proportion of young people.

The growth in the population, and the changing age profile, will place new and different demands on services and infrastructure in the region, although these will not be uniform across the region. It will also bring opportunities, particularly in terms of education, training and employment in growth areas such as health and aged care.

Economic and industry trends

Historically, the Latrobe Valley's economy has relied on its extensive natural resources in agriculture, manufacturing, oil and gas production and particularly the coal-fired electricity sector. Privatisation in the 1990s and more recent events such as the global financial crisis, climate change and a string of natural disasters in early 2011, have all impacted significantly on the region's economy and the relative importance of these industries.

Key findings from the report are:

- The Latrobe Valley economy is a vital contributor to the state's and the nation's economies. Gippsland's gross regional product is estimated at

$13.26 billion, or almost five per cent of Victoria's gross state product. However, the long-term outlook is for a steady decline in the region's contribution to gross state product.

- The top five industries in economic terms are: manufacturing; construction; mining; agriculture, forestry and fishing; and electricity, gas and water supply.
- Tourism also plays an important role, with Gippsland being home to iconic locations such as Phillip Island and Wilsons Promontory.
- Population ageing, climate change and the introduction of a carbon price are predicted to have significant impacts on key industries. These will be felt particularly in the power generation industry, as well as in manufacturing, food processing, pulp and paper and transport.
- However, adapting to climate change and the transition to a low-carbon economy will also bring opportunities in newer, more sustainable technologies and practices. These may attract new investment to the region and provide opportunities for further growth in the training and higher education sectors and the workforce.
- The region's long-term economic strength will require greater diversification and opportunities outside the resource-based sectors. These could include defence, aged care and tourism.

Workforce composition and trends

The Latrobe Valley workforce grew by 14 per cent between 1996 and 2006, in line with growth in the regional economy. Despite this growth, a number of challenges exist. The report shows that:

- Participation in the workforce in the Latrobe Valley is slightly below that for Victoria as a whole and unemployment in the region is slightly above the Victorian average.
- Aboriginal and Torres Strait Islander people are more likely to be unemployed than non-Aboriginal Australians in the region.
- The Latrobe Valley's workforce experiences lower weekly income compared with the Victorian average.
- Population ageing will place pressures on the region's workforce, as older people retire or reduce the number of hours they work.
- The region has a higher proportion of workers with Certificate level and no post-school qualifications than the Victorian average, and a lower proportion of workers than the Victorian average at the Advanced Diploma, Diploma, Bachelor, Graduate and Postgraduate levels. Projections show that the proportion of the Gippsland working population with graduate level and certificate level qualifications is likely to grow.
- The higher proportion of workers in the Latrobe Valley with lower qualifications is mirrored by a higher than average proportion of workers in roles requiring lower qualifications. The region has a higher proportion of farmers and farm managers, technicians and trades workers, community and personal service workers, machinery operators, drivers and labourers and a lower proportion of managers, professionals and clerical and administrative workers.
- In 2006, just over half the Latrobe Valley's workforce was employed in five industries: retail trade; health care and social assistance; manufacturing; construction; and education and training.
- Skills shortages are currently being experienced in a number of occupations including baking, community work, electrical and general engineering,

general medical practice, metal fitting and turning, and health care and welfare work.

- The workforce in Gippsland is projected to grow by 24 per cent over the period from 2009–10 to 2017–18, while employment growth is expected to be slow.
- Significant growth is expected to occur in the education and training sector and in health and aged care services. There are also opportunities to grow employment in new technologies and practices around the more sustainable use of resources, and in defence with the recent approval of the planned expansion of the RAAF base at East Sale.
- Almost 10 per cent of workers are employed in the manufacturing industry – the only industry that is forecast to decline over the period to 2018.

Education and training

Education and training play a vital role in developing skills for life and learning. In particular, the completion of a foundation qualification (Year 12 or equivalent)[1] provides a basis for engagement in further education, training and employment and reduces the probability of unemployment. The proportion of young people completing Year 12 or an equivalent qualification increased from 76.6 per cent in 2004 to 78.3 per cent 2010.

The most common destination for Year 12 completers in 2010 was university, followed by study at TAFE or another VET provider, and an apprenticeship or traineeship. Compared to other regions, Gippsland had the highest participation in part-time employment among Year 12 completers in 2010 and the second highest overall participation rate in apprenticeships and traineeships.

Enrolment in university study for a bachelor degree was the lowest of any region, while, among non-metropolitan regions, Gippsland had the highest rate of enrolment in certificate-level courses.

However, Gippsland has the second-lowest retention rate of all regions in Victoria, with only three-quarters of Year 10 students progressing to Year 12, and there was an increase in the number of early school leavers from 2004 to 2010. The most common destination for early school leavers was an apprenticeship or traineeship, followed by study at TAFE or another VET provider and work.

More than 11,800 students participated in government-funded VET activity in 2010. This included 2,494 apprentices and trainees in the Latrobe Valley, almost one third of whom were in the building and construction industry – almost twice as many as in any other industry.

In 2008, 4,117 students were enrolled in higher education. Young people in Gippsland had the second-lowest level of engagement in higher education across all regions in Victoria, at 27.2 per cent of Year 12 completers.

Climate change and the transition to a low-carbon economy will require greater attention from education providers. Opportunities exist to expand post-school education and training to address skill needs in the region and to capitalise on emerging industries and areas of job growth.

1 Year 12 or equivalent completers are defined as those who completed a Victorian Certificate of Education (VCE), International Baccalaureate (IB) or Victorian Certificate of Applied Learning (VCAL, Senior or Intermediate). Department of Education and Early Childhood Development (2011) *The On Track Survey 2010: The Destinations of School Leavers in Victoria – Statewide Report*.

Community wellbeing

Community wellbeing indicators provide a guide to important issues and trends in community life. They also provide important evidence to support planning and action to address issues at the community level. Research findings show that:

- In terms of community wellbeing, there are higher levels of housing affordability and citizen engagement in the Latrobe Valley compared with Victoria as a whole.
- In terms of feeling part of the community, being able to get help when needed from friends, family or neighbours and crimes against property, results in the Latrobe Valley are slightly better than those for Victoria as a whole. These positive results should be harnessed to achieve greater community participation and regeneration across the Latrobe Valley.
- However, in terms of self-reported health, access to the internet (especially via broadband connection) and crimes against the person, the Latrobe Valley performs below the average for Victoria as a whole.
- About one half (46 per cent) of all people living in Gippsland live in areas of socio-economic disadvantage (that is, with Socio-Economic Indexes for Areas (SEIFA) scores below the average for regional Victoria), although the number of people living in disadvantage varies between towns and surrounding areas.

Conclusion

Since the privatisation of the electricity, gas and water sectors in the 1990s, governments at all levels – national, state and local – have recognised (and continue to recognise) the challenges faced in the Latrobe Valley, and have put a number of strategies in place to address these challenges.

While each of these initiatives is beneficial, greater benefit could potentially be gained through a more coordinated approach across the different levels of government.

The *Latrobe Valley Industry and Employment Roadmap* includes a comprehensive economic development plan that complements strategies already being implemented by local, state and national governments, industry and other key stakeholders in the region.

The *State of the Valley* report is an evidence base that provides information for the Roadmap to utilise in developing a more organised, coordinated and timely response to the issues being faced in the Latrobe Valley.

The overall picture that emerges is that two key issues will have significant and far reaching impacts on the Latrobe Valley in the future:

- Climate change, the introduction of the carbon price and the transition to a low-carbon economy will have far-reaching impacts on the local economy, employment and the community, particularly given the heavy reliance in the Latrobe Valley on agriculture, power generation, paper manufacturing and oil and gas production. However, as the report shows, there are also opportunities for the region to lead research and development of new technologies and practices which could attract investment and provide opportunities for growth across the economy.
- Population changes will also be significant, especially the ageing of the population and the migration of young people to cities. Changes to the economic landscape, together with these population changes, mean that skill shortages are already being experienced and will be compounded in the future. There is a need for action, including focused, long-term workforce planning, to arrest and address these shortages.

The challenges and opportunities presented by these issues will have flow-on effects for education and training in the region, as well as for community services and infrastructure.

Recommendations

The Latrobe Valley's economy needs further diversification and growth in order to buffer itself from the impacts of climate change and a carbon price regime. The findings of this report reflect that a number of industries show potential to grow and contribute to the sustainability of the region's economy.

However, successfully rebalancing Gippsland's economy will require a concurrent focus on industry and community strategies that retain young people in the region and within employment, supported by improvement in the pathways into and between the region's education providers.

Value-adding in areas such as alternative uses for natural resources, including alternative energy options and development of coal derivatives, would inject major investment into the economy. However, identifying opportunities outside of the major resource-based sectors is also essential for the strength of the Gippsland regional economy. For instance, there is a need for value-adding in the agricultural and food processing sectors (including dairy) by utilising lean manufacturing practices and embedding new and emerging technology. This is underpinned by a need for greater innovation and collaboration in the supply chain, which would positively affect Gippsland's export capability. Moreover, the need for a community services, health and aged care workforce will continue to increase as the population ages.

While the region's population is projected to grow strongly, the demand for goods and services will take time to develop.

The Roadmap, through *Skilling the Valley*, will position Gippsland's higher education and VET providers to work in partnership with industry and relevant stakeholders to develop the skills, knowledge and expertise to support a successful transition.

Education providers will need to work together to maximise participation, retention and completion rates, to ensure a viable workforce as the economy diversifies and becomes less reliant on carbon-intensive industries. The Gippsland Tertiary Education Plan also identified the need for stronger linkages and more effective relationships between education, training and industry as economic development and restructure occurs.

Recommendation 1

That the *Latrobe Valley Industry and Employment Roadmap* focus on diversification of the economy in industries that have been identified in this report.

The Latrobe Valley and the broader Gippsland region are well placed to take advantage of the opportunities that come from expansion to a more diverse economic base in the following sectors:

- **Power generation and mining:** These industries are going through significant structural adjustment in the transition to capital intensive (or 'cleaner and greener') methods of production which utilise smaller, more highly skilled workforces. Post privatisation there has been limited investment in the development of technical workforces to support power generation. Action will be required to attract and train apprentices and managers.
- **Primary industries (agriculture, timber, dairy):** Innovation in work practices and investment in new and lean processing principles will value-add to the region's agricultural, timber and other resource industries and provide the region with integrated supply chains and business vertical integration. A new skills mix will be required to maximise benefit from increasing sophistication and complexity of work practices.
- **Manufacturing (including food processing):** New technologies and advanced manufacturing practices are needed, leading to targeted upskilling and gap training requirements for the current and future workforce requirements.
- **Health and aged care:** The region already has a significant proportion of the population over the age of 65 and this segment is projected to increase further by 2026. Investment in the services and facilities that support ageing is a significant growth opportunity and can only be realised with an appropriately skilled workforce.
- **Defence:** The region has a major defence facility in the RAAF Base at East Sale, which recently received approval for significant investment to upgrade its capacity and expand the breadth of programs provided. This upgrade will result in a significant influx of defence personnel and civilian contractors into Sale boosting the regional economy in a similar way to the flow-on effects from the Wonthaggi desalination plant. It will therefore be important that strategies are in place to capture the benefit to the local economy and the resultant need for an appropriately skilled local workforce.

Recommendation 2

That relevant State Government departments, together with education experts, form a working party to ensure alignment with regional priorities as stated by the *Latrobe Valley Industry and Employment Roadmap*.

Responsibilities include:

- coordination and support to tertiary education activity with an initial focus on power generation, farming and food manufacturing, health and aged care
- coordination of responses to current and future Commonwealth and State resource and funding opportunities to progress the provision of strategic tertiary education and training delivery in the Gippsland region.

The working party will achieve this by working with existing stakeholders and regional committees, to encourage partnerships between industry, employers and training providers based on areas of economic need and growth, as informed by the *Latrobe Valley Industry and Employment Roadmap*.

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Introduction

This report reviews and synthesises information from more than 60 sources to provide a 'snapshot' of the Latrobe Valley.

Over the last two decades, the Latrobe Valley has experienced significant economic, social and physical changes. Many of these changes began with the privatisation of the electricity, gas and water sectors in the 1990s. Others have been driven by population growth, technological change, population ageing, globalisation, climate change and the shift to a low-carbon future. The Australian Government's recent introduction of a carbon price could have significant implications for the power industry and flow-on effects to other industries and to the community.

The Victorian Government, through Skills Victoria, has allocated $10 million to *Skilling the Valley* – a new project to support the Latrobe Valley[2] with targeted skills and training, as it moves from being a carbon-intensive region to one with a low-carbon future.

This report, the *State of the Valley*, is a vital part of *Skilling the Valley* and a key contributor to the *Latrobe Valley Industry and Employment Roadmap* (the Roadmap). The Roadmap is being developed to support local communities and industry in meeting current and future challenges by creating local jobs, attracting new industries and investment and developing new technologies to reduce carbon emissions.

Skilling the Valley and the Roadmap are the outcome of an important partnership between governments, employers, education and training providers, business and community.

This report reviews and synthesises information from more than 60 sources to provide a 'snapshot' of the Latrobe Valley and an evidence base for the Roadmap. It includes information on the region's population, economy and local industries, its workforce, education and training in the region, and community health and wellbeing. It also provides an overview of initiatives already in place. The report identifies the challenges and potential opportunities facing the region. Finally, it makes recommendations to be considered in the development of the Roadmap, including recommendations for further research to provide a more detailed picture of the likely impact of key issues.

The purpose of this report

The *State of the Valley* report aims to:

- provide a 'snapshot' of the Latrobe Valley, including information on the region's population, its economy and local industries, its workforce, participation and attainment in education and key indicators of community wellbeing
- contribute to the evidence base for the *Latrobe Valley Industry and Employment Roadmap* for long-term job security and growth
- describe current knowledge about the region's economy and workforce
- analyse what this means for the Latrobe Valley
- identify gaps in the current evidence base
- suggest recommendations for future research.

The report was developed in consultation with local governments, the Department of Planning and Community Development (Victoria), the Gippsland Trades and Labour Council, the Victorian Employers' Chamber of Commerce and Industry (VECCI) and the Gippsland Education Precinct.

2 For the purpose of this report, the Latrobe Valley is defined as the Local Government Areas (LGAs) of Baw Baw, Latrobe City and Wellington.

Overview of the report

The *State of the Valley* report is structured around five key themes:

- the region's population profile and trends
- the region's economy and industry
- the local workforce and workforce trends
- participation and attainment in education and training
- key indicators of community wellbeing.

Each chapter presents the key data before analysing the challenges and opportunities facing the region. The final chapter draws some overarching conclusions and makes recommendations for future research and for the development of the *Latrobe Valley Industry and Employment Roadmap*.

The Victorian State Government has allocated $30 million of funding to support the Latrobe Valley through its transition to a low-carbon economy.

Population

The population of the Latrobe Valley is changing. This chapter provides details on these changes, including a profile of the region's population and population trends.

The population of the Latrobe Valley is changing. The population is growing, but also ageing, as young people move to cities in search of better education and employment prospects and older people retire to regional centres, many to already established holiday homes. This chapter provides details on these changes, including a profile of the region's population and population trends.

Key findings

- The population of Gippsland and the Latrobe Valley is forecast to grow by 10 per cent over the period to 2026.
- Much of this growth will be in the major regional centres, but these differ in their capacity to accommodate the growth.
- The population profile is forecast to change, with an increase in the number and proportion of older people (up to 42 per cent in some areas) and a decrease in the number and proportion of young people.
- The growth in the population, and the changing age profile, will place new and different demands on services and infrastructure in the region, although these will not be uniform across the region.
- The changing population profile will also bring opportunities, particularly in terms of education, training and employment in growth areas such as health and aged care.

Current population

In 2010, the population of the Latrobe Valley was 162,000, having grown from 147,130 since 1996 (see Tables 1 and 2).[3] At the local level, Baw Baw experienced steady growth over this period, while Wellington remained stable and Latrobe experienced a decline between 1996 and 2001, before returning to pre-1996 levels by 2006. Most of this growth occurred in the town of Traralgon, which has become the region's main retailing and administrative centre.

Table 1: Population size, 1996–2010 and population projections, 2011–2026

LGA	1996	2001	2006	2010	2011	2016	2021	2026
Baw Baw (S)	34,470	36,399	38,484	42,921	41,890	45,806	49,712	53,769
Latrobe (C)	71,115	70,643	72,075	76,144	73,147	74,801	76,232	77,505
Wellington (S)	41,545	41,462	41,591	43,610	43,007	44,317	45,762	47,283
Latrobe Valley (Total)	147,130	148,504	152,150	162,675	158,044	164,924	171,706	178,557
Gippsland	233,255	239,733	247,710	265,990	261,901	275,931	290,737	305,722
Regional Victoria	1,276,877	1,333,101	1,383,937	N/A	1,466,939	1,545,995	1,628,058	1,711,142
Victoria	4,560,155	4,804,726	5,128,310	N/A	5,549,810	5,942,911	6,332,776	6,711,190

Source: 1996–2006 data DPCD (2009); 2010 data ABS, Estimated Resident Population (preliminary) as cited in Street Ryan (2011:19); 2011–2026 data DPCD (2009)

3 ABS preliminary data as cited in Street Ryan (June 2011) *Gippsland Region Economic Profiles and Outlook, 2011* Department of Planning and Community Development

Table 2: Past and projected average annual population change, 1996–2026

LGA	1996–2001	2001–2006	2006–2011	2011–2016	2016–2021	2021–2026
Baw Baw	1.1%	1.1%	1.7%	1.8%	1.7%	1.6%
Latrobe	-0.1%	0.4%	0.3%	0.4%	0.4%	0.3%
Wellington	0.0%	0.1%	0.7%	0.6%	0.6%	0.7%
Gippsland	0.5%	0.7%	1.1%	1.0%	1.1%	1.0%
Regional Victoria	0.9%	0.8%	1.2%	1.1%	1.0%	1.0%
Victoria	1.1%	1.3%	1.6%	1.4%	1.3%	1.2%

Source: DPCD (2009)

Population projections

The Gippsland population is forecast to grow by an additional 50,000 people by 2026.[4] Much of this is projected to be in the major regional centres, although these differ in their capacity to accommodate the growth.

In the Latrobe Valley, the population is projected to grow by 10 per cent over the period to 2026, to just over 178,500.[5] The population of Baw Baw is forecast to grow at a rate above the state average, with continued growth in those aged 60 years and above and potential growth from Melbourne's south-eastern growth corridor.[6]

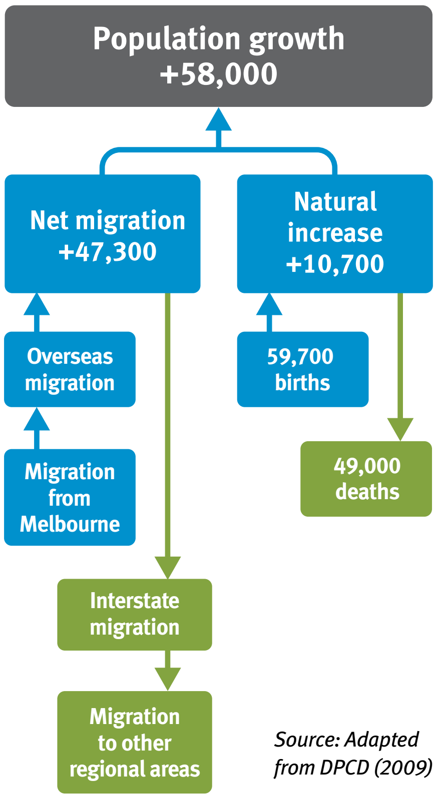
The population of Latrobe is forecast to experience slow and steady growth, while Wellington is forecast to have a relatively stable population, with some increases and some declines across different areas.

The main factors influencing population change are overseas migration, interstate migration and natural growth (births minus deaths). Between 2006 and 2026, Victoria's population as a whole is projected to increase by 1.58 million people. This includes 969,000 from overseas migration, 716,000 from natural growth and a loss of 102,000 to interstate migration.[7]

As shown in Figure 1, projected growth in Gippsland between 2006 and 2026 is 10,700 people from natural growth and 47,300 from net migration, including growth of 13,000 from overseas immigration. Migration to and from Gippsland is likely to be strong, as shown in Figure 2 (overleaf).

As in other regions, this movement into and out of Gippsland has a strong age profile (Figure 3, overleaf). Since 2001, there has been an overall loss of young people, who have moved from Gippsland to Melbourne to take advantage of the

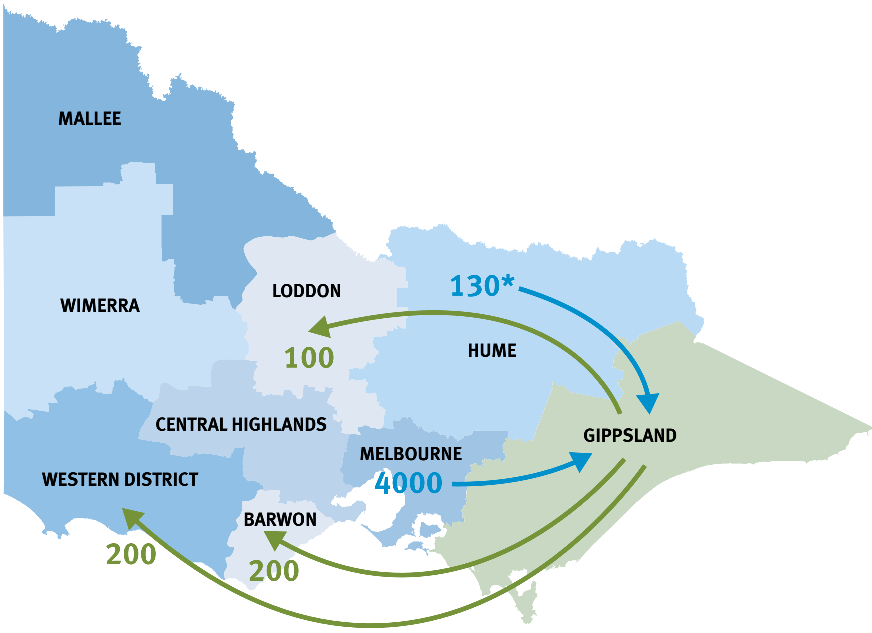
Figure 1: Components of projected population change, Gippsland, 2006–2026



Source: Adapted from DPCD (2009)

4 Department of Planning and Community Development (DPCD) (2009a) *Victoria in Future 2008: Victorian State Government Population and Household Projections – Information Booklet on Gippsland, 2006–2026* DPCD, September 2009
5 The DPCD population projections (released in 2008) are official population and household projections for state, regional and metropolitan areas and cover the period 2006 to 2036. The projections are based on ABS population estimates derived from the 2006 census and other recent demographic trends. Production of the projections involves analysis of demographic data and housing development information Analysis of Victoria's economic, social and demographic trends was informed by knowledge gained from consultation with local governments, regional service providers, peers and stakeholders – all who made critical inputs to the development of the projections. DPCD, op.cit. (2009a)
6 DPCD (2009b) *Victoria in Future 2008 – Gippsland* First release
7 DPCD, op.cit. (2009a)

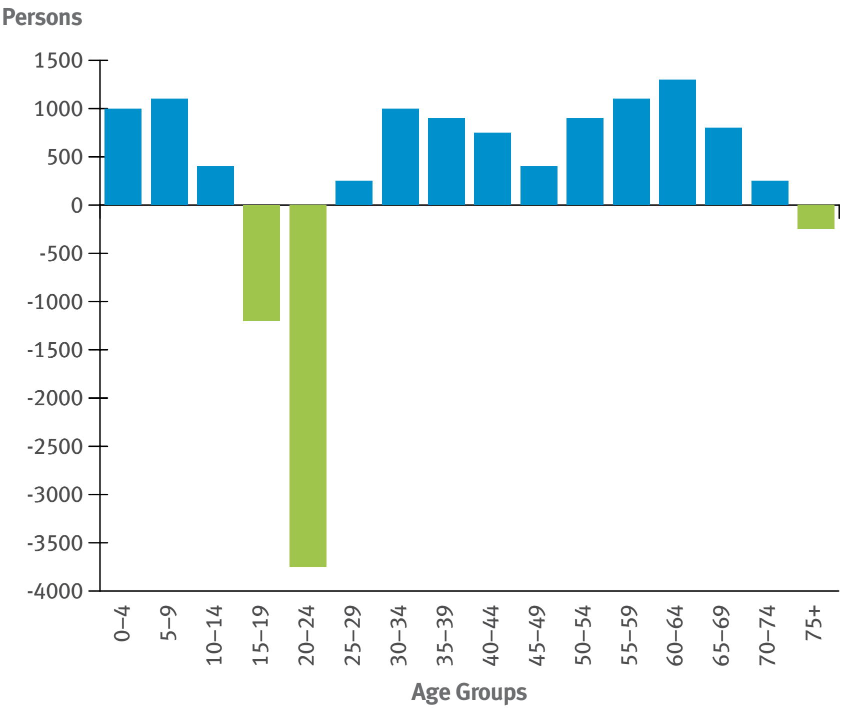
Figure 2: Internal migration from and to Gippsland, 2001–2006



*Numbers denote actual numbers of people migrating.

Source: Adapted from ABS Census of Population and Housing (2006) cited in DPCD (2009)

Figure 3: Net migration between Gippsland and Melbourne between 2001 and 2006, by age



Source: Gippsland Regional Plan 2010

range of economic, educational and social opportunities in the city. [8]

At the same time, young families have moved into the region, as have older people who have retired or are nearing retirement. [9] This migration creates a change in the composition of the population, with consequent changes in the workforce and community (as outlined in the 'Population profile' section below).

Population distribution

In 2006, 55,000 people or 35 per cent of the Latrobe Valley population lived in villages with populations of less than 1,000 people (Table 3, opposite). Approximately 50,000 of these lived in villages of less than 500 people. Economically, these communities are often characterised by a large number of small and micro-businesses, including many people who are self-employed. They also have thin markets for education and training, as the population is spread over a wide area.

In turn, these dispersed populations are heavily reliant on larger centres and district towns for essential services and infrastructure. This reliance exposes the shortage of public transport in these more remote areas and creates a reliance on roads and cars, but it also creates opportunities to leverage new technologies to deliver a range of goods and services to regional and remote areas.

8 McKenzie, F (2008) *Regional Youth Migration and the Influence of Tertiary Institutions* DPCD

9 Gippsland Local Government Network (2010) Gippsland Regional Plan

Table 3: Distribution of population by size of town – Latrobe Valley 2006

Local Population	Towns of more than 5,000	Towns of 1,000 to 5,000	Towns of 500 to 1,000	Balance	Overall
Baw Baw	17,977	2,251	1,961	16,275	38,484
	46.7%	5.8%	5.1%	42.3%	100.0%
Latrobe	49,668	5,682	1,206	15,519	72,075
	68.9%	7.9%	1.7%	21.5%	100.0%
Wellington	13,092	8,977	1,273	18,249	41,591
	31.5%	21.6%	3.1%	43.9%	100.0%
Latrobe Valley (total)	80,737	16,910	4,440	50,043	152,150
	53.1%	11.1%	2.9%	32.9%	100.0%

Source: Gippsland Regional Plan 2010

Population profile

Age and gender profile

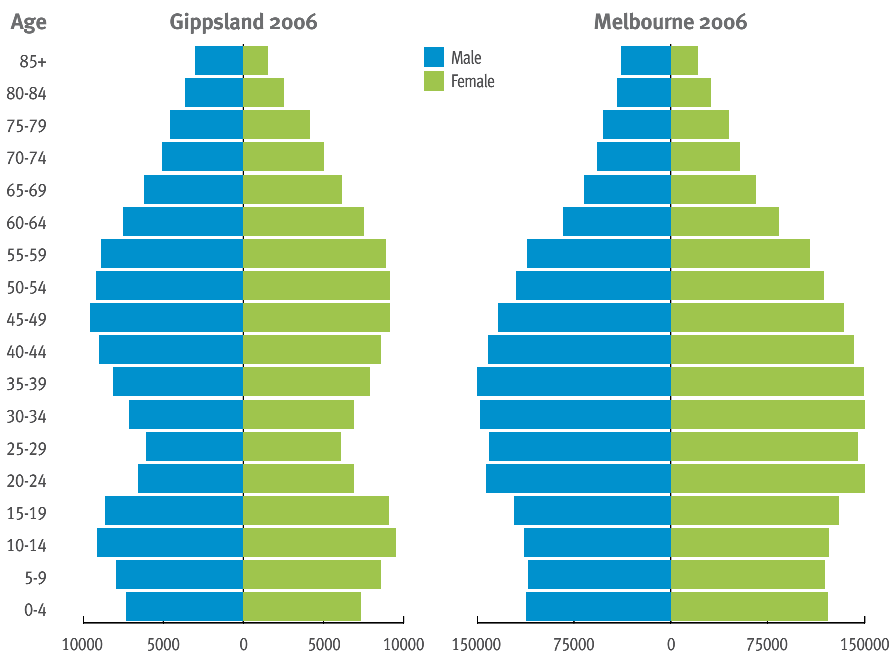
The age profile of the population is an important indicator of the available workforce and of the demand for different services, such as kindergartens, schools and health and aged care services.

The population pyramids in Figure 4 show the age profile of the Gippsland population, compared with the age profile of Melbourne. The pyramids clearly show fewer people in the 20 to 40-year-old age groups in Gippsland, compared with Melbourne.

Population pyramids for Baw Baw, Wellington and Latrobe show a similar pattern (Figure 5, overleaf).[10]

Projected population pyramids for Gippsland and Melbourne in 2026 show distinctly different patterns. As shown in Figure 6 (overleaf), the population in

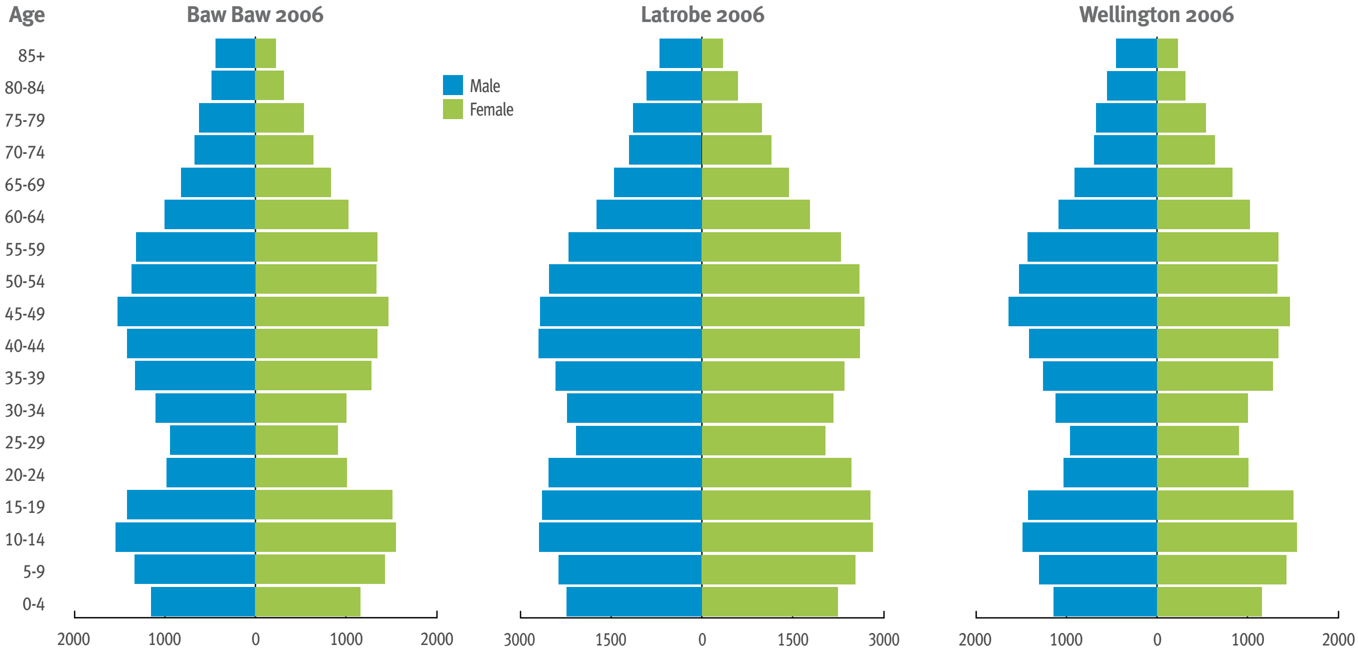
Figure 4: Population distribution in Gippsland and Melbourne 2006



Source: Victoria in the Future 2008, Population projections DPCD (amended by ACER) as cited in Edwards et al 2011

10 Edwards, D, Weldon, P and Friedman, T (2011) *Industry, Employment and Population profile – Supporting Analysis: Gippsland Tertiary Education Plan* Submitted to Skills Victoria by the Australian Council for Educational Research (ACER)

Figure 5: Population distribution in Baw Baw, Latrobe and Wellington 2006

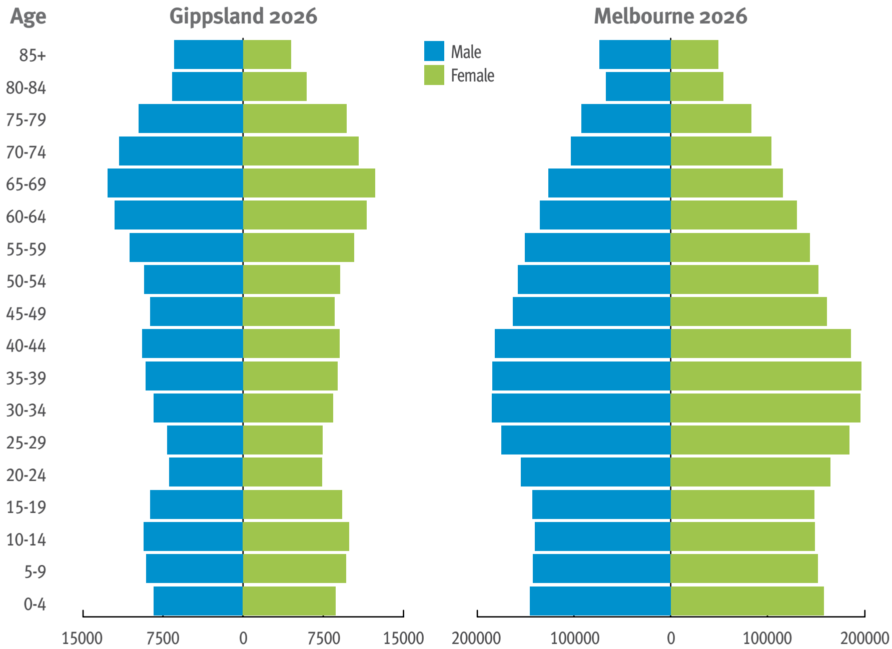


Source: Victoria in the Future 2008, Population projections DPCD (amended by ACER) as cited in Edwards et al 2011

Gippsland is projected to be 'top heavy', with an over representation of older people in the population, compared with Melbourne.

The number of young people in Gippsland aged 15 to 24 years is projected to grow by 1,500 over the period to 2026. Although this is net growth, some towns and villages are projected to continue to experience a loss of young people.[11]

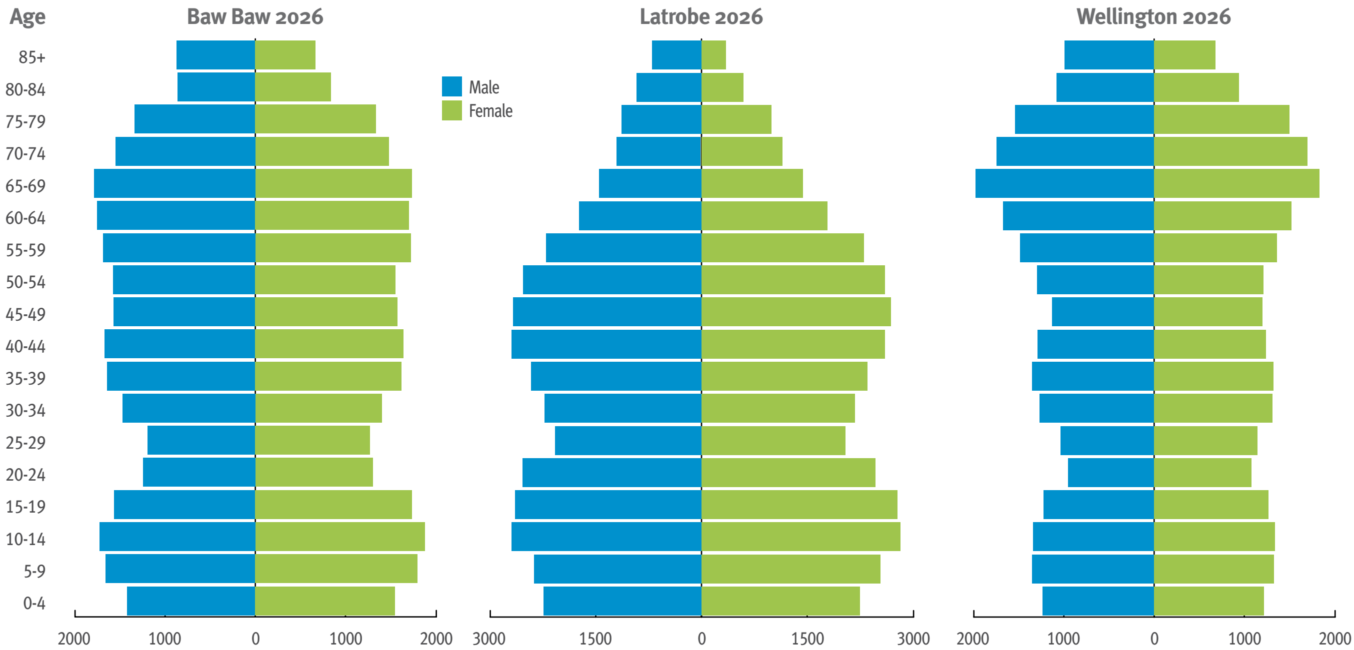
Figure 6: Projected population distribution for Gippsland and Melbourne, 2026



Source not given – as cited in Edwards et al (2011)

11 DPCD (2011) *Change and Disadvantage in the Gippsland Region*, Victoria

Figure 7: Projected population distribution for Baw Baw, Latrobe and Wellington, 2026



Source: Victoria in the Future 2008, Population projections DPCD (amended by ACER) as cited in Edwards et al 2011

As shown in Figure 7:

- the population in Baw Baw is projected to increase in all age categories, with the largest increase being in the older age groups. Those aged 50 years and over will increase from around 34 per cent in 2006 to around 42 per cent in 2026[12]
- in Latrobe, the population aged 60 years and over will increase from 19 per cent in 2006 to 31 per cent in 2026[13]
- in Wellington, there will be a net population loss in most age groups up to 59 years, but a net gain in age groups aged 60 years and over.[14]

Research shows that population ageing occurs as a result of a number of factors, including:

- the ageing of local farmers
- the migration of young people to the city in search of better educational and employment prospects
- the migration of older people to regional areas in retirement.

These projected age profiles will create pressures on the workforce and on the community more broadly, particularly in service industries such as health and aged care services.

Aboriginal and Torres Strait Islander communities

The number of Aboriginal and Torres Strait Islanders in Gippsland is 3,064 (1,508 males and 1,556 females). This represents 1.3 per cent of the regional population, a significantly higher proportion than for Victoria overall at 0.6 per cent.[15] This population is primarily concentrated around Lake Tyers, just outside Lakes Entrance in East Gippsland.

On average, Aboriginal and Torres Strait Islander people in regional areas are highly disadvantaged in terms of education, employment, income

12 DPCD (2009b) op.cit.
13 Ibid.
14 Ibid.
15 Gippsland Local Government Network (2010)

Table 4: Country of birth

	Baw Baw	Latrobe	Wellington
Percentage born in Australia	85.1	80.5	84.3
Country of Birth – largest groups	UK, Netherlands	UK, Netherlands	UK, New Zealand
% speaking language other than English as main language at home	6.5	10.5	8.4
Source: Gippsland Regional Plan 2010			

and health compared with the non-Aboriginal population. In 2011:

- fewer Aboriginal and Torres Strait Islander people aged 20 to 24 years had completed Year 12 or an equivalent qualification
- fewer Aboriginal and Torres Strait Islander people aged 20 to 64 years had studied or were studying for a qualification at Certificate III level or above
- more young Aboriginal and Torres Strait Islander people aged 18 to 24 years were not working and not studying
- more Aboriginal and Torres Strait Islander people were unemployed
- on average, Aboriginal and Torres Strait Islander people had poorer health.[16]

However, the evidence shows that targeted education, training and employment programs can improve outcomes for Aboriginal and Torres Strait Islander communities. This could create opportunities for the Latrobe Valley to specialise in Aboriginal and Torres Strait Islander health and education.

Cultural diversity

The majority of residents in the Latrobe Valley were born in Australia; however, Latrobe is one of the regional centres with the highest proportion of residents born overseas (along with Geelong). As shown in Table 4, for those born outside Australia, most were born in the United Kingdom, New Zealand and the Netherlands and a small proportion of people speak a language other than English at home.

Some 3,000 more recent arrivals, including from the African continent, have resulted in the emergence of a number of new communities in the Latrobe Valley.[17] These new communities have higher rates of unemployment and a greater demand for culturally appropriate support services, including advice, interpreting services and education and training.

Challenges and opportunities

As populations grow, the demand for goods and services also grows. Larger populations require more infrastructure and more services across construction, health, education, retail and other industries. They place greater demand on transport infrastructure, particularly in peri-urban areas where more people choose to live for lifestyle reasons, but commute to Melbourne for work.

A significant increase in the number of people aged over 65 years will place greater demand on health and other services that support older people, particularly aged care. While meeting this demand will present challenges, it also presents opportunities to capitalise on greater employment prospects and the need for more education and training, particularly in health and aged care and in the growth of lifestyle options. However, the pattern of ageing is not expected to be uniform across the Latrobe Valley and this has implications for planning in a number of areas.

The trend for young people to move to cities in search of better education and employment prospects is concerning but common across regional Victoria. For the young people themselves, this move represents an opportunity to develop new skills, have new experiences in new environments and seek other employment opportunities.

The issue of retaining young people or encouraging them to return to regional areas is complex. It requires adequate opportunities for young people in the Latrobe Valley in terms of education and training, employment opportunities and lifestyle options so that they can see a future for themselves in the region.

16 Productivity Commission (2011) *Overcoming Indigenous Disadvantage: Key Indicators 2011*
17 Gippsland Local Government Network (2010)

Economic and industry trends

This chapter explores the key industries in the Latrobe Valley and some key economic indicators. It also explores the potential impacts of future economic changes and climate change – considered by many to be the region's greatest challenge.

Historically, the Latrobe Valley's economy has relied on its extensive natural resources in agriculture, manufacturing, oil and gas production and particularly the coal-fired electricity sector. Tourism has also played an important role, with the region being home to a number of iconic Victorian locations, including Phillip Island and Wilsons Promontory.

The privatisation of the electricity, gas and water sectors in the 1990s, and more recent events such as the global financial crisis, climate change and a string of natural disasters in early 2011, have all impacted significantly on the region's economy and the relative importance of these industries.[18]

This chapter explores the key industries in the Latrobe Valley and some key economic indicators. It also explores the potential impacts of future economic changes and climate change – considered by many to be the region's greatest challenge.

Key findings

- The Latrobe Valley economy is a vital contributor to the state's, and the nation's, economies. Gippsland's gross regional product is estimated at $13.26 billion, or almost five per cent of Victoria's gross state product. However, the long-term outlook is for a steady decline in the region's contribution to gross state product.
- The top five industries in economic terms are: manufacturing; construction; mining; agriculture, forestry and fishing; and electricity, gas and water supply.
- Tourism also plays an important role, with the Latrobe Valley being home to iconic locations such as Phillip Island and Wilsons Promontory.
- Population ageing, climate change and the introduction of a carbon price are predicted to have significant impacts on key industries. These will be felt particularly in the power generation industry, as well as in manufacturing, food processing, pulp and paper, and transport.
- However, adapting to climate change and the transition to a low-carbon economy will also bring opportunities in newer, more sustainable technologies and practices. These may attract new investment to the region and provide opportunities for further growth in the training and higher education sectors and the workforce.
- The region's long-term economic strength will require greater diversification and opportunities outside the resource-based sectors. These could include defence, aged care and tourism.

Key industries and businesses

The coal-fired electricity sector is a cornerstone of the Latrobe Valley economy. The privatisation of the electricity, gas and water sectors in the 1990s had profound impacts on the sector. These included improvements to plant productivity, but also reductions in full-time employment, which fell by nine per cent between 1994 and 2001.

Despite these changes, and resultant economic diversification, the electricity sector continues to shape the local economy. Estimates suggest that almost 15 per cent of total employment and 25 per cent of wage income in the

18 Department of Innovation, Industry and Regional Development (2010) *The Victorian Labour Market: Themes and Policy Implications;* Barr, N (2009) *The House on the Hill: The Transformation of Australia's Farming Communities* Land and Water Australia in association with Halstead Press: Canberra; DPCD (2011) op.cit.

Latrobe Valley is today attributable to the coal-fired electricity sector.[19]

While brown coal is expected to remain the principal energy source for Victoria and an important part of the National Electricity Market, any changes to the sector as a result of climate change and the carbon price will have significant impacts, both within the sector and throughout the local economy.

Key industries in the Latrobe Valley include:

- **Electricity:** Brown coal has been the primary energy source for Victoria's electricity generation needs for the majority of the 20th century.
- **Natural gas:** Gas production from the Gippsland Basin is the most significant source of gas energy supplied to Victoria and to New South Wales, South Australia, Tasmania and the Australian Capital Territory.
- **Oil:** The Gippsland Basin supplies around 20 per cent of Australia's crude oil requirements.
- **Water:** Gippsland supplies 60 per cent of Melbourne's water from the Thompson Dam, which has its catchment in the state forests that make up some 40 per cent of the land area in Gippsland. When completed, Australia's largest desalination plant, currently under construction near Wonthaggi, will supply up to 150 billion litres of water per year to Melbourne, Geelong, South Gippsland and Western Port.
- **Agriculture:** Gippsland is a major supplier of dairy and beef products and horticultural produce. It also supports a major forestry industry that is crucial to the region's paper manufacturing industry.
- **Manufacturing:** Processing and value-adding to agricultural, timber and other resources provide the region with integrated supply chains and vertical integration for business.
- **Food processing:** Processing and value-adding to food industries including dairy, meat, poultry and eggs, horticulture, cereals and grains.
- **Tourism:** Gippsland is home to a wealth of acclaimed nature-based tourism experiences, such as the Gippsland Lakes, Ninety Mile Beach, Wilsons Promontory, Phillip Island and a number of state and national parks.

Major businesses are identified in Table 5.

The history of coal-fired electricity in the Latrobe Valley

Gippsland is home to some 16 per cent of the world's brown coal reserves.

The mining of brown coal began in Yallourn in 1924 after the development of technologies for the commercial use of brown coal for generating electricity.

From the outset, the industry developed as part of the State's infrastructure and operated as a public service.

Communities in the Latrobe Valley were established as company towns, set up by the state agency responsible for electricity production, the State Electricity Commission of Victoria (SECV).

By the mid-1970s, the SECV employed over 9,000 people – almost a third of the Latrobe Valley's labour force.

Local industry and business

Baw Baw

Baw Baw Shire is one of the fastest growing non-metropolitan municipalities in Victoria. It has historically centred on agriculture but is now home to a number of major industries, including manufacturing and food processing, construction, health, retail and education and training.[20] It is also home to Australia's largest hydroponic tomato producer – Flavorite Hydroponics.

The Baw Baw economy is also supported by a number of emerging industries. Major growth is occurring in professional services, scientific and technical services, food processing and manufacturing and tourism.[21]

19 Weller, S, Sheehan, P and Tomaney, J with van Hulten, A and Maharaj, N (February 2009) *Carbon Pollution Reduction Scheme: Adjustment Strategy for the Latrobe Valley – Final Report* Prepared for the Department for Treasury and Finance
20 Baw Baw Shire Council (2008) *Community and Economic Profile*
21 Baw Baw Shire Council (2009) *Economic Development Strategy 2009–11*

Table 5: Major businesses in key industry sectors in the Latrobe Valley

	Major businesses in key sectors	Industry sector
Baw Baw	Fonterra Foods	Dairy products manufacturing
	VIP packaging	Packaging / plastics manufacture
	Drypac Packaging	Packaging / plastics manufacture
	Radfords	Meat processing
	Flavorite Hydroponics	Agriculture
	Pureharvest	Food and beverage manufacturing
	Jindi Cheese	Dairy products manufacturing
	Tarago River Cheese	Dairy products manufacturing
	Safe Roads	Transport
Latrobe	Australian Paper	Pulp, paper and paperboard manufacture
	CHH	Sawmilling
	TRUenergy	Electricity, gas and water
	International Power	Electricity, gas and water
	Mitsui Loy Yang B	Electricity, gas and water
	Loy Yang Power Pty Ltd	Electricity, gas and water
	Gippsland Aeronautics (see below)	Transport equipment manufacturing
	Monash University	Tertiary education
	Latrobe Regional Hospital	Health care and social assistance
	Kiel Industries	Plastic products manufacturing
	National Foods	Dairy products manufacturing
Wellington	Esso BHP Billiton	Oil and gas extraction
	Murray Goulburn	Dairy products manufacture
	Australian Defence Installation	RAAF and Contractors
	Gunn's Timber	Sawmilling and other wood products
	Hancock Plantations	Timber resource management
	Tripod	Vegetable production
	UGL Kaefer	Plant maintenance services

Source: Discussions with Council Economic Development Staff as cited in Street Ryan (2011)

Latrobe

Latrobe City is one of Victoria's major regional centres, along with Ballarat, Bendigo and Geelong. Employment growth in Latrobe is strong, exceeding growth in the other three centres.[22]

Latrobe is one of Victoria's strongest regional economies, with a gross regional product of approximately $4 billion, which is 1.8 per cent of Victoria's gross state product, and a total estimated annual business turnover of $10.3 billion.[23]

Historically, Latrobe has centred on electricity production and mining. Other industries now include construction, property and business services and retail trade. The finance and insurance industries have become increasingly important.[24] Latrobe is home to over 4,500 businesses, most of these (about 94 per cent) being small businesses employing less than 20 staff.

Recent investment has seen significant developments occurring, with the upgrade of the Australian Paper Pulp Mill, the International Power 2030 Project, the Latrobe Community Health Centre development and the Gippsland Water Factory.

Wellington

Historically, the mining sector has led the local Wellington economy, with a significant contribution from agriculture, in particular the dairy industry. While these are still major contributors, other industries include defence, construction, manufacturing, retail, tourism, education and health. The overall importance of mining is expected to grow in response to high prices for oil and gas in global markets.

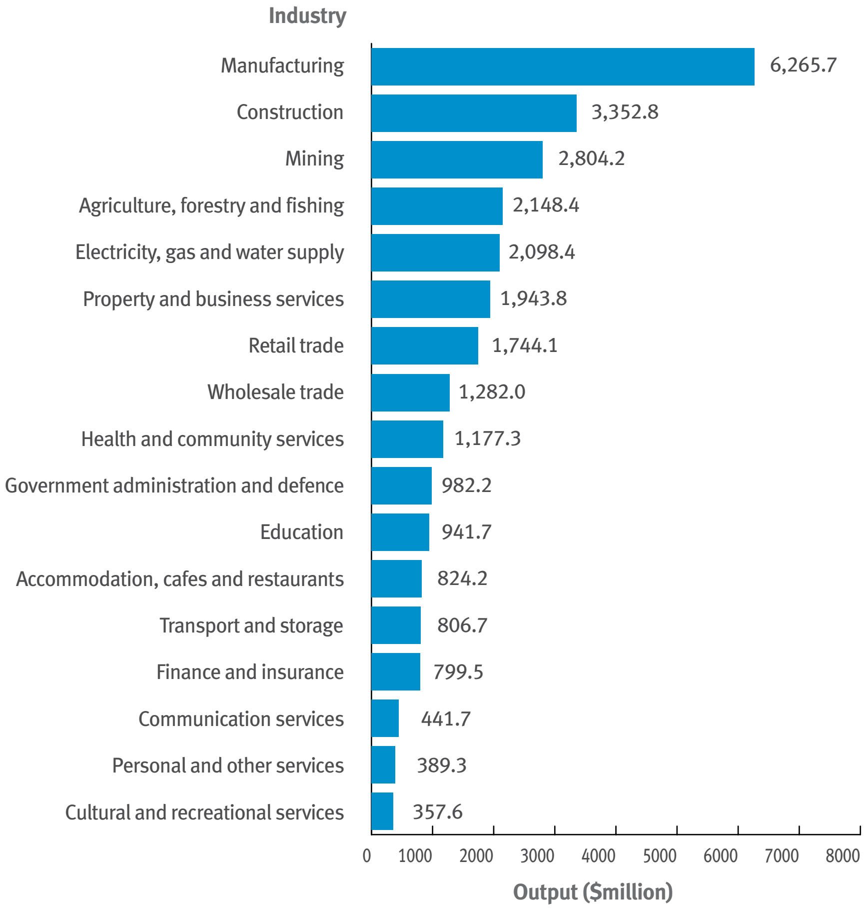
Key economic indicators

Gross regional product

Gippsland's gross regional product is estimated at $13.26 billion. This represents almost five per cent of Victoria's gross state product.[25] In terms of economic output, the top five industries in Gippsland are: manufacturing; construction; mining; agriculture, forestry and fishing; and electricity, gas and water supply (Figure 8). Together, these industries represent approximately $16.67 billion, or 58.8 per cent, of total regional output.

Economically, these industries also have the greatest influence on the regional economy and are known as its *key propulsive sectors*. Any changes in these industries, either growth or contraction, will impact on the whole regional economy.

Figure 8: Output ($million) by industry – Gippsland Region



Source: REMPLAN as cited in Gippsland Regional Plan 2010

22 MWH Australia (2011) *Economic Sustainability Strategy* Prepared for Latrobe City Council
23 Ibid.
24 Informed Decisions (2011) *Latrobe City: Summary of current population and economic characteristics* Report prepared for Latrobe City Council
25 Gippsland Local Government Network (2010) op.cit.

Table 6: Major industries, activity and output

Top 5 output sectors	Activity areas	Per cent of sector output	
Manufacturing	Paper, printing and publishing	23.3	41.3
	Meat and dairy products	18.0	
Construction	Other construction i.e. commercial, civil or heavy construction	38.0	100.0
	Residential building	35.3	
	Construction trade services	26.7	
Mining	Oil and gas		84.8
Agriculture, forestry and fishing	Dairy cattle	45.6	67.8
	Beef cattle	22.2	
Electricity, gas and water supply	Electricity supply		82.2

Source: Gippsland Regional Plan 2010

Further analysis of these industries shows that particular activities within each industry generate the most output in economic terms (Table 6).

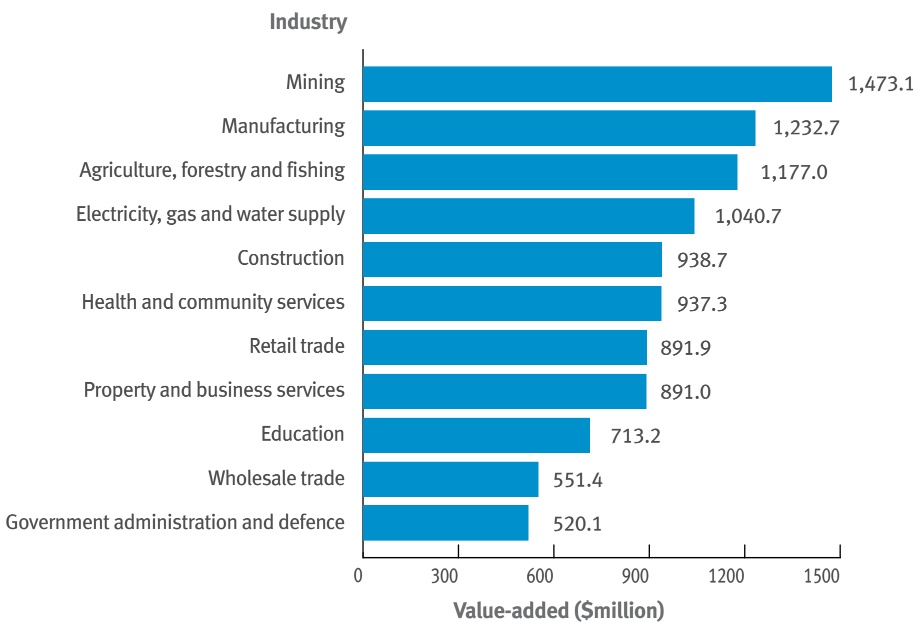
Economic output in value-added terms

In economic terms, the 'value-added' is the marginal economic value that is added by each industry in a defined region. Value-added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry. The value-added by an industry is the major element in the calculation of gross regional product.

The total value-added for Gippsland is estimated at $12.09 billion (no date). The top five industries in value-added terms are: mining; manufacturing; agriculture, forestry and fishing; electricity, gas and water supply; and construction (Figure 9). Together, these industries represent $5.86 billion, or 48.5 per cent of total regional value-added.

Average annual growth in value-added terms in the Latrobe Valley in Gippsland is lower than in Victoria as a whole and this trend is expected to continue.

Figure 9: Value-Added ($million) by industry – Gippsland Region



Source: Gippsland Regional Plan 2010

Table 7: Impact of the carbon price by LGA

LGA	Output $			Employment		
	2015	2020	2030	2015	2020	2030
Baw Baw	-14,160,969	-13,808,436	-16,829,135	-112	-15	-16
Latrobe	-69,214,919	-74,599,977	-93,570,774	-606	-257	-98
Wellington	-16,955,175	-17,677,260	-22,812,722	-134	-41	-27
Total	**-100,331,063**	**-106,085,673**	**-133,212,631**	**-852**	**-313**	**-141**

Source: Deloitte Access Economics – The Hon Ted Baillieu MP Media Release (18 August 2011) Gillard Government carbon price to choke Victorian economy, new modelling shows

Challenges and opportunities

The long-term economic outlook is for a steady decline in the region's contribution to gross state product.[26] Mining and agriculture are expected to achieve some growth, especially in export markets, although these can fluctuate significantly.

The ageing population, climate change and the introduction of a carbon price may challenge growth in the economy, particularly in key industries such as agriculture and mining. More specifically, climate change is predicted to have mixed impacts:

- Reduced rainfall and increased temperatures will impact on the region's agricultural industries.
- The drive for more sustainable water use is encouraging investment in new technologies and practices, including the desalination plant at Wonthaggi.

In addition, a diminishing supply of natural resources, such as oil, will have widespread impacts. An increase in the price of oil, for example, will increase the cost of transport, both freight and private, which will impact on all industries.[27]

The introduction of a carbon price[28] will have significant implications for the power generation industry which relies heavily on its large brown coal power stations. Beyond the power industry, the carbon price will impact on other industries in the region, including manufacturing, food processing, pulp and paper and transport.

Table 7 shows the projected effect of the carbon price on the Latrobe Valley. In total, the tax is expected to reduce economic output in the Latrobe Valley by more than $133 million and 140 jobs by 2030. The greatest impact will be felt by 2015, though these figures do not take into account the Australian Government's compensation package (outlined on pp61-62 of this report).

These negative impacts arise because the carbon price will increase energy costs, which in turn flow through to higher costs for industry and higher consumer prices. This encourages producers and consumers to shift from carbon-intensive fossil fuels to alternatives which, exclusive of a carbon price, have historically been more expensive. These effects tend to dampen economic activity, resulting in a decline in economic growth. Employment is also expected to decline, particularly between now and 2015, although the impact on employment is expected to moderate over time as production moves to more labour intensive and less energy intensive industries.[29] Business, industry and government in the region will need to take advantage of the Australian Government's assistance measures to ameliorate these impacts.

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26 Access Economics (2011) *Victorian Regional Economic Outlook* Prepared for Regional Development Victoria
27 Gippsland Local Government Network (2010) op.cit.
28 In July 2011, the Australian Government announced its intention to introduce a carbon pollution reduction scheme, or carbon price. The passage of legislation through the Australian Parliament in November 2011 paves the way for the introduction of the tax at a fixed carbon price of $23 a tonne from 1 July, 2012, moving to a flexible price after three years http://www.cleanenergyfuture.gov.au/legislation-passes-senate/
29 Deloitte Access Economics (2011) *Modelling the Clean Energy Future Policy* Report prepared for the Victorian Department of Premier and Cabinet

Future economic development in the region is likely to come from:

- sustainable energy production, green technologies and green skills
- water management
- agribusinesses
- intensive and organic food production
- plantation forestry and timber
- tourism.

However, adapting to climate change and the transition to a low-carbon economy is not all bad news for the region. Enormous opportunities are also to be had, such as in research and development of new technologies and practices that will enable the more sustainable use of resources. For example, alternative uses for coal, alternative energy options and carbon capture (also known as 'carbon sequestration').

These new technologies and practices will potentially attract new investment to the region and provide opportunities for growth in the training and higher education sectors and growing opportunities for the workforce.

The Victorian and Australian Governments have already invested in the development of carbon reduction, carbon capture and carbon storage technologies. Initial studies have shown that rock structures in the Gippsland Basin offer one of the best carbon sink opportunities in Australia.

But the region's long-term economic strength will require greater diversification and opportunities outside the resources sector. This could include:

- **Defence:** The recent approval of plans for a significant upgrade of the RAAF base at East Sale will result in a significant influx of defence personnel and civilian contractors, boosting the regional economy in a similar way to the desalination plant at Wonthaggi. This could include opportunities in housing, community services, health, lifestyle and recreation and retail.
- **Aged care:** The ageing of the population creates opportunities for growth in services and facilities to support ageing. This could include opportunities in community services, health and aged care, lifestyle and recreation and retail.
- **Tourism:** Opportunities exist to improve visitor experiences at major sites such as Phillip Island and Wilsons Promontory and to grow the tourism yield.

The challenges and opportunities presented by these issues will have flow-on effects for education and training in the region, as well as for community services and infrastructure.

Workforce composition and trends

Despite this growth, a number of challenges exist. These include an ageing population, under-representation in professional occupations, income levels below state and national averages and potential future skills shortages.

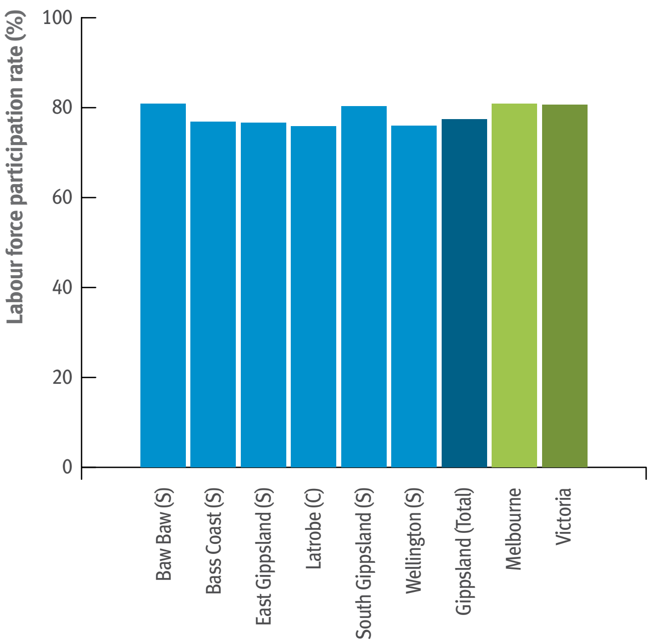
The Latrobe Valley workforce grew by 14 per cent between 1996 and 2006, in line with growth in the regional economy.[30] Despite this growth, a number of challenges exist. These include the ageing population, under-representation in professional occupations, income levels below state and national averages and potential future skills shortages. This chapter explores the composition of the Latrobe Valley workforce, including the demographic profile, trends and employment by industry.

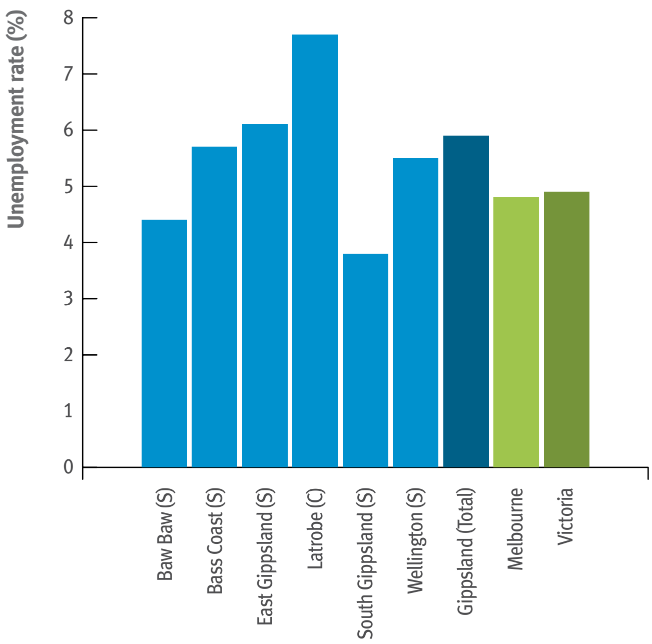
Key findings

- Participation in the workforce in the Latrobe Valley is slightly below that for Victoria as a whole and unemployment in the region is slightly above the Victorian average.
- Aboriginal and Torres Strait Islander people are more likely to be unemployed than non-Aboriginal Australians in the region.
- The Latrobe Valley's workforce experiences lower weekly income compared with the Victorian average.
- Population ageing will place pressures on the region's workforce, as older people retire or reduce the number of hours they work.
- The region has a higher proportion of workers with certificate level and no post-school qualifications than the Victorian average and a lower proportion of workers than the Victorian average at the advanced diploma, diploma, bachelor, graduate and postgraduate levels.
- The higher proportion of workers in the Latrobe Valley with lower qualifications is mirrored by a higher than average proportion of workers in roles requiring lower qualifications. The region has a higher proportion of farmers and farm managers, technicians and trades workers, community and personal service workers, machinery operators, drivers and labourers and a lower proportion of managers, professionals and clerical and administrative workers.
- In 2006, just over half the Latrobe Valley's workforce was employed in five industries: retail trade; health care and social assistance; manufacturing; construction; and education and training.
- Skills shortages are currently being experienced in a number of occupations including baking, community work, electrical and general engineering, general medical practice, metal fitting and turning, and health care and welfare work.
- The workforce in Gippsland is projected to grow by 24 per cent over the period from 2009–10 to 2017–18, while employment growth is expected to be slow.
- Projections show that the proportion of the Gippsland working population with graduate level and certificate level qualifications is likely to grow.
- Significant growth is expected to occur in the education and training sector and in health and aged care services. There are also opportunities to grow employment in new technologies and practices around the more sustainable use of resources and in defence, when the planned expansion of the RAAF base at East Sale goes ahead.
- Almost 10 per cent of workers are employed in the manufacturing industry – the only industry that is forecast to decline over the period to 2018.

30 Growth rate derived from ABS Census of Population and Housing, Time Series as cited in Monash University Statistical Profiles for Baw Baw, Latrobe and Wellington

Figure 10: Labour force status and unemployment rates, persons aged 20 to 59 Gippsland LGAs, Melbourne and Victoria 2006





Source: ABS Census 2006 cited in Edwards et al 2011

Participation in the workforce in the Latrobe Valley is slightly below that for Victoria as a whole and unemployment in the region is slightly above (Figure 10).

There is some variation between local areas in the region, with Latrobe (7.7 per cent) experiencing unemployment at almost twice the rate of Baw Baw (4.4 per cent) and about one-and-a-half times that of Wellington (5.5 per cent). Participation in the workforce shows more consistency across the region, at 76.0 per cent in Wellington; 75.8 per cent in Latrobe and a slightly higher rate of 80.9 per cent in Baw Baw. Table 8 provides more detailed figures for employed and unemployed persons for these three areas and for the Latrobe Valley as a whole.

Table 8: Labour force status, Latrobe Valley residents aged 20 to 59 years

Labour Force Status	Baw Baw	Latrobe	Wellington	Latrobe Valley (Total)	Melbourne	Victoria
Employed, worked full-time	8,975	15,698	9,311	33,984	1,011,819	1,333,843
Employed, worked part-time	4,147	7,099	4,063	15,309	388,537	531,935
Employed, away from work	888	1,596	991	3475	88,333	120,683
Unemployed, looking for full-time work	430	1,512	593	2535	49,095	68,010
Unemployed, looking for part-time work	213	521	239	973	26,614	34,999
Not in the labour force	3,457	8,423	4,794	16,674	369,988	503,419
Total	**18,110**	**34,849**	**19,991**	**72,950**	**1,934,386**	**2,592,889**

Source: ABS Census 2006, unpublished (Table Builder) as cited in Edwards et al (2011)

Table 9: Point in time unemployment, March 2011

	Baw Baw	Latrobe	Wellington	Melbourne	Victoria	Balance of Victoria
Unemployment rate (%)	4.0	7.3	4.5	4.9	5.2	6.1

Source: Derived from Small Area Labour Markets Australia, March Quarter 2011, Department of Education, Employment & Workplace Relations. http://www.workplace.gov.au/NR/rdonlyres/2ED04437–562A-4F87–8FAD-216209CFEE94/0/SALM_Mar2011.pdf

More recent unemployment data shows a similar but slightly more positive picture. In March 2011, unemployment in Latrobe was 7.3 per cent, which was about just over one-and-a-half times that in Baw Baw (4.0 per cent) and Wellington (4.5 per cent) (Table 9). The rates in Baw Baw and Wellington were below that for Victoria as a whole (5.2 per cent), while the rate in Latrobe was higher.

Employment growth in the Latrobe Valley has generally lagged behind average employment growth across Victoria.[31]

Aboriginal and Torres Strait Islander communities

As outlined earlier in this report, on average, Aboriginal and Torres Strait Islander people experience higher levels of disadvantage compared with non-Aboriginal Australians, including in employment. In 2006, around 48 per cent of Aboriginal and Torres Strait Islanders of working age were in employment, compared with 72 per cent for other Australians, a gap of 24 percentage points.[32]

All Australian state and territory governments have made a commitment to improving the lives of Aboriginal

Table 10: Age of the labour force

	Baw Baw	Latrobe	Wellington	Latrobe Valley	Victoria
Numbers					
15–19 years	1,418	2,652	1,396	5,466	154,803
20–34 years	4,281	9,233	4,511	18,025	780,816
35–54 years	8,659	14,670	8,889	32,218	1,115,009
55+ years	3,345	4,352	3,299	10,996	353,979
Total	**17,703**	**30,907**	**18,095**	**66,705**	**2,404,607**
Percentage distribution					
15–19 years	8.0	8.6	7.7	8.2	6.4
20–34 years	24.2	29.9	24.9	27.0	32.5
35–54 years	48.9	47.5	49.1	48.3	46.4
55+ years	18.9	14.1	18.2	16.5	14.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS, Census of Population and Housing 2006; B41a, B41b as cited in Gippsland Research and Information Service, Monash University (2008) Statistical Profiles

31 ABS data 1991, 1996, 2001 and 2006 cited in KPMG (2011) *Latrobe Valley Industry Growth Projections* Draft report prepared for Regional Development Victoria (unpublished)
32 2006 census data Australian Government (2009) *Closing the Gap on Indigenous Disadvantage: The Challenge for Australia*

Table 11: Gender profile of the workforce, 2006

	Baw Baw	Latrobe	Wellington	Latrobe Valley	Victoria
Numbers					
Male	9,577	16,985	9,883	36,445	1,295,208
Female	8,126	13,922	8,212	30,260	1,109,399
Total	**17,703**	**30,907**	**18,095**	**66,705**	**2,404,607**
Percentage distribution					
Male	54.1	55.0	54.6	54.6	53.9
Female	45.9	45	45.4	45.4	46.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: SOURCE: ABS, Census of Population and Housing 2006; B41a, B41b as cited in Gippsland Research and Information Service, Monash University (2008) Statistical Profiles

and Torres Strait Islanders through the *Closing the Gap* initiative. This includes a commitment to halve the employment gap within ten years.

Workforce profile

Age and gender profile

As outlined earlier, the Latrobe Valley workforce is much 'older' than the Victorian average, with a higher proportion of workers in the 35 to 54 and 55+ age groups (Table 10). This is consistent with general population trends in the region and has widespread implications.

Over the next ten years, a significant proportion of the Latrobe Valley workforce is likely to exit the workforce, through retirement or reducing the hours worked. This raises concerns about a potential overall labour shortage and skills shortages within specific industries as older, more experienced workers leave. In this context, workforce planning will be imperative, particularly for industries that have an older workforce and for emerging industries.

The Latrobe Valley workforce has a higher proportion of males (54.6 per cent) than females (45.4 per cent) (Table 11), which is similar to Victoria overall.

Education profile

The Latrobe Valley has a higher proportion of workers with certificate level qualifications and a higher proportion of workers with no non-school

Table 12: Proportion of employed persons by level of highest qualification aged 20 to 59, 2006

	Baw Baw	Latrobe	Wellington	Gippsland	Victoria
Postgraduate Degree Level	2.0	1.6	1.2	1.5	4.3
Graduate Diploma and Grad Cert Level	2.7	1.9	2.1	2.3	3.1
Bachelor Degree Level	13.2	11.2	11.5	11.6	20.2
Advanced Diploma and Diploma Level	8.7	7.9	7.9	8.3	10.0
Certificate Level	30.4	33.2	31	31.1	21.6
Level of Education inadequately described	1.5	1.6	1.7	1.6	1.6
No non-school qualifications	41.4	42.6	44.5	43.6	39.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Edwards et al 2011

Table 13: Number and percentage of employees by occupational category, 2006

	Baw Baw	Latrobe	Wellington	Latrobe Valley (Total)	Gippsland (5 LGAs)	Melbourne	Victoria
Numbers							
Managers (not including Farm)	1,424	2,363	1,457	5,244	9,124	205,774	261,928
Farmers and Farm Managers	1,439	371	1,736	3,546	7,002	4,702	44,393
Professionals	2,683	4,023	2,517	9,223	14,412	380,478	472,306
Technicians and Trades Workers	2,638	5,468	2,781	10,887	16,673	228,711	319,188
Community and Personal Service Workers	1,456	2,574	1,615	5,645	9,025	137,087	190,490
Clerical and Administrative Workers	1,853	3,948	1,727	7,528	11,490	267,689	337,420
Sales Workers	1,412	3,176	1,557	6,145	9,831	172,419	230,366
Machinery Operators and Drivers	1,281	2,344	1,201	4,826	7,149	107,473	149,222
Labourers	2,340	3,549	2,161	8,050	13,067	147,272	224,552
Inadequately described	162	262	139	563	878	19,159	24,257
Total Employed persons	**16,688**	**28,078**	**16,891**	**61,657**	**98,651**	**1,670,764**	**2,254,122**
Percentage distribution							
Managers (not including Farm)	8.5	8.4	8.6	8.5	9.2	12.3	11.6
Farmers and Farm Managers	8.6	1.3	10.3	5.8	7.1	0.3	2
Professionals	16.1	14.3	14.9	15.0	14.6	22.8	21
Technicians and Trades Workers	15.8	19.5	16.5	17.7	16.9	13.7	14.2
Community and Personal Service Workers	8.7	9.2	9.6	9.2	9.1	8.2	8.5
Clerical and Administrative Workers	11.1	14.1	10.2	12.2	11.6	16	15
Sales Workers	8.5	11.3	9.2	10.0	10.0	10.3	10.2
Machinery Operators and Drivers	7.7	8.3	7.1	7.8	7.2	6.4	6.6
Labourers	14.0	12.6	12.8	13.1	13.2	8.8	10
Inadequately described	1.0	0.9	0.8	0.9	0.9	1.1	1.1
Total Employed persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS Census, unpublished (Table Builder) as cited in Edwards et al 2011 qualifications than the Victorian average (Table 12). At the same time, the workforce has a lower proportion of workers than the Victorian average at the advanced diploma, diploma, bachelor, graduate and postgraduate levels.

Occupation profile

Compared with Victoria as a whole, the Latrobe Valley has a higher proportion of farmers and farm managers, technicians and trades workers, community and personal service workers, machinery operators and drivers and labourers (Table 13).

The Latrobe Valley has a lower proportion of managers, professionals and clerical and administrative workers than Victoria. The proportion of sales workers is the same as for Victoria as a whole.

The proportion of farmers and farm managers was highest in Wellington (10.3 per cent) and lowest in Latrobe (1.3 per cent). The proportion of technicians and trades workers was highest in Latrobe (19.5 per cent), which was slightly above the proportion in Baw Baw (15.8 per cent) and Wellington (16.5 per cent).

Income profile

Historically, workers in Wellington have enjoyed higher wage growth than the rest of Victoria, due to higher wages in the mining sector. However, overall, the Latrobe Valley experiences lower weekly incomes compared with the Victorian average (Table 14). Specifically, a higher proportion of workers earn less than $599 per week and a lower proportion of workers earn more than $600 per week compared with Victoria as a whole.

Table 14: Weekly income distribution among employed residents aged 20 to 59, 2006

	Baw Baw	Latrobe	Wellington	Latrobe Valley	Victoria
Numbers					
Below $250	3,792	8,741	4,606	17,139	562,544
$250 to $599	5,711	10,284	5,936	21,931	692,710
$600 to $999	4,468	7,487	4,477	16,432	659,617
$1,000 to $1,599	2,712	5,295	2,609	10,616	417,394
$1,600 or more	952	2,235	1,227	4,414	201,335
Total stated	**17,635**	**34,042**	**18,855**	**70,532**	**2,533,600**
Percentage distribution					
Below $250	21.5	25.7	24.4	24.3	22.2
$250 to $599	32.4	30.2	31.5	31.1	27.3
$600 to $999	25.3	22	23.7	23.3	26
$1,000 to $1,599	15.4	15.6	13.8	15.1	16.5
$1,600 or more	5.4	6.6	6.5	6.2	7.9
Total stated	**100**	**100**	**100**	**100**	**100**

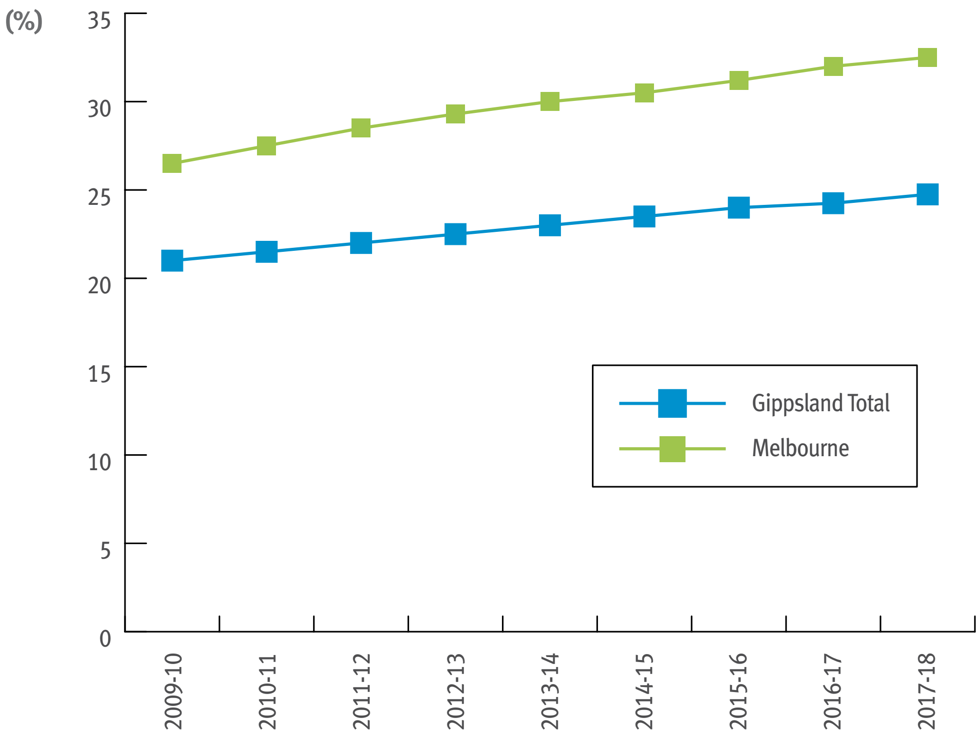
Source: ABS Census 2006, unpublished (Table Builder) as cited in Edwards et al (2011)

Table 15: Projected workforce size, 2009–10 to 2017–18 selected areas

	East Gippsland	Gippsland	Gippsland Total	Melbourne
2009–10	39,100	79,420	118,520	2,028,900
2010–11	47,310	87,470	134,780	2,091,600
2011–12	47,650	87,580	135,230	2,125,200
2012–13	48,340	91,000	139,340	2,193,700
2013–14	48,550	92,800	141,350	2,231,200
2014–15	48,710	93,810	142,520	2,251,900
2015–16	48,880	95,090	143,970	2,277,500
2016–17	48,800	96,530	145,330	2,308,800
2017–18	48,740	97,940	146,680	2,330,900
Change number	9,640	18,520	28,160	302,000
Change per cent	24.7	23.3	23.8	14.9

Source: Monash Model, CoPS, Monash University as cited in Edwards et al (2011)

Figure 11: Proportion of working population holding a bachelor level or above, projections 2009–10 to 2017–18



Source: Monash Model, CoPS, Monash University as cited in Edwards et al 2011

Workforce projections

The workforce in Gippsland is projected to grow by 24 per cent over the period from 2009–10 to 2017–18 (Table 15), although growth in the number of jobs across the region is expected to be low.[33]

Workforce growth is projected to occur relatively evenly across the region and is larger than the projected growth for Melbourne (14.9 per cent).

Projections also show that the proportion of the Gippsland working population with graduate-level qualifications is likely to grow, although at a slower rate than for Melbourne (Figure 11). By 2018, 24 per cent of the Gippsland working population is expected to have a bachelor-level qualification or above, compared with 32 per cent for Melbourne.

The proportion of the Gippsland working population with certificate-level qualifications (Certificate I to IV) is expected to grow over the same time, although more slowly than the growth in bachelor-level qualifications (Figure 12).

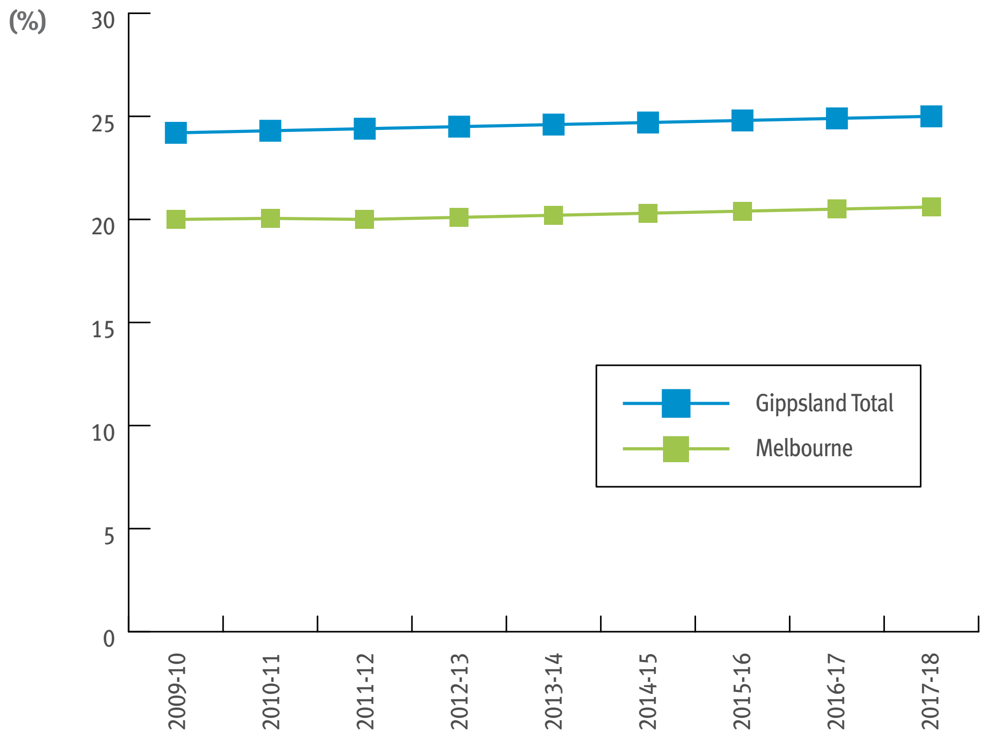
Significant growth is expected to occur in the education and training sector, and in health services, as a result of the ageing population and changing demand for services, as well as new programs that are stimulating demand for education and training (Figure 13).

The only industry forecast to decline in size is manufacturing.

However, across all sectors combined, employment is expected to continue

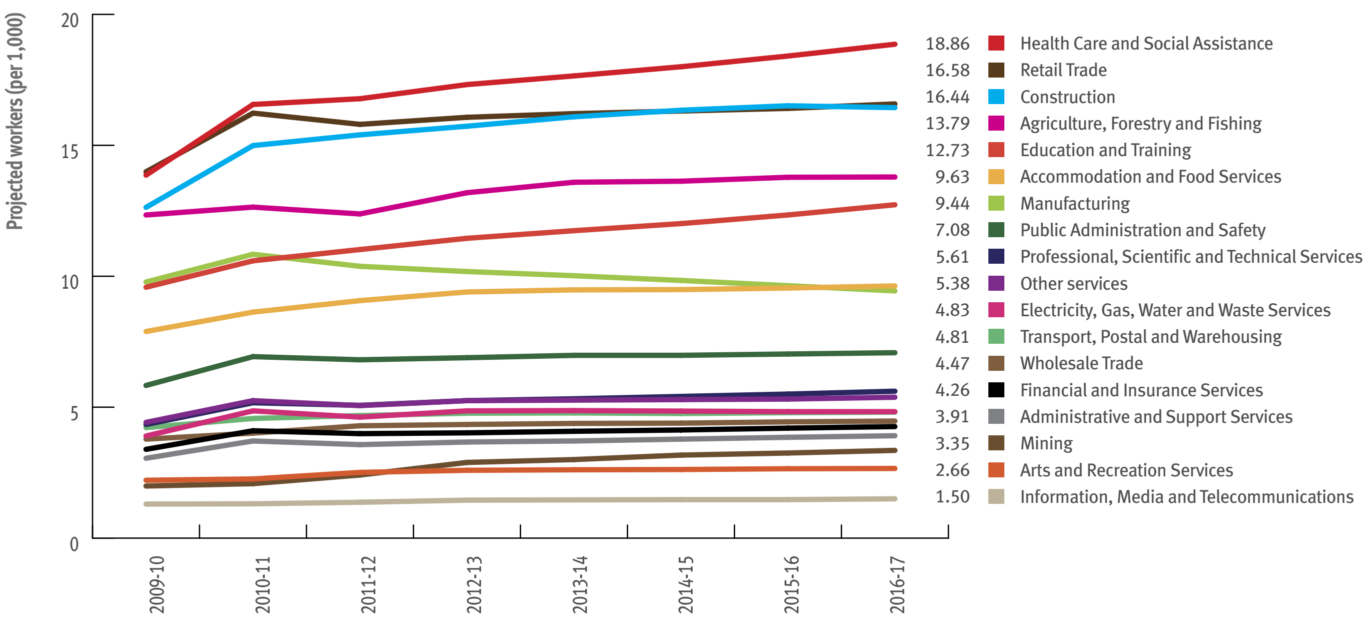
33 This section draws on the Edwards et al (2011) report *Industry, Employment and Population Profile: Supporting Analysis Gippsland Tertiary Education Plan.* As part of the report, projections of the future labour force in Gippsland were calculated using the Monash Model, designed and maintained by the Centre of Policy Studies at Monash University. This data forecasts changes in the labour force from the 2009–10 financial year to 2017–18. Unfortunately the data is not available at the Latrobe Valley level, however the Edwards et al report aggregated estimates into two Statistical Divisions: East Gippsland (LGAs of East Gippsland and Wellington) and Gippsland (comprising LGAs Bass Coast, Baw Baw, Latrobe and South Gippsland)

Figure 12: Proportion of working population holding a Certificate Level I to IV qualification, projections 2009–10 to 2017–18



Source: Monash Model, CoPS, Monash University as cited in Edwards et al 2011

Figure 13: Projected number of workers in Gippsland by industry 2009–10 to 2017–18 ('000s)



Source: Monash Model, CoPS, Monash University as cited in Edwards et al 2011

Table 16: Number of employed persons by industry, Latrobe Valley 2006

Industry	No. employed
Retail Trade	7,724
Health Care and Social Assistance	6,868
Manufacturing	6,056
Construction	5,720
Education and Training	5,166
Agriculture, Forestry and Fishing	5,025
Public Administration and Safety	4,141
Accommodation and Food Services	3,298
Electricity, Gas, Water and Waste Services	2,418
Other Services	2,297
Transport, Postal and Warehousing	2,083
Professional, Scientific and Technical Services	2,043
Wholesale Trade	1,901
Administrative and Support Services	1,717
Financial and Insurance Services	1,207
Mining	1,057
Information Media and Telecommunications	696
Inadequately described	686
Rental, Hiring and Real Estate Services	612
Arts and Recreation Services	571
Total	**61,286**

Source: As derived from ABS Census 2006, unpublished (Table Builder) cited in Edwards et al (2011)

to grow at a rate lower than that for Victoria as a whole. This is likely to be due to factors such as mining being highly capital-intensive and therefore having a modest impact on employment levels and continued declines in the electricity sector.

Employment by industry

Recent employment by industry

In 2006, the total number of people employed in the Latrobe Valley was 61,286. Of these, just over half (51 per cent or 31,534) were employed in the five industries that employ the largest numbers of people: retail trade, health care and social assistance, manufacturing, construction, and education and training, followed closely by agriculture, forestry and fishing at number six (Table 16).

One-third of the people employed (33 per cent or 20,276) worked in the top five industry sectors in terms of economic output: manufacturing; construction; mining; agriculture, forestry and fishing; and electricity, gas and water supply.

This is consistent across the areas of Baw Baw, Latrobe and Wellington, although particular industries are of

Table 17: Top industries by number of employees, 2006

Rank	Baw Baw	Latrobe	Wellington
1	Agriculture, Forestry and Fishing	Retail Trade	Agriculture, Forestry and Fishing
2	Health care and Social Assistance	Health care and Social Assistance	Retail Trade
3	Retail Trade	Manufacturing	Health care and Social Assistance
4	Construction	Construction	Education and Training
5	Manufacturing	Education and Training	Public Administration and Safety

Source: ABS Census 2006, unpublished (Table Builder) as cited in Edwards et al (2011) greater or lesser importance in each area (Table 17).

Changes over time

A comparison of employment data between 1996 and 2006 shows changes in all industries, with a shift away from traditional industries and towards service industries (Table 18).

Employment in the electricity, gas and water sector has declined significantly since privatisation in the early 1990s. These declines are expected to continue with the introduction of a carbon price. Similarly, employment in the mining sector could be impacted by the mining tax, although the precise impacts are not yet known.

Baw Baw and Wellington have both experienced significant growth in mining, largely due to increased commodity prices in global markets. The declines in electricity-related employment, particularly in Latrobe, have had a flow-on effect to mining-related employment. Employment in agriculture has declined in all three areas.

Skill shortages

Skill shortages exist when employers are unable to fill, or have considerable difficulty filling, vacancies at current levels of pay and employment conditions. Skill shortages have a significant impact on the economy, through reduced production and service. They also impact on existing workers through increased workloads.

Recent labour market reports identify skill shortages in the Latrobe Valley in the areas identified in Table 19.

Table 18: Top 3 growing and declining industries in Latrobe Valley LGAs 1996–2006

LGA	Growth		Decline	
	Industry	% Change 1996–2006	Industry	% Change 1996–2006
Baw Baw	Construction	82.4	Agriculture, Forestry & Fishing	-20.7
	Health Care & Social Assistance	55.6	Electricity, Gas, Water & Waste Services	-8.3
	Administrative & Support Services	54.5	Arts & Recreation Services	-8.1
Latrobe	Public Admin-istration and Safety	65.4	Finance and Insurance services	-38.9
	Health Care & Social Assistance	53.2	Wholesale Trade	-19.1
	Construction	43.2	Inadequately described / not stated	-10.9
Wellington	Administrative & Support Services	42.4	Information Media & Telecomms	-39.2
	Health Care & Social Assistance	39.3	Wholesale Trade	-34.3
	Construction	29.0	Financial & Insurance Services	-28.0

NOTE: (a) Industry of Employment was coded to the 2006 Australian and New Zealand Standard Industrial Classification (ANZSIC) edition. This replaced the 1993 ANZSIC edition. Data for 1996 and 2001 have been adjusted using current codes.

As cited in Gippsland Research and Information Service, Monash University (2008) Statistical Profiles

Table 19: Occupations affected by skill shortages

Accommodation personnel	Metal fitters and turners
Bakers	Metal machinists
Community workers	Midwives
Counsellors	Motor mechanics
Electrical engineers	Nurses
Financial and insurance services personnel	Pastry cooks
Food services personnel	Personal carers
Freight drivers	Physiotherapists
General electricians	Registered nurses
General medical practitioners	Secondary school teachers
Hairdressers	Structural steel and welding tradespeople
Health therapists	Tradespeople for freight and logistics
Machine operators for freight and logistics	Welfare workers

DIIRD cited in DPCD 2011, Nexus 2011, Workforce Victoria 2009, DVC 2006

Challenges and opportunities

As outlined earlier in this report, population changes, changes to industry, adapting to climate change and transitioning to a low-carbon economy are likely to place significant pressures on the Latrobe Valley.

Research has shown that skilled workers are more adaptable to change, whereas low and unskilled workers are less adaptable and find it difficult to find employment in other industries.

Increasing the number of people with graduate level qualifications has the potential to increase opportunities for people to enter professional occupations and achieve higher incomes. However, this would also require a similar increase in the number of professional jobs in the region. This could be achieved by:

- developing industries that provide more opportunities for professionals
- encouraging more businesses and industries to provide undergraduate employment programs
- improving articulation from industry-based to undergraduate education
- identifying and promoting opportunities for professionals, including attracting professionals to the region
- providing opportunities for current workers to upskill and become accredited professionals.[34]

There are a number of opportunities to grow employment in:

- health and aged care services, particularly to support the ageing of the population
- new technologies and practices around the more sustainable use of resources
- defence, when the planned expansion of the RAAF base at East Sale goes ahead.

These potential opportunities will need to be considered carefully, in the context of a number of factors, including:

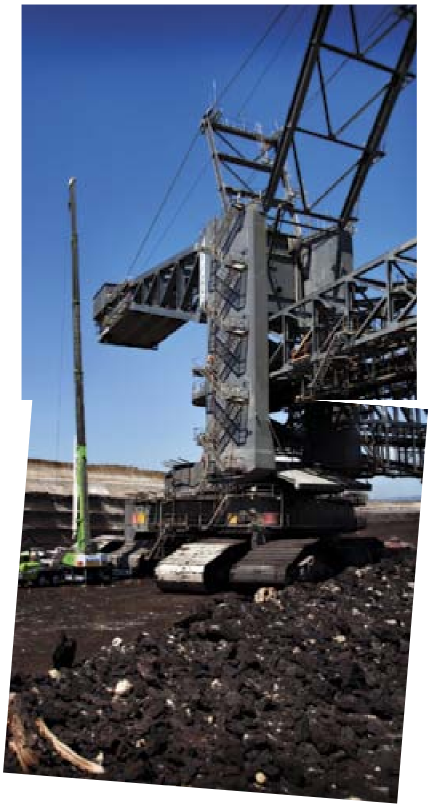
- the relatively high projected growth in the workforce, and the relatively low projected growth in employment, which if not addressed could increase unemployment
- the projected growth in the number of people with graduate-level and certificate-level qualifications
- the continued decline in electricity-related employment across the region
- the declining manufacturing industry (excluding food processing)

34 Gippsland Local Government Network (2010) op.cit.

- the different impacts these factors and projected changes will have on different areas within the region
- the need for greater diversification to ensure the long-term strength of the regional economy
- the need to retain young people in the area and/or attract others into the region.

A comprehensive workforce plan that considers all of these factors is imperative.

In addition, a number of issues impacting on employment opportunities in the region are not well understood. These include the transferability of skills across similar but non-competing industries. Further research is required to fill these knowledge gaps before appropriate planning can be undertaken.



Population changes, changes to industry, adapting to climate change and transitioning to a low-carbon economy are likely to place significant pressures on the Latrobe Valley.

Education and training

Opportunities exist to expand post-school education and training in the Latrobe Valley to address skills needs in the region.

Education and training play a vital role in developing skills for life and learning. In particular, the completion of a foundation qualification (Year 12 or equivalent)[35] provides a basis for engagement in further education, training and employment and reduces the probability of unemployment. This chapter provides an overview of education and training in the Latrobe Valley, including enrolments in schools, vocational education and training (VET) and apprenticeships and traineeships and higher education.

Key findings

- The proportion of young people completing Year 12 or an equivalent qualification increased from 76.6 per cent in 2004 to 78.3 per cent in 2010.
- The most common destination for Year 12 completers in 2010 was university, followed by study at TAFE or another VET provider, and an apprenticeship or traineeship.
- Compared to other regions, Gippsland had the highest participation in part-time employment among Year 12 completers in 2010 and the second highest overall participation rate in apprenticeships and traineeships. Enrolment in university study for a bachelor degree was the lowest of any region while, among non-metropolitan regions, Gippsland had the highest rate of enrolment in certificate-level courses.
- Gippsland has the second-lowest retention rate of all regions in Victoria, with only three-quarters of Year 10 students progressing to Year 12.
- There was an increase in the number of early school leavers from 2004 to 2010. The most common destination for early school leavers was an apprenticeship or traineeship, followed by study at TAFE or another VET provider and work.
- More than 11,800 students participated in government-funded VET activity in 2010.
- In 2010, there were 2,494 apprentices and trainees in the Latrobe Valley and almost one-third of these were in the building and construction industry – almost twice as many as in any other industry.
- In 2008, 4,117 students were enrolled in higher education. Young people in Gippsland had the second-lowest level of engagement in higher education across all regions in Victoria, at 27.2 per cent of Year 12 completers.
- Climate change and the transition to a low-carbon economy will require greater attention from education providers.
- Opportunities exist to expand post-school education and training in the Latrobe Valley to address skill needs in the region, as well as to capitalise on emerging industries and areas of job growth.

School education

School education plays a vital role in equipping young people with the foundation knowledge and skills for lifelong learning and participation in the economy. Table 20 shows the number and type of schools in the Latrobe Valley.

Table 21 shows the number of full time equivalent (FTE) enrolments in primary schools in the Latrobe Valley. Between 2008 and 2011, total enrolments in primary schools remained steady at around 14,000.

35 Year 12 or equivalent completers are defined as those who completed a Victorian Certificate of Education (VCE), International Baccalaureate (IB) or Victorian Certificate of Applied Learning (VCAL, Senior or Intermediate). Department of Education and Early Childhood Development (2011) *The On Track Survey 2010: The Destinations of School Leavers in Victoria – Statewide Report.*

Table 20: Number of schools in the Latrobe Valley, 2011

		Primary	Pri/sec	Secondary	Special	All schools
Government	Baw Baw	26	0	4	1	31
	Latrobe	24	0	4	2	30
	Wellington	25	0	3	1	29
	Total	**75**	**0**	**11**	**4**	**90**
Catholic	Baw Baw	3	0	1	0	4
	Latrobe	7	0	1	0	8
	Wellington	6	0	1	0	7
	Total	**16**	**0**	**3**	**0**	**19**
Independent	Baw Baw	0	2	1	0	3
	Latrobe	0	0	0	0	0
	Wellington	0	1	0	0	1
	Total	**0**	**0**	**1**	**0**	**4**
	All schools total	**91**	**3**	**15**	**4**	**113**

Source: DEECD February School Census

Table 21: Primary school enrolments (FTE)

	2008	2009	2010	2011
Baw Baw	3,749	3,676	3,717	3,685
Latrobe	6,588	6,617	6,550	6,599
Wellington	3,739	3,747	3,636	3,627
Latrobe Valley (total)	14,076	14,040	13,903	13,911
Gippsland	22,136	22,163	22,085	22,135

Source: DEECD February School Census

Table 22: Secondary school enrolments (FTE)

	2008	2009	2010	2011
Baw Baw	4,594	4,632	4,624	4,512
Latrobe	5,000	5,111	5,102	5,186
Wellington	3,553	3,562	3,544	3,373
Latrobe Valley (total)	13,147	13,305	13,270	13,071
Gippsland	20,100	20,165	19,988	19,877

Source: DEECD February School Census

Table 22 shows the number of FTE enrolments in secondary schools in the Latrobe Valley. Between 2008 and 2011, total enrolments in secondary schools remained steady at around 13,000.

Participation and achievement

In 2010, 78.3 per cent of students completed Year 12 or an equivalent qualification in the Latrobe Valley – an increase of nearly 2 per cent since 2004 (Table 23). The highest proportion of Year 12 or equivalent completers came from Wellington (82.1 per cent) and the lowest from Baw Baw (74.8 per cent), with Latrobe falling in between the two (78.1 per cent).

Of those who completed Year 12 or an equivalent qualification in 2010, nearly two-thirds (65 per cent) continued in some form of education or training in the year following the completion of Year 12 or its equivalent, compared with nearly three-quarters (74.9 per cent) in Victoria as a whole (Table 24). The most common destination was university study (34 per cent), followed by study at TAFE or another VET provider (16 per cent) and an apprenticeship or traineeship (15 per cent).

A further 21 per cent were employed or looking for work – an increase of 3 per cent since 2004 – while 14 per cent had deferred. Less than 1 per cent of 2010 Year 12 completers were not in education, training or employment.

Table 23: Year 12 completers in the Latrobe Valley, 2004–2010

	2004	2005	2006	2007	2008	2009	2010
Baw Baw	73.9%	74.1%	72.8%	76.6%	69.4%	72.8%	74.8%
Latrobe	75.3%	77.8%	73.8%	71.7%	72.0%	77.0%	78.1%
Wellington	80.6%	78.7%	80.4%	74.5%	77.5%	80.3%	82.1%
Latrobe Valley Total	76.6%	76.9%	75.6%	74.2%	73.0%	76.7%	78.3%

Source: DEECD data, unpublished

Table 24: Proportion of Year 12 or equivalent completers by destination, 2010

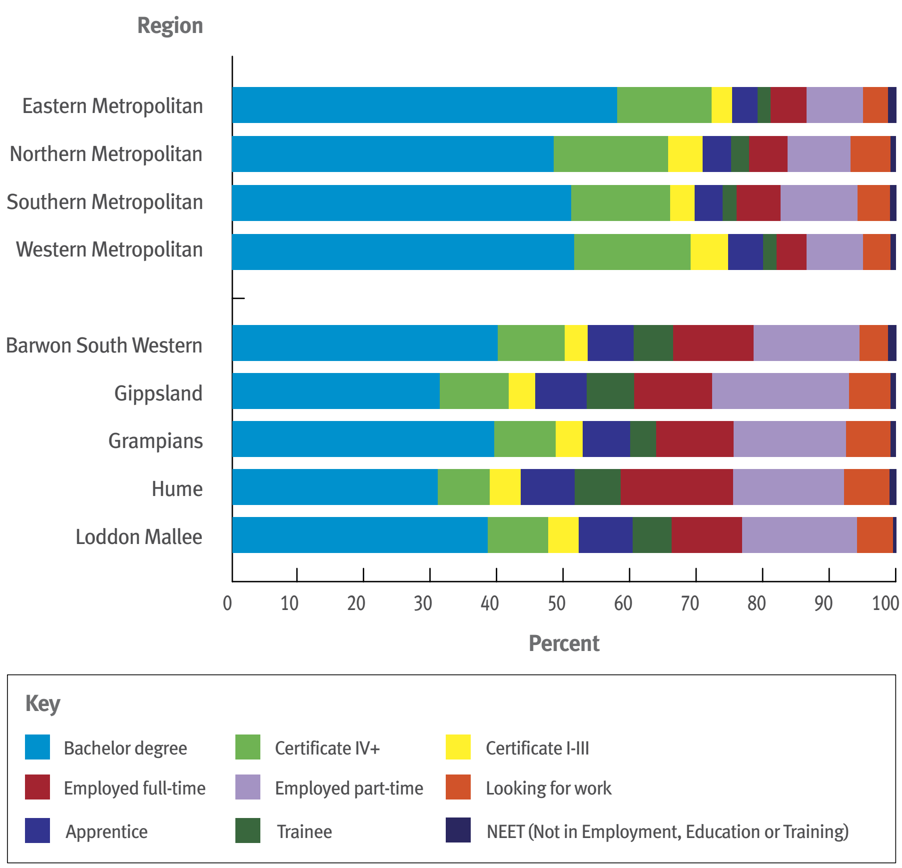
	2004	2005	2006	2007	2008	2009	2010
University	32.6	31.4	33.0	31.6	29.2	30.9	34.2
TAFE/VET	23.5	23.8	17.5	16.9	18.7	17.2	15.7
Apprenticeship/Traineeship	11.4	15.7	13.9	13.4	16.2	11.8	14.8
Employed	18.8	16.5	19.5	18.4	17.6	17.0	16.3
Looking for work	5.1	5.5	4.6	4.1	3.3	4.8	4.5
Deferred	8.6	7.0	10.7	14.3	14.5	17.7	13.9
Not in education, training or employment	0.0	0.0	0.8	1.3	0.5	0.5	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: On Track 2010 data, unpublished

Compared with other regions, Gippsland had the highest participation in part-time employment among Year 12 completers and the second highest overall participation rates in apprenticeships and traineeships among Year 12 completers (Figure 14). Enrolment in university study for a bachelor degree was the lowest of any region in Victoria, while among non-metropolitan regions, Gippsland had the highest rate of enrolment in certificate-level courses.

Baw Baw had the highest proportion of Year 12 completers at university, at 14 per cent, compared with 11 per cent for Latrobe and 8 per cent for Wellington (Table 25, overleaf). Latrobe had the highest proportion of Year 12 completers at TAFE or another VET provider at 8 per cent, compared with 5 per cent for Baw Baw and 3 per cent for Wellington. All areas had about 5 per cent of Year 12 completers in apprenticeships or traineeships.

Figure 14: Destinations of Year 12 or equivalent completers by region, 2010



Source: On Track 2010, p29

Table 25: Proportion of Year 12 or equivalent completers by destination and LGA, 2004–2010

		2004	2005	2006	2007	2008	2009	2010
Baw Baw	University	12.4	9.1	12.1	10.7	10.0	12.1	14.4
	TAFE/VET	7.3	5.4	4.7	5.2	5.2	4.5	5.2
	Apprentice/Trainee	2.6	4.8	3.4	4.8	5.4	2.3	5.3
	Employed	5.8	4.6	5.6	7.0	4.1	4.6	4.9
	Looking For Work	1.4	1.2	0.8	0.9	0.7	1.3	1.4
	Deferred	3.6	2.4	2.8	5.8	5.7	7.5	4.1
	Not in education, training or employment	0.0	0.0	0.3	0.4	0.1	0.2	0.3
	Baw Baw Total	**33.1**	**27.5**	**29.7**	**34.7**	**31.2**	**32.6**	**35.5**
Latrobe	University	10.4	12.4	11.8	10.6	10.4	12.2	11.4
	TAFE/VET	10.5	12.6	8.8	7.8	10.1	8.3	7.9
	Apprentice/Trainee	4.4	6.6	6.1	3.9	6.8	5.8	5.1
	Employed	8.1	8.5	8.2	7.4	7.6	7.8	7.3
	Looking For Work	1.6	3.3	1.8	2.6	1.7	1.9	2.3
	Deferred	2.4	1.5	3.8	2.3	3.2	4.0	3.5
	Not in education, training or employment	0.0	0.0	0.3	0.6	0.3	0.2	0.1
	Latrobe Total	**37.3**	**44.9**	**40.9**	**35.0**	**40.0**	**40.2**	**37.5**
Wellington	University	9.9	9.9	9.1	10.3	8.9	6.7	8.4
	TAFE/VET	5.8	5.9	4.0	3.9	3.4	4.4	2.6
	Apprentice/Trainee	4.5	4.2	4.5	4.7	4.0	3.7	4.5
	Employed	4.9	3.5	5.7	4.0	5.9	4.5	4.2
	Looking For Work	2.0	1.1	1.9	0.7	0.9	1.6	0.8
	Deferred	2.6	3.1	4.1	6.3	5.6	6.2	6.3
	Not in education, training or employment	0.0	0.0	0.2	0.3	0.1	0.1	0.2
	Wellington Total	**29.6**	**27.6**	**29.5**	**30.2**	**28.8**	**27.2**	**27.0**
Gippsland Total		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

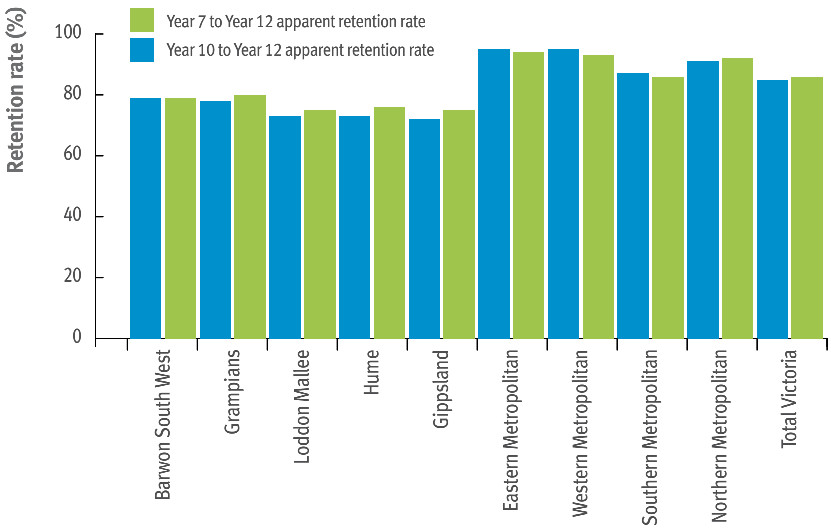
Source: On Track 2010 data, unpublished

Despite these positive achievements, in 2010 Gippsland had the second lowest retention rates of all regions in Victoria.[36] As shown in Figure 15, only 76.2 per cent of students who begin Year 10 in Gippsland progressed to the beginning of Year 12, compared with 86.1 per cent in Victoria as a whole.

Early school leavers, who left school prior to completing Year 12 or an equivalent, numbered 215 in 2010 (Table 26). This is an increase of 83 over 2004 figures.

The most common destination for early school leavers was an apprenticeship or traineeship (38 per cent), followed by study at TAFE or another VET provider (23 per cent) or work (21 per cent) (Table 27). From 2004, there was a slight decrease in the proportion of early school leavers participating in or looking for work (-5 per cent) and a slight increase in the proportion of early school leavers participating in TAFE or another VET provider (4 per cent). The proportion of early school leavers not engaged in education, training or employment has increased 2 per cent from 2004.

Figure 15: Apparent retention rates for Victoria school students by region 2010



Source: ACER 2011 as cited in Skills Victoria (2011)

Table 26: Number of early school leavers, 2004–2010

	2004	2005	2006	2007	2008	2009	2010
Early Leavers	132	239	245	177	229	287	215

Source: On Track data, unpublished, 2010

Table 27: Destinations of early school leavers, 2004–2010

	2004	2005	2006	2007	2008	2009	2010
University	0.0	0.0	0.0	0.0	0.0	0.7	0.5
TAFE/VET	18.9	15.9	13.5	9.6	7.0	16.0	22.8
Apprentice/ Trainee	39.4	51.9	51.0	54.2	58.1	49.8	38.1
Employed	23.5	19.7	22.0	26.6	21.4	17.8	21.4
Looking For Work	17.4	12.6	12.2	6.8	10.9	12.5	14.4
Not in education, training or employment	0.8	0.0	1.2	2.8	2.6	3.1	2.8

Source: On Track data, unpublished, 2010

36 Retention rate is calculated as the number of Year 12 students as a percentage of the number of Year 10 (or Year 7) students two years earlier

Table 28: Proportion of early school leavers by destination and local government area, 2004–10

		2004	2005	2006	2007	2008	2009	2010
Baw Baw	University	0.0	0.0	0.0	0.0	0.0	0.7	0.5
	TAFE/VET	10.6	5.0	1.6	4.0	2.6	6.6	9.8
	Apprentice/Trainee	15.2	13.8	16.3	17.5	15.3	19.2	14.0
	Employed	5.3	6.7	4.9	7.3	7.4	7.0	6.0
	Looking For Work	9.1	1.3	4.1	2.3	0.4	2.8	6.0
	NEET	0.0	0.0	0.4	1.7	0.0	1.4	1.4
	Baw Baw Total	**40.2**	**26.8**	**27.3**	**32.8**	**25.8**	**37.6**	**37.7**
Latrobe	TAFE/VET	6.8	7.5	9.4	4.0	2.2	7.0	10.7
	Apprentice/Trainee	18.2	25.1	21.2	20.3	24.9	23.3	17.7
	Employed	12.9	7.9	10.6	9.6	8.3	7.3	11.2
	Looking For Work	6.1	5.4	6.9	2.8	6.6	7.3	7.0
	NEET	0.8	0.0	0.0	1.1	0.9	1.0	1.4
	Latrobe Total	**44.7**	**46.0**	**48.2**	**37.9**	**42.8**	**46.0**	**47.9**
Wellington	TAFE/VET	1.5	3.3	2.4	1.7	2.2	2.4	2.3
	Apprentice/Trainee	6.1	13.0	13.5	16.4	17.9	7.3	6.5
	Employed	5.3	5.0	6.5	9.6	5.7	3.5	4.2
	Looking For Work	2.3	5.9	1.2	1.7	3.9	2.4	1.4
	NEET	0.0	0.0	0.8	0.0	1.7	0.7	0.0
	Wellington Total	**15.2**	**27.2**	**24.5**	**29.4**	**31.4**	**16.4**	**14.4**
Gippsland Total		**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: On Track 2010 data, unpublished.

At the local area level, the destinations of early school leavers remained relatively stable from 2004 (Table 28). Though small, the largest changes occurred in Baw Baw, where there was a 3 per cent reduction in the proportion of early school leavers looking for work, and in Latrobe, where there was a 4 per cent increase in the proportion of early school leavers participating in TAFE or VET study.

Table 29:Number and type of VET providers of government-funded training, 2010

	Baw Baw	Latrobe	Wellington
ACE	2	12	6
Private	8	21	9
TAFE	1	1	1

Source: Victorian Student Statistical Data Collection

Vocational education and training (VET)

Table 29 shows the number and type of VET providers offering government-funded training in the Latrobe Valley in 2010. Across the Latrobe Valley, there were 48 providers, although some have campuses in more than one area.

The number of private training providers (Registered Training Organisations or RTOs) increased from 20 in 2008 to 27 in 2010. This growth reflects a pattern that occurred across Victoria. Over the same time, the number of Adult and Community Education (ACE) providers declined from 23 to 19.

VET enrolments

Government-funded VET enrolments experienced a general decline from 19,699 in 2003 to 15,830 in 2010 (Table 30). This represents a percentage change of –20 per cent across the Latrobe Valley, with percentage decreases of –36 per cent in Baw Baw, –11 per cent in Latrobe and –23 per cent in Wellington.

Total enrolments at ACE providers in the Latrobe Valley declined by 60 per cent over this period. At the same time, enrolments in private providers declined by 51 per cent and enrolments at TAFE institutes increased by 35 per cent.

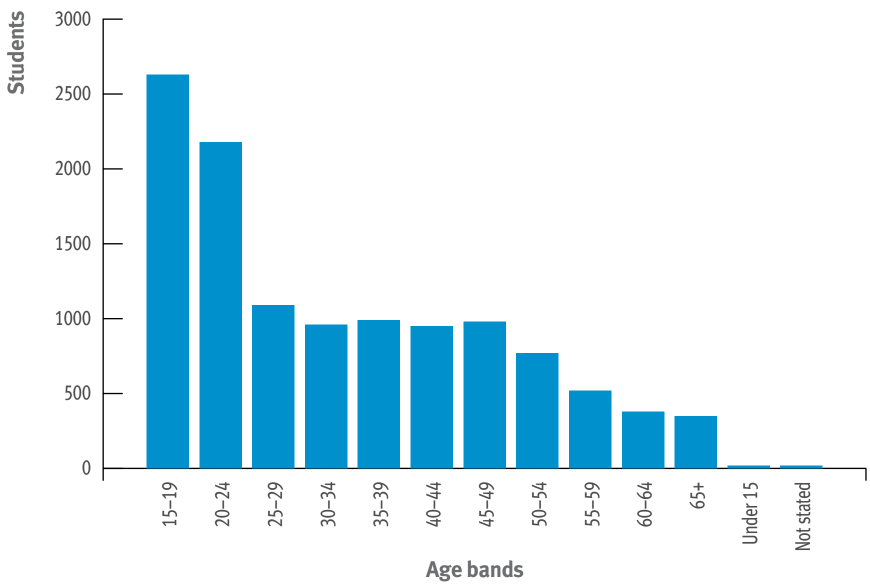
This decline can be attributed to the drop in enrolments in non-Australian Qualifications Framework (AQF) qualifications, particularly in ACE. Between 2003 and 2010, the number of enrolments in non-AQF qualifications declined by 72 per cent (Table 30). At the same time, the number of AQF enrolments increased from 10,412 in 2003 to 13,253 in 2010 – an increase of 27 per cent. The increases are seen particularly at the higher AQF levels. For example, enrolments in diplomas and advanced diplomas increased 31 per cent between 2003 and 2010, while enrolments in Certificate III and IV increased 44 per cent over the same period.

Table 30:Number of enrolments by qualification level in the Latrobe Valley, 2003–2010 (government-funded)

									Per cent change	
Qualification level	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2003–10**	**2008–10**
AQF Qualifications										
Diploma and Advanced Diploma	993	1,250	952	592	621	829	1,144	1,302	31	57
Certificate III and IV	4,943	5,295	5,339	5,781	5,517	5,922	5,878	7,119	44	20
Certificate I and II	4,476	4,505	3,244	3,482	5,781	5,004	4,100	4,832	8	-3
All AQF qualifications	**10,412**	**11,050**	**9,535**	**9,855**	**11,919**	**11,755**	**11,122**	**13,253**	**27**	**13**
Non-AQF Qualifications										
Secondary Education	179	157	177	180	194	174	291	235	31	35
Other	9,108	6,846	5,695	5,226	5,991	5,727	3,897	2,342	-74	-59
Non-AQF qualifications	**9,287**	**7,003**	**5,872**	**5,406**	**6,185**	**5,901**	**4,188**	**2,577**	**-72**	**-56**
Total	**19,699**	**18,053**	**15,407**	**15,261**	**18,104**	**17,656**	**15,310**	**15,830**	**-20**	**-10**

Source: Victorian Student Statistical Data Collection

Figure 16: Number of VET students by age bands in the Latrobe Valley, 2010



Source: Victorian Student Statistical Data Collection

VET students

More than 11,800 students participated in government-funded VET activity in the Latrobe Valley in 2010.[37]

- **Young people made up the highest proportion of VET students:** 15 to 19-year-olds comprising 22 per cent and 20 to 24-year-olds comprising 18 per cent of VET students (Figure 10).
- **Slightly more males participated in VET than females:** 54 per cent of students were male and 46 per cent were female.
- **A small proportion of VET students identified as Aboriginal or Torres Strait Islander:** 94 per cent of students were non-Aboriginal. 3 per cent of students (337) identified as Aboriginal and Torres Strait Islander. A further 3 per cent did not provide this information.
- **A small proportion of students identified as being from a culturally and linguistically diverse background:** 7 per cent of students (838) identified as being from a culturally and linguistically diverse background.
- **More than one-tenth of students identified as having a disability:** 13 per cent of students identified as having a disability.
- **More than half of VET students were employed at the time of their enrolment:** 61 per cent of students were employed at the time of their employment, 18 per cent were unemployed and a further 15 per cent were not in the labour force. 6 per cent of students did not provide this information.
- **Almost half of students had completed at least Year 10 prior to undertaking a VET course:** 17 per cent of VET students had completed Year 12, 12 per cent had completed Year 11 and 16 per cent had completed Year 10. A further 13 per cent had completed Certificate III.

Apprenticeships and Traineeships

In 2010 there were 2,494 apprentices and trainees in the Latrobe Valley.

- **The largest number of apprentices and trainees were in the building and construction industry:** 28 per cent (692) of apprentices and trainees were in the building and construction industry – almost twice as many as in any other industry (Figure 13).
- **Almost nine-tenths of all apprentices and trainees were young people:** 49 per cent of all apprentices and trainees were aged 15 to 19 years. A further 35 per cent were aged 20 to 24 and 5 per cent were aged 25 to 29. The remaining 11 per cent were aged between 30 and 54 years.
- **More apprentices and trainees were male than female:** 77 per cent of apprentices and trainees were male and 23 per cent were female.
- **A small proportion of apprentices and trainees identified as Aboriginal or Torres Strait Islander:** 1 per cent of apprentices and trainees identified as Aboriginal or Torres Strait Islander.
- **A small proportion of students identified as being from a culturally and linguistically diverse background:**

  1 per cent of apprentices and trainees identified as being from a culturally and linguistically diverse background.
- **A small proportion of apprentices and trainees identified as having a disability:** 5 per cent of apprentices and trainees identified as having a disability.

37 Student numbers are smaller than the number of enrolments as students often attend more than one VET course in a given period. Data in this section relates to students who attended government-funded VET at campuses located in the areas of Baw Baw, Latrobe and Wellington at any time in 2010

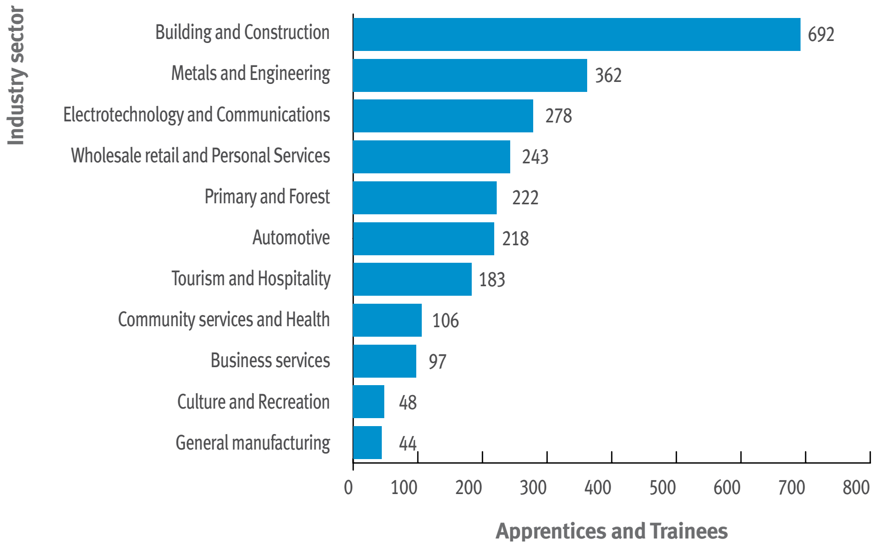
As occurs elsewhere in Victoria, a number of apprentices and trainees do not complete their apprenticeships or traineeships. The decision to leave an apprenticeship or traineeship is usually influenced by a number of factors, which can include:

- low wages and apprentices and trainees feeling exploited as cheap labour
- lack of appropriate support and supervision in the workplace
- poor or inadequate training
- bullying in the workplace.[38]

Some research has suggested ways to reduce the number of non-completions and increase the number of apprentices and trainees to address skill shortages in the Latrobe Valley. These recommendations include:

- providing better support for apprentices and trainees, especially in the early stages of their contracts
- ensuring trainees have the same level of contractual and employment protection as apprentices to enhance the value of a traineeship, improve recruitment practices and strengthen the commitment to training by both trainees and their employers
- minimising the number of apprenticeships and traineeships that are solely ‘on-the-job’
- increasing wages for apprentices and trainees.

Figure 17: Apprentices and trainees by industry sector in the Latrobe Valley, 2010



Source: Victorian Student Statistical Data Collection

Higher education

There are two higher education campuses in the Latrobe Valley: Monash University in Churchill and the Australian Catholic University campus in Warragul. A further campus, the RMIT campus in Sale, closed in 2010. In 2008, 4,117 students were enrolled in studies at these three campuses (Table 31).

- **Students enrolled in higher education are more likely to be in older age groups:** Young people in Gippsland have the second lowest level of engagement in higher education across all regions in Victoria, at 27.2 per cent of Year 12 completers.
- **More higher education students in Gippsland are female than male:** Two-thirds of students are female, compared with just over one-half of students enrolled in higher education in the Melbourne metropolitan area.

Table 31: University enrolments for campuses in the Gippsland region, 2008

University and campus	Number of enrolments
Australian Catholic University	7
RMIT – Sale	109
Monash University – Churchill	4001
Total	**4117**

Source: DEEWR Higher Education Student Collection, 2008, unpublished as cited in Edwards and Underwood (2011)

38 Snell, D and Hart, A (December 2007) *“I think about leaving everyday. Doesn’t everyone?”: Reasons for Non-completion and Dissatisfaction Amongst Apprentices and Trainees Final Report of the Gippsland Apprenticeship Research Project,* Research Unit for Work and Communications Futures – Monash University Gippsland

- **The majority of students are Australian domestic students:** 93 per cent of students enrolled in Gippsland are domestic students. International students make up only 7 per cent of enrolments in Gippsland, which is about the same as other regional areas, but significantly below that of Melbourne where more than one quarter of all students are international.
- **Students in Gippsland are more likely to be enrolled part-time than full-time:** 43 per cent of students are enrolled full-time.
- **Most students are undertaking undergraduate studies:** 70 per cent of students were enrolled in undergraduate studies.
- **More students are enrolled in education-related disciplines:** Gippsland, like other regional areas, has a larger number of students undertaking studies in education, compared with students in metropolitan Melbourne.

(Source: DEEWR Higher Education Student Collection, 2008, unpublished as cited in Edwards and Underwood (2011) and Gippsland Regional Plan)

Opportunities exist to increase the number of students enrolled in higher education by:

- increasing the number of courses that respond to local needs
- increasing opportunities for blended learning
- increasing collaboration and partnerships between higher education providers and between higher education providers and local industry
- increasing research capacity to support emerging industries and job opportunities
- increasing the number of mature-age learners
- increasing the number of students achieving Year 12 or an equivalent qualification.

Challenges and opportunities

As the number of low-skilled jobs in the economy decreases, the importance of educational qualifications increases. Students who fail to complete Year 12 or an equivalent qualification, such as an apprenticeship or traineeship, have fewer employment opportunities, lower wages and are more likely to experience extended periods of unemployment than Year 12 graduates. The completion of Year 12 or an equivalent qualification also provides a foundation for students to engage in further education, training or employment.

As in all regions, opportunities exist to improve retention and completion rates, as well as improve pathways between school and post-school education and training options, including VET and higher education and to align educational opportunities with the needs of industry in the region.

The shift to a low-carbon economy has become the subject of much policy attention and, as demonstrated in previous chapters of this report, the affects on the Latrobe Valley are likely to be far-reaching. A strengthened focus on sustainable energy production, green technologies and green skills will require greater attention from education providers, including:

- greater collaboration among education providers, and between education providers and industry
- consistent and transparent pathways between schools, VET providers and higher education
- strategies to attract and retain people at student and working ages through focused industry investment in the region
- ensuring employers are adequately prepared to provide effective education and training to their workers to support and enhance all industry sectors.

Opportunities exist to expand post-school education and training in the Latrobe Valley to address skill needs in the region as well as capitalise on emerging industries and areas of job growth. This will require providing opportunities to attract young people to live and study locally and arresting the migration of young people from the region. It will also require the barriers to training in the Latrobe Valley to be addressed. These barriers include:

- the need to travel long distances to access appropriate training
- a shortage of training options tailored to specific industries
- a shortage of training options in specialist areas
- a shortage of appropriate and relevant 'on-the-job' training options
- poor-quality training
- the cost of training.[39]

39 SED Consulting (2010) *Latrobe City Council Employment and Industry Survey Report* Prepared for Latrobe City Council; Nexus (February 2011) *Gippsland Transport and Logistics Workforce Development Project: Situation Analysis* Prepared for the Victorian Freight and Logistics Council and Wellington Shire Council.

The Local Learning and Employment Networks, Gippsland Youth Commitment and Gippsland Education Precinct could potentially play an important role in expanding post-school education and training.

A significant opportunity also exists to establish a research and development capability focused on emerging industries and areas of job growth. These could include a 'centre of excellence' for the development of new low-carbon technologies; focused efforts in health care and associated services, potentially with a specialisation in aged care; and focused efforts in agriculture to assist the economy to respond to changes in the agricultural industry.

Gippsland Youth Commitment

The Gippsland Youth Commitment is an organisation that seeks to improve the transitional outcomes of young people aged 15 to 19 by:

- **improving participation amongst young Koorie people**
- **improving participation of young people in maths and science in schools**
- **improving transitions to higher education, apprenticeships and traineeships and VET qualifications at Certificate levels I to III**
- **developing collaborative partnerships between education training providers and business to achieve better alignment between VET provision and local and regional skill shortages**
- **improving the satisfaction level of young people with their transition and career development.**

Local Learning and Employment Networks (LLENs)

LLENs connect employers, education and training providers, government groups, agencies and individuals to improve education, training and employment options for young people aged 10 to 19.

LLENs also have a particular focus on those young people who are at risk of disengaging, or who have already disengaged, from education and training and are not in meaningful employment.

To this end, each LLEN is contracted to broker strategic, sustainable partnerships that support improved education and transition outcomes for young people, including increasing Year 12 or equivalent attainment rates. In its role as a partnership broker, the LLEN uses its knowledge of the local area to influence strategic planning and to broker partnerships among key stakeholders to improve education outcomes and support young people to remain engaged, or re-engage, in education or training and realise their full social and economic potential.

The partnerships established will exist for the benefit of young people across all government, Catholic and other non-government education and training sectors who fall in the target age range within the LLEN area, including those experiencing high levels of disadvantage.

Gippsland Education Precinct

The Gippsland Education Precinct is the first education and training partnership in Australia in which the three main education sectors, an employment and industry organisation and local government are all represented. The partnership brings together four major education providers in the Latrobe Valley: Monash University Gippsland, Central Gippsland Institute of TAFE, Apprenticeships Group Australia, Kurnai College and Latrobe City.

The partnership aims to improve access, equity, education and employment opportunities for all learners in the region through integrated learning pathways, a focus on the needs of individual learners and strong partnerships with business, industry and all levels of government.

A key objective is to increase access to Monash University Gippsland undergraduate degrees through pathways which offer guaranteed admission (subject to meeting success criteria) and guaranteed credit for TAFE students. Innovative dual awards also offer students the opportunity to complete a GippsTAFE diploma in a specialist community service area while studying the Bachelor of Community Welfare and Counselling at Monash University Gippsland.

Key projects are:

- the GEP Education Partnership Hub Pilot with The Smith Family
- the Churchill Art and Culture Pathway
- the Regional Industry Skills Alliance – Gippsland.

Centre for Sustainable Technologies

The Gippsland Regional Plan 2010 identified an opportunity for the establishment of a Centre for Sustainable Technologies to investigate and deliver a range of new technologies for the local, regional and wider state community.

The Centre will focus on regional innovation, diversification of skills, research and development capability and commercial enterprise and will assist businesses to capture opportunities in the transition to a low-carbon economy.

The Centre will include academic staff, industry partners, research fellows and students. It will be a collaboration between Monash University Gippsland and regional stakeholders, including industry, TAFE and councils with the additional involvement of relevant areas of Monash University Clayton, the Monash Sustainability Institute and a broad range of expertise from other research organisations and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Community wellbeing

This chapter provides an overview of community wellbeing indicators for the Latrobe Valley and explores issues of socio-economic disadvantage in the region.

Community wellbeing indicators provide a guide to important issues and trends in community life. They also provide important evidence to support planning and action to address issues at the community level. This chapter provides an overview of community wellbeing indicators[40] for the Latrobe Valley and explores issues of socio-economic disadvantage in the region.

Key findings

- In terms of community wellbeing, research findings show higher levels of housing affordability and citizen engagement in the Latrobe Valley compared with Victoria as a whole.
- In terms of feeling part of the community, being able to get help when needed from friends, family or neighbours and crimes against property, results in the Latrobe Valley are slightly better than those for Victoria as a whole.
- However, in terms of self-reported health, access to the internet (especially via broadband connection) and crimes against the person, the Latrobe Valley performs below the average for Victoria as a whole.
- About one-half (46 per cent) of all people living in Gippsland live in areas of socio-economic disadvantage (that is, with Socio-Economic Indexes for Areas (SEIFA) scores below the average for regional Victoria), although the number of people living in disadvantage varies between towns and surrounding areas.

Community wellbeing indicators

Self-reported health

Self-reported health was measured in the 2007 Community Indicators Victoria Survey. Respondents were asked to rate their health as excellent, very good, good, fair or poor. The proportion of people who reported their health as excellent or very good in each of the Latrobe Valley areas was slightly below the proportion for Victoria as a whole (Table 32).

Table 32: Percentage of persons who reported their health as excellent or very good

Baw Baw	Latrobe	Wellington	Gippsland	Victoria
52.3	50.0	51.2	52.0	54.3

Source: http://www.communityindicators.net.au/lga_profiles

40 The indicators highlighted in this report include self-reported health, feeling part of the community, social support, crime, home internet access, housing affordability and citizen engagement. These indicators are drawn from Community Indicators Victoria – a collaborative project hosted by the McCaughey Centre, School of Population Health and the University of Melbourne. www.communityindicators.net.au

Feeling part of the community

Community connection was measured in the 2007 Community Indicators Victorian Survey. Respondents were asked to rate their satisfaction with feeling part of their community and answers are presented according to a 0–100 range. The average community connection score for Australians is approximately 70. In comparison, the average community connection score for persons living in Baw Baw was 75.1, Latrobe was 73.5, and Wellington was 77.3 (Table 33). The Gippsland average is 78.6 and the Victorian average is 76.4.

Social support

Social support was measured in the Community Strength Survey in 2008. Respondents were asked if they could get help from friends, family or neighbours when they needed it, either definitely, sometimes or not at all. The percentage of people who reported that they could definitely get help from friends, family or neighbours when they needed it was 93.2 per cent of persons living in Baw Baw, 91.8 per cent in Latrobe and 91.1 per cent in Wellington, compared with 92.2 per cent in the Gippsland region and 91.7 per cent in Victoria (Table 34).

Crime

Crime statistics are produced annually by Victoria Police. Summaries of offences are reported per 100,000 population to enable comparisons across different areas. As shown in Table 35, in Latrobe 1,508 crimes against the person were recorded per 100,000 population in 2009–10, 675 in Baw Baw and 907 in Wellington. This is compared with 834 recorded crimes against the person for Victoria as a whole.

Table 33: Percentage scores for people's satisfaction with feeling part of their community

Baw Baw	Latrobe	Wellington	Gippsland	Victoria
75.1	73.5	77.3	78.6	76.4

Source: http://www.communityindicators.net.au/lga_profiles

Table 34: Percentage of people who responded that they could definitely get help from friends, family or neighbours when they needed it

Baw Baw	Latrobe	Wellington	Gippsland	Victoria
93.2	91.8	91.1	92.2	91.7

Source: http://www.communityindicators.net.au/lga_profiles

Table 35: Number of offences recorded against the person and property per 100,000

	Baw Baw	Latrobe	Wellington	Gippsland	Victoria
Offence against the person	675	1508	907	873	834
Offence against property	3,492	6,068	4,475	3,587	4,786

Source: http://www.communityindicators.net.au/lga_profiles

In Latrobe, 6,068 crimes against property were recorded per 100,000 population in 2009–10, 4,476 in Wellington and 3,492 in Baw Baw, compared with 3,587 in the Gippsland region and the Victorian state average of 4,786.

Home internet access

Home internet access was measured in the 2007 Community Indicators Victoria Survey. Respondents were asked to indicate if the internet could be accessed from their dwelling, and if so, whether access was via a dial-up or a broadband connection. In Wellington, 76.5 per cent of persons lived in households that had internet access of any form at their dwelling, compared with 73.6 per cent in Latrobe and 68.6 per cent in Baw Baw (Table 36). This is below the average for Victoria, which was 78.9 per cent.

Of the total population, 49.4 per cent in Latrobe, 47.9 per cent in Wellington and 42.0 per cent in Baw Baw lived in households that had home internet access via broadband connection. This compared with 45.5 per cent in Gippsland and 61.1 per cent in Victoria.

Housing affordability

Housing affordability has been calculated through customised 2006 census tables obtained from the ABS.

The data show the percentage of households spending 30 per cent or more of gross household income on rent or mortgage payments.

In the Latrobe Valley, 14.4 per cent of households in Baw Baw, 13.7 per cent in Latrobe and 13.3 per cent in Wellington were spending 30 per cent or more of gross household income on rent or mortgage payments (Table 37). This is compared with 14.1 per cent in Gippsland and 17.7 per cent in Victoria.

Citizen engagement

Data on the participation of Victorians in selected forms of citizen engagement were collected in the 2007 Community Indicators Victoria Survey. Respondents were asked if they had attended a town meeting or public hearing, met, called or written to a local politician, joined a protest or signed a petition in the previous 12 months.

The results indicated that 70.1 per cent of persons in Wellington, 57.6 per cent in Latrobe and 56.2 per cent in Baw Baw had engaged in at least one of the selected activities in the previous year, compared with 64.9 per cent in the Gippsland Region and 53.8 per cent in Victoria as a whole (Table 38).

Socio-economic disadvantage

Disadvantage occurs when an individual, family or community is deprived of resources or opportunities that underpin social and economic wellbeing. Disadvantaged people and communities lack material resources (such as income, jobs, housing, services or transport), skills and knowledge (such as in education and health) or relationships (such as inclusion, social participation and involvement in decision-making) (Figure 18).

Table 36: Percentage of persons reporting that internet and broadband can be accessed from their dwelling

	Baw Baw	Latrobe	Wellington	Gippsland	Victoria
Any form of internet	68.6	73.6	76.5	72.1	78.9
Broadband	42.0	49.4	47.9	45.5	61.1

Source: http://www.communityindicators.net.au/lga_profiles

Table 37: Percentage of households spending 30 per cent or more of gross household income on rent or mortgage payments

Baw Baw	Latrobe	Wellington	Gippsland	Victoria
14.4	13.7	13.3	14.1	17.7

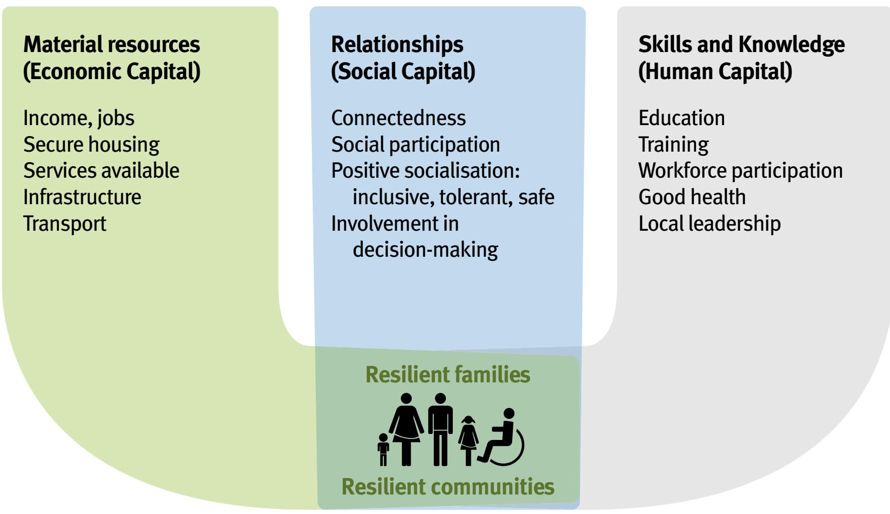
Source: http://www.communityindicators.net.au/lga_profiles

Table 38: Percentage of persons who have engaged in a selected citizen activity in the past 12 months

Baw Baw	Latrobe	Wellington	Gippsland	Victoria
56.2	57.6	70.1	64.9	53.8

Source: http://www.communityindicators.net.au/lga_profiles

Figure 18: The resources that contribute to social and economic wellbeing



Source: DPCD 2011

Research has shown that social and economic disadvantage tends to be concentrated in particular geographic locations in Victoria.[41] Geographic location of disadvantage is most commonly described using the ABS Index of Relative Socio-Economic Disadvantage, one of the Socio-Economic Indices for Areas. SEIFA combines information from a number of variables from the 2006 population census relating to income, education, occupation, wealth and living conditions. It ranks areas on a continuum of advantage to disadvantage. The average score is 1,000 for Victoria as a whole and 986 for regional Victoria. Areas with scores below the average are considered relatively disadvantaged. About one-third (33 per cent) of people living in Gippsland, or 118,842 people, live in areas with SEIFA scores below the average for regional Victoria (Table 39).

Disadvantage in Baw Baw

Overall, according to its SEIFA score, 33 per cent of Baw Baw's population is living below the Victorian regional average. Baw Baw contains two large, one mid-sized and four small towns that score below the regional Victorian average on the SEIFA Index. Around 38 to 48 per cent of these populations have low incomes, and Warragul and Neerim South have higher-than-average public housing. There is a larger proportion of people aged over 65 in all areas except one small town, and a larger proportion of single-parent families in most areas. Half the towns have a greater-than-average multicultural mix.

Table 39: Number and percentage of the population living in areas with SEIFA scores below the average for regional Victoria (986,206: *ABS 2006*)

	Number	%
Gippsland	247,975	46
Latrobe	41,568	60
East Gippsland	23,798	59
Wellington	19,800	51
Bass Coast	12,552	47
Baw Baw	12,370	33
South Gippsland	8,494	33

Source: ABS 2006 cited in DPCD 2011

Table 40: Percentage of children in their first year of school who were developmentally vulnerable on two or more domains*

	Number	%
Victoria	61,187	10
Gippsland	363	13
Latrobe	138	16
East Gippsland	66	17
Wellington	48	10
Baw Baw	47	10
Bass Coast	37	12
South Gippsland	27	8

** The five domains are: Physical health and wellbeing; Social competence and wellbeing; Emotional maturity; Language and cognitive skills; Communication skills and general knowledge.*

Source: DEECD 2010 cited in DPCD 2011

41 DPCD (2011) op.cit.

In addition:

- in 2009, 10 per cent of children across Baw Baw (47) were found to be developmentally vulnerable in their first year of school (Table 40)
- in 2006, 15 per cent of those aged between 15 and 19 were not engaged in work or further education or training (Table 41)
- in 2006, 20 per cent of those employed were semi-skilled or unskilled workers (Table 42).

Disadvantage in Latrobe

Overall, according to its SEIFA score, 60 per cent of Latrobe's population is living below the Victorian regional average. Latrobe contains four large, one mid-sized and two small towns that score below the regional Victorian average on the SEIFA Index. Around 36 to 48 per cent of the populations of these towns have low incomes and all the large towns have higher-than-average public housing. Half the towns have a greater proportion of people aged over 65 and all have a larger proportion of single-parent families. All towns have a higher-than-average multicultural mix.

In addition:

- In 2009, 16 per cent of children across Latrobe (138) were found to be developmentally vulnerable in their first year of school (Table 40).
- In 2006, 22 per cent of those aged between 15 and 19 were not engaged in work or further education or training (Table 41).
- In 2006, 20 per cent of those employed were semi-skilled or unskilled workers (Table 42).

Table 41: Percentage of young people aged 15 to 19 who are not engaged in school, work or further education or training

	%
Victoria	17
Regional Victoria	19
Metro Melbourne	17
Bass Coast	24
Latrobe	23
East Gippsland	21
Wellington	18
South Gippsland	16
Baw Baw	15

Source: ABS 2006 cited in DPCD 2011

Table 42: Unskilled and semi-skilled workers

	%
Victoria	16
Regional Victoria	19
Metro Melbourne	15
Baw Baw	20
East Gippsland	20
Latrobe	20
South Gippsland	19
Wellington	19
Bass Coast	17

Source: PHIDU 2010 based on ABS 2006 cited in DPCD 2011

Disadvantage in Wellington

Overall, according to its SEIFA score, 51 per cent of Wellington's population is living below the Victorian regional average. Wellington contains two large, four mid-sized and five small towns that score below the regional Victorian average on the SEIFA Index. Around 38 to 66 per cent of these populations have low incomes, and Maffra, Sale and Yarram have a higher proportion of public housing. All but one small town have a greater proportion of people aged over 65 and most a greater proportion of single-parent families. Most also have a higher-than-average multicultural mix.

In addition:

- In 2009, 10 per cent of children across Wellington (48) were found to be developmentally vulnerable in their first year of school (Table 40).
- In 2006, 18 per cent of young people aged 15–19 were not engaged in work or further education (Table 41).
- In 2006, 19 per cent of those employed were semi-skilled or unskilled workers (Table 42).

Challenges and opportunities

A need exists to improve the health and wellbeing of a number of people living with below-average health status. This also applies to communities of socio-economic disadvantage that are located throughout the region.

A number of communities in the Latrobe Valley are classified as highly disadvantaged in terms of access to social and economic resources. In addition, the relative affordability of housing in the region has attracted a migration of less economically active Victorians into the area. Generating jobs and improving transport to connect people to jobs, services and each other are critical to helping these communities.

A number of community wellbeing indicators show positive outcomes for residents of the Latrobe Valley. These should be harnessed in order to achieve greater community participation and regeneration.

Other government initiatives

This chapter provides an indication of the range of government strategies in place which help meet the challenges faced in the Latrobe Valley.

Since the privatisation of the electricity, gas and water sectors in the 1990s, governments at all levels – national, state and local – have recognised (and continue to recognise) the challenges faced in the Latrobe Valley, and each has put a number of strategies in place to address these challenges. This chapter provides information on initiatives currently being implemented in the region. It is not intended as an exhaustive list; rather, to provide an indication of the range of strategies in place.

Key findings

- Every level of government is implementing initiatives to support the Latrobe Valley's transition to a low-carbon future.
- While each of these initiatives is beneficial, greater benefit could potentially be gained through a more coordinated approach across the different levels of government.
- *Skilling the Valley* and the Roadmap provide an opportunity for a more organised, coordinated and timely response.

Local Government initiatives

Latrobe City Council

As part of its economic sustainability strategy, the Latrobe City Council is investing in three areas of commercial and economic importance:

- **The former gas and fuel Lurgi plant site at Morwell:** This site was purchased by Council in 2001 to develop an industry park and attract new industry to the area. A master plan for the site has been developed and ensures that existing industry can be accommodated, while also allowing for future growth.
- **The Gippsland logistics precinct:** Latrobe City Council has had a long involvement in facilitating an open access intermodal freight terminal to meet the needs of the region. The precinct will establish a centre for the efficient and effective movement of freight to and from the region.
- **Latrobe Regional Airport:** The Airport is owned by the Council and is a key economic and community facility, providing significant employment opportunities, vital business and community services and valuable recreation and tourism facilities. The Airport and surrounds are to be developed over the next 20 years, bringing new investment, and employment opportunities to the region.

Baw Baw Shire Council

Baw Baw Shire Council has identified four key areas for future investment:

- **Agriculture:** supporting improvement of agricultural industries by:
  - assisting business to develop new, and expand existing, markets
  - establishing the area as Australia's leading hydroponic region
  - exploring the viability of organic industries
  - identifying and promoting Prime Development Zones across the region
  - establishing high quality research and development for new and emerging agribusiness.
- **Land development:** ensuring the availability of suitable land and

infrastructure for the growth of existing businesses and to attract new business.

- **Tourism and major events:** supporting and promoting tourism growth, particularly in west Gippsland, by:
  - participating in the Regional Tourism Association Partnership
  - developing tourism infrastructure to attract visitors and increase the tourism yield.
- **Industry and business:** supporting and promoting business development in the region, by:
  - facilitating a ‘buy local’ campaign
  - providing training programs for business
  - assisting businesses to reach more international market opportunities
  - facilitating a Learn, Work and Develop in Baw Baw program.

Learn, Work and Develop in Baw Baw

The Learn, Work and Develop in Baw Baw program was developed by the Baw Baw Shire Council to address labour shortages in Baw Baw.

The region has seen job vacancy advertisements growing at a faster rate than growth in the region’s actual workforce.

This demand for workers, coupled with population ageing and young people leaving the area, is having a significant impact on the availability of a local, appropriately skilled workforce.

The Learn, Work and Develop in Baw Baw program brings together businesses, schools, post-compulsory education providers, training organisations and other relevant bodies to address skill shortages through appropriately targeted schooling and training for young people.

Wellington Shire Council

Wellington Shire Council has identified a number of focus areas for future economic development. These include:

- **Mining, gas and oil**: These sectors make a major contribution to the region’s economy. While direct employment opportunities are limited, there is a large number of businesses providing services and support to these sectors.
- **Agribusiness:** Agribusiness provides a significant number of employment opportunities, from unskilled jobs to professional positions. Council has indicated its intention to encourage investment in the industry from horticulture producers in other parts of the state, and Australia, as well as overseas.
- **Defence and aviation:** These are significant sectors within the Shire, including the RAAF Base at East Sale, aerodromes in Yarram and West Sale, and a number of aviation-related businesses. Council has indicated that it will continue to attract investment in these facilities, primarily from state and national governments.
- **Manufacturing and construction:** The region has seen increased activity in these sectors, with a number of government-funded projects occurring in the region, significant investment in forest product processing at Heyfield, Yarram and Gelliondale, and the flow-on effects to local business from the expansion of the oil and gas sectors. Council has indicated that it will continue to attract new investment to the region.
- **Education:** One of this region’s strengths is the concentration of quality education providers in Sale. A program has been established to develop an Education Precinct in Sale, with the East Gippsland Institute of TAFE relocating from its Fulham site. The new precinct will include facilities for the TAFE’s affiliate university partners.

State Government initiatives

Skilling the Valley was announced in 2010 as part of the $25 million *Latrobe Valley Advantage Fund* (“the Fund”). The Fund was created to meet the initial adjustment needs of the Gippsland region in transitioning to a low-carbon economy. Its primary objective is to leverage more private sector investment and create new jobs through the provision of enabling infrastructure.

The Fund focuses on three key areas:

- skills and training (*Skilling the Valley*)
- sustainable energy research and development
- jobs and industry.

A number of initiatives are being implemented under the Fund, including the development of a Low Carbon Growth Plan for Gippsland, $10 million for the Industry and Jobs Fund, $5 million for renewable energy development, and an industry prospectus.

The *State of the Valley* report is one of a number of components of the $10 million *Skilling the Valley* suite of initiatives. Other components include:

- **Strong Foundations for Gippsland:** Strong Foundations for Gippsland ensures that every Gippsland resident has the necessary foundation level skills to participate in the modern economy. Coordinated action is being undertaken by Central Gippsland Institute of TAFE, East Gippsland Institute of TAFE, and all RTOs and ACE providers, to provide foundation level skills in literacy, numeracy, language and work skills.
- **Industry Link Officers:** The Victorian Government has provided funding of $1.15 million for four new Industry Link Officers to link employers, government, labour groups and education providers and to build long-term skill and training strategies for the Latrobe Valley. These positions are located in the Gippsland Education Precinct, VECCI, the Gippsland Trades and Labour Council, and Latrobe City Council.
- **Eligibility exemption places:** The Victorian Government has provided $5 million for 300 eligibility exemption places to provide government-subsidised training places to workers who may not otherwise be eligible under the *Victorian Training Guarantee*. This ensures that every worker impacted by a company restructure, closure or retrenchments is able to access appropriate government-subsidised training for re-deployment or re-employment. The eligibility exemption places are being provided over the years 2011 to 2013, with 80 places available in 2011, 110 in 2012 and a further 110 places in 2013.
- **Preparing for the Future:** This initiative involves a scoping exercise to identify opportunities to upskill workers likely to be impacted by changes in the region, either through scholarship programs or training in Specialist Centre Networks located at TAFE Institutes in the region. These include the Special Energy Network based at the Central Gippsland Institute of TAFE, the Centre for Sustainable Water Management at Chisholm Institute, and the Specialist Advanced Manufacturing Network at Swinburne University (TAFE Division). This could provide opportunities for affected workers to access specialist training in emerging areas of low-carbon and 'green' industry applications and provide significant engagement opportunities for each of the Specialist Centre Networks.
- **Worker Engagement:** A survey will be conducted of workers employed in industries most likely to be impacted by the transition to a low-carbon economy. It will determine their age, gender, qualification level, last engagement with formal education, career intentions and career interests. This information will inform the development of a transitional workforce development strategy which engages these workers in planning for their future.
- **Workers in Transition:** The Workers in Transition Program is one of the only state-wide government responses to company restructure or closure and retrenchments. The Program helps workers facing retrenchment to transition to alternative employment through the provision of appropriate training.

These initiatives are all being implemented to leverage opportunities available under the *Victorian Training Guarantee,* which makes VET more accessible to people who do not have a post-school qualification, or who want to gain a higher level qualification than they already hold.

The $5 million *Latrobe Valley Industry and Employment Roadmap* (the Roadmap) is a project that implements the Government's election commitment to develop a long-term plan for future industry and employment development in the Latrobe Valley. The initiative will build on the $25 million *Latrobe Valley Advantage Fund* to deliver a clear and achievable plan for new industry and investment and secure long-term employment for the Latrobe Valley.

In recognition of the current and future challenges the region faces in relation to national climate change policy development, the Roadmap will:

- build on existing local and regional economic plans and strategies
- link work across new regional development projects
- strengthen networks between state departments and the region's local governments and local institutions
- identify more opportunities for new industry and leveraging more investment locally.

Australian Government initiatives

The Australian Government has developed a number of assistance packages to support jobs and competitiveness following the introduction of the carbon price. These packages include:

- **Jobs and Competitiveness Program:** $9.2 billion up to 2014–15 to assist the most emission-intensive activities that are exposed to international competition. Target industries for this program include: primary metals and metal products; non-metallic mineral products; pulp, paper and converted paper products; petroleum and coal products; and basic chemical and chemical products.

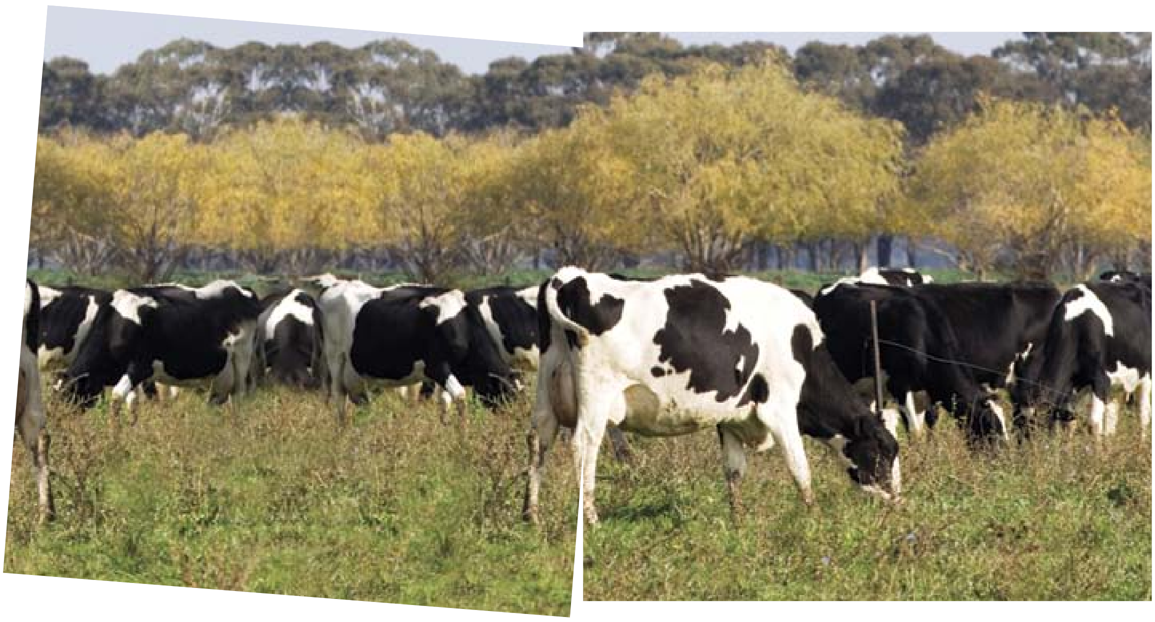
- **Clean Technology Program:** $1.2 billion to improve the energy efficiency of manufacturing industries and support research and development in low-pollution technologies; $200 million is targeted for the food processing, metal forging and foundry industries. The program also includes funding to assist education providers and industry in training and development.
- **Support for Small Business Program:** The instant asset write-off threshold will be increased to $6,500 to increase the capacity of small businesses to invest in new assets.
- **Support for affected regions:** $200 million in funding for regions affected by the carbon price, including programs for displaced workers, affected small businesses, community development and economic diversification activities.

Challenges and opportunities

On their own, each of these initiatives provides substantial benefit to workers and local communities in the Latrobe Valley. However, a more coordinated approach would maximise the potential benefits available.

At minimum, any new proposed initiatives should complement existing programs, as well as connect regional development bodies, industry bodies, employers and education and training providers. The Roadmap aims to achieve this by providing an opportunity for all levels of government, and all government agencies, to work with each other, and with industry, education and training providers, local agencies and communities to create local jobs, attract new investment and develop new technologies. An organised, coordinated and timely response will better position the Latrobe Valley for the transition to a low-carbon future.

Skilling the Valley (as part of the Fund) and the Roadmap are the outcome of an important partnership between governments, employers, education and training providers, business and community.



Conclusions and recommendations

The overall picture that emerges is that two key issues will have significant and far reaching impacts on the Latrobe Valley in the future: climate change and population change.

Conclusions

In this final chapter, findings from the preceding chapters are considered to present overall findings in relation to the aims of the *State of the Valley* report, which are to:

- provide a 'snapshot' of the Latrobe Valley, including information on the region's population, its economy and local industries, its workforce participation and attainment in education, and key indicators of community wellbeing
- describe current knowledge about the region's economy and workforce
- contribute to the evidence base for the *Latrobe Valley Industry and Employment Roadmap* for long-term economic and job security planning and growth
- recommend areas of action and focus which the *Latrobe Valley Industry and Employment Roadmap* can utilise.

The overall picture that emerges is that two key issues will have significant and far reaching impacts on the Latrobe Valley in the future. These issues are:

- climate change, the introduction of the carbon price and the transition to a low-carbon economy
- population changes, especially the ageing of the population and the migration of young people to cities.

The challenges and opportunities presented by these issues will have flow-on effects for education and training in the region, as well as for community services and infrastructure.

These issues also need to be considered in the context of the current environment, especially the number of communities in the region that are experiencing a high level of disadvantage.

Climate change and the transition to a low-carbon economy

The Latrobe Valley relies heavily on its natural resources, with agriculture, power generation, paper manufacturing, and oil and gas production accounting for the majority of the region's economic output.

As discussed throughout this report, climate change, the introduction of a carbon price and the transition to a low-carbon economy will have a significant impact on these industries. The impact will be felt in terms of the economic output of the industries concerned, as well as a likely downturn in employment within these industries and this will have flow-on effects to the local community.

Although this report provides an overview of these impacts at the regional level, there is a need to understand these impacts in more detail – that is, the impact on particular towns and communities, segments of industry and demographic groups – and to plan for them accordingly.

However, as also discussed, opportunities exist within these sectors and these need to be further explored and capitalised upon. This could include, for example, opportunities to lead research, training and implementation of newer, more sustainable technologies and practices, which could attract investment and provide opportunities for growth in training and higher education and growing opportunities for the workforce.

This could also include agriculture, which, although decreasing in its overall economic importance, is still an area of strength for the region. The exploration of newer technologies and practices, particularly in the dairy industry, could open up opportunities for the export of the skills, knowledge and expertise within the Latrobe Valley to international markets. These opportunities need to be explored and analysed further to understand their potential.

As part of the transition to a low-carbon economy, a further need exists for the Latrobe Valley to continue to diversify its economy and to strengthen opportunities outside the resource-based sectors. This could include defence, health, wellbeing and aged care, advanced manufacturing (including food manufacturing), timber and education.

Population changes

Two key changes are occurring in the Latrobe Valley population that are having, and will continue to have, a significant impact. These are the ageing of the population and the migration of young people from the region in search of better education and employment opportunities. Both of these changes are impacting on the workforce, skills and knowledge within the region, local communities, and the need and demand for services and infrastructure.

As outlined in this report, the number of migrant residents in the Latrobe Valley has also increased, although, based on the evidence explored in this report, the precise needs of these communities is not currently well understood.

Changes to the economic landscape, together with these population changes, mean that skill shortages are already being experienced and will be compounded by the ageing workforce and migration out of the region in the future. There is a need for action, including focused, long-term workforce planning, to arrest and address these shortages.

A need also exists to address the migration of young people out of the region. Arresting this trend requires young people to see a future for themselves within the region, in terms of education, training and employment and lifestyle options. Retaining more young people in the region would help limit the impact of population ageing and could help to address skill shortages by retaining knowledge and skills within local areas.

An increase in the number of people aged over 65 years will in turn increase the demand for health and other support services. Planning is needed to ensure that service infrastructure and an appropriately skilled and qualified workforce are in place to meet the needs of this population, although more analysis is required to identify the particular towns and areas where this is likely to be required.

Flow-on effects

The challenges and opportunities presented by these issues will have flow-on effects for education and training in the region, as well as for community services and infrastructure. Opportunities exist to expand the education and training offering within the region, as well as to expand community services and infrastructure, to meet the needs of the regional population. This includes expanding education and training to:

- provide young people with more opportunities to study and live locally
- increase the number of people with Year 12 or equivalent qualifications
- develop the regional workforce and position it to respond to the challenges of the future
- support the transition to a low-carbon economy, including through research, development and training around new technologies and sustainable practices
- improve pathways between schools, VET providers and higher education
- improve the alignment between education and training and the needs of industry.

It could also mean expanding community services and infrastructure (both public and private), although the impact of likely changes needs to be explored further at local levels and considered in the context of any existing plans for service expansion.

Recommendations

Since the privatisation of the electricity, gas and water sectors in the 1990s, governments at all levels – national, state and local – have recognised (and continue to recognise) the challenges faced in the Latrobe Valley, and have put a number of strategies in place to address these challenges.

While each of these initiatives is beneficial, greater benefit could potentially be gained through a more coordinated approach across the different levels of government.

The *Latrobe Valley Industry and Employment Roadmap* includes a comprehensive economic development plan that complements strategies already being implemented by local, state and national governments, industry and other key stakeholders in the region.

The *State of the Valley* report is an evidence base that provides information for the Roadmap to utilise in developing a more organised, coordinated and timely response to the issues being faced in the Latrobe Valley.

The overall picture that emerges is that two key issues will have significant and far-reaching impacts on the Latrobe Valley in the future:

- Climate change, the introduction of the carbon price and the transition to a low-carbon economy will have far-reaching impacts on the local economy, employment and the community, particularly given the heavy reliance in the Latrobe Valley on agriculture, power generation, paper manufacturing and oil and gas production. However, as the report shows, there are also opportunities for the region to lead research and development of new technologies and practices which could attract investment and provide opportunities for growth across the economy.
- Population changes, especially the ageing of the population and the migration of young people to cities, will also have significant impact. Changes to the economic landscape, together with these population changes, mean that skill shortages are already being experienced and will be compounded in the future. There is a need for action, including focused, long-term workforce planning, to arrest and address these shortages.

The challenges and opportunities presented by these issues will have flow-on effects for education and training in the region, as well as for community services and infrastructure.

The Latrobe Valley's economy needs further diversification and growth in order to buffer itself from the impacts of climate change and a carbon price regime. The findings of this report reflect that a number of industries show potential to grow and contribute to the sustainability of the region's economy.

However, successfully rebalancing Gippsland's economy will require a concurrent focus on industry and community strategies that retain young people in the region and within employment, supported by improvement in the pathways into and between the region's education providers.

Value-adding in areas such as alternative uses for natural resources, including alternative energy options and development of coal derivatives, would inject major investment into the economy. However, identifying opportunities outside the major resource-based sectors is also essential for the strength of the Gippsland regional economy. For instance, there is a need for value-adding in the agricultural and food processing sectors (including dairy) by utilising lean manufacturing practices and embedding new and emerging technology. This is underpinned by a need for greater innovation and collaboration in the supply chain which would positively affect Gippsland's export capability. Moreover, the need for a community services, health and aged care workforce will continue to increase as the population ages.

While the region's population is projected to grow strongly, the demand for goods and services will take time to develop.

The Roadmap, through *Skilling the Valley*, will position Gippsland's higher education and VET providers to work in partnership with industry and relevant stakeholders to develop the skills, knowledge and expertise to support a successful transition.

Education providers will need to work together to maximise participation, retention and completion rates to ensure a viable workforce as the economy diversifies and becomes less reliant on carbon-intensive industries. The Gippsland Tertiary Education Plan also identified the need for stronger linkages and more effective relationships between education, training and industry as economic development and restructure occurs.

Recommendation 1

That the *Latrobe Valley Industry and Employment Roadmap* focus on diversification of the economy in industries that have been identified in this report.

The Latrobe Valley and the broader Gippsland region are well placed to take advantage of the opportunities that come from expansion to a more diverse economic base in the following sectors:

- **Power generation, mining:** These industries are all going through significant structural adjustment in the transition to capital-intensive (or 'cleaner and greener') methods of production which utilise smaller, more highly-skilled workforces. Post-privatisation, there has been limited investment in the development of technical workforces to support power generation. Action will be required to attract and train apprentices and managers.
- **Primary industries (agriculture, timber, dairy):** Innovation in work practices and investment in new and lean processing principles will value-add to the region's agricultural, timber and other resource industries and provide the region with integrated supply chains and business vertical integration. A new skills mix will be required to maximise benefit from increasing sophistication and complexity of work practices.
- **Manufacturing (including food processing):** New technologies and advanced manufacturing practices are needed, leading to targeted upskilling and gap training requirements for the current and future workforce requirements.

- **Health and aged care:** The region already has a significant proportion of the population over the age of 65 and this segment is projected to increase further by 2026. Investment in the services and facilities that support ageing is a significant growth opportunity and can only be realised with an appropriately skilled workforce.
- **Defence:** The region has a major defence facility in the RAAF Base at East Sale, which recently received approval for significant investment to upgrade its capacity and expand the breadth of programs provided. This upgrade will result in a significant influx of defence personnel and civilian contractors into Sale boosting the regional economy in a similar way to the flow-on effects from the Wonthaggi desalination plant. It will therefore be important that strategies are in place to capture the benefit to the local economy and the resultant need for an appropriately skilled local workforce.

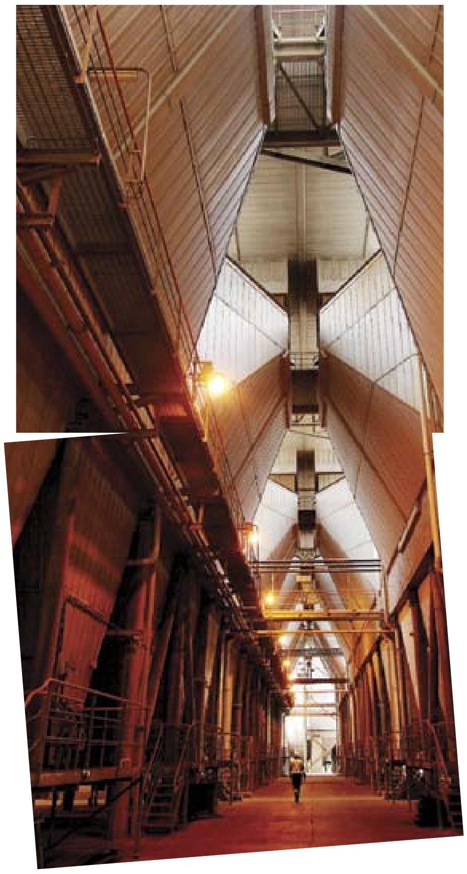
Recommendation 2

That relevant State Government departments, together with education experts, form a working party to ensure alignment with regional priorities as stated by the *Latrobe Valley Industry and Employment Roadmap*.

Responsibilities include:

- coordination and support to tertiary education activity with an initial focus on power generation, farming and food manufacturing, health and aged care
- coordination of responses to current and future Commonwealth and State resource and funding opportunities to progress the provision of strategic tertiary education and training delivery in the Gippsland region.

The working party will achieve this by working with existing stakeholders and regional committees, to encourage partnerships between industry, employers and training providers based on areas of economic need and growth, as informed by the *Latrobe Valley Industry and Employment Roadmap*.



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Appendix: Methodology

This report was developed by Skills Victoria, based on the work of a project team comprising representatives from Regional Development Victoria, the Department of Planning and Community Development and Skills Victoria.

The project team undertook an environmental scan to identify relevant research, reports and other publications. The resulting list of sources was sent to local governments, the Gippsland Trades and Labour Council, the Victorian Employers' Chamber of Commerce and Industry (VECCI) and the Gippsland Educational Precinct to check the comprehensiveness of the evidence and to identify additional information that could be included.

More than 60 documents were reviewed, using a content analysis approach and key themes were identified and synthesised. Drafts of this report, including draft conclusions and recommendations, were developed and reviewed by a team within Skills Victoria.

The majority of the data presented in this report uses the Australian Bureau of Statistics (ABS) census data from 2006. Additional data was drawn from Victoria in Future, the Victorian Government's population projects for the period 2006 to 2008 and from state government departments. The data tables and charts in this report have been reproduced from source material and not updated or validated.