Gippsland
Regional Skills Demand Profile
2023

Victorian Skills Authority

VICTORIA State Government | Jobs, Skills, Industry and Regions

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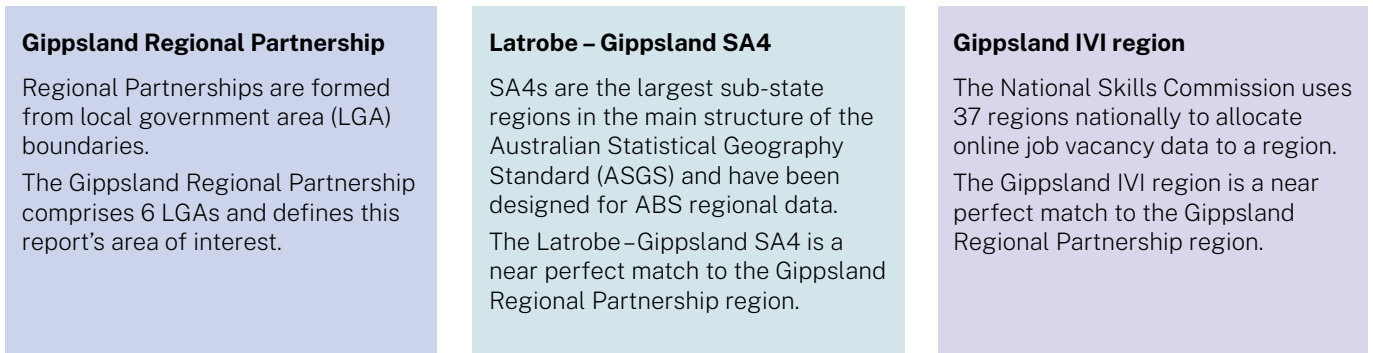
The Victorian Skills Authority

The Victorian Skills Authority (VSA) has a critical role to play in understanding and communicating the skills needed to ensure Victoria can meet current, emerging, and future skills and industry demands that enable inclusive growth and prosperity for all Victorians. Working together with key stakeholders across industry, employers, providers, unions, communities and learners – the VSA seeks to deliver skills-led solutions, drive reform and collaborate to improve skills and employment outcomes.

The Victorian Skills Plan provides the Victorian Government and the skills and training system with quality information to best meet industry and community needs. The VSA is committed to building data and insights year on year through the annual Victorian Skills Plan and updates to the employment forecast dashboard.

Defining the region and its industries

Gippsland is a Regional Partnerships region. The Gippsland region is defined in statistical data sets as Latrobe – Gippsland SA4 and Gippsland Internet Vacancy Index (IVI) region. This near perfect match with the geographical area of Gippsland differs from other Regional Partnerships areas, which tend to be smaller than SA4 and IVI regions. Figure 1 describes the relationship between the regions.[1,2]

Figure 1 | Relationship between regions and the 3 levels of data

Gippsland Regional Partnership

Regional Partnerships are formed from local government area (LGA) boundaries.

The Gippsland Regional Partnership comprises 6 LGAs and defines this report's area of interest.

Latrobe – Gippsland SA4

SA4s are the largest sub-state regions in the main structure of the Australian Statistical Geography Standard (ASGS) and have been designed for ABS regional data.

The Latrobe – Gippsland SA4 is a near perfect match to the Gippsland Regional Partnership region.

Gippsland IVI region

The National Skills Commission uses 37 regions nationally to allocate online job vacancy data to a region.

The Gippsland IVI region is a near perfect match to the Gippsland Regional Partnership region.

This profile defines industries according to their classification within the 1292.0 – Australian and New Zealand Industrial Classification (ANZSIC) 2006, prepared by the Australian Bureau of Statistics (ABS). Occupations within industries have been defined using the Australian and New Zealand Standard Classification of Occupations (ANZSCO). The profile acknowledges that these classifications may not fully reflect the breadth and interconnectedness of industries in the Gippsland region.

Data in this profile

This profile reflects the most up to date data and statistics available in 2022, during the period of the taskforce meetings and profile development. Data is aligned to the 2022 Victorian Skills Plan and various reputable data sources were incorporated, as referenced throughout the profile. Further the profile was prepared for publication in April 2023 and may not reflect more recent developments in some industries.

The Gippsland profile is complementary to the Gippsland Regional Economic Development Strategy (REDS). The profile draws on the REDS in addition to other sources.

Data and information provided in the profile has been validated and adjusted with a taskforce comprised of industry and education and training leaders from across the Gippsland region. As a result, some data and information may differ between the REDS and the profile.

The projections reflect the economic outlook and uncertainty of the time. The pace of the pandemic recovery, return of migration, supply chain issues, inflationary pressures and the Russian invasion of Ukraine have all contributed to a rapidly changing economic and labour market outlook in the last 18 months.

The VSA is currently updating its data for the 2023 Victorian Skills Plan. The update will reflect the changed economic conditions noted above, as well as improvements in the modelling techniques used to estimate employment across the regions. For this reason, the data in the profiles is likely to change with the release of the new Victorian Skills Plan due to be released in late 2023.

For the most recent data, readers should refer to the VSA's employment forecast dashboard: https://www.vic.gov.au/victorian-skills-plan and the Regional Economic Development Strategies (REDS) interactive data dashboards: https://www.rdv.vic.gov.au/resources/regional-economic-development-strategies

Contents

Executive summary

This profile focuses on a 3-year outlook for Gippsland, and the education and training opportunities that can help to develop the workforce required for the region.

About the Gippsland region

Gippsland covers a vast area from outer eastern Melbourne to the eastern-most point in Victoria. It encompasses the local government areas of Latrobe City and the Shires of Bass Coast, Baw Baw, East Gippsland, South Gippsland and Wellington. The region is home to the Gunaikurnai, Bunurong, Wurundjeri and Taungurung Nations, who have lived, worked and cared for their Country and resources for many thousands of years.

Figure 2 | Local government areas (LGAs) in the Gippsland region

The region has an abundance of natural resources, which underpin the energy and mining industry and nature-based tourism. Demand for service-based industries is mostly in the sectors of food, retail, health care, and utilities. An expansive land base supports a competitive advantage in food and fibre industries, which supply the local manufacturing industry to meet domestic and export demand.

Unlike most Victorian regions, Gippsland has no distinct regional centre. Major towns include Traralgon, Moe and Morwell in the Latrobe area and Bairnsdale, Cowes, Drouin, Leongatha, Sale, Wonthaggi and Warragul. The region also includes many smaller communities, with 40% of the population living in towns and settlements of less than 1,000 people.[3]

Gippsland's geographic diversity creates unique communities with differences in local economies, workforces and size across the region. Population density varies dramatically, from 129 people per km2 in Latrobe to only 2.3 people per km2 in East Gippsland. The natural environment also diverse from the alpine region in Baw Baw to the lakes of East Gippsland and the beaches of the Bass Coast and South Gippsland.

Nearly 130,000 people were employed in Gippsland in 2022. [4]The demographic profile of the region poses potential labour supply and workforce skills challenges. The region has persistent lower-than-average rates of educational attainment and labour market participation and high rates of youth unemployment. Young people are known to leave the region to work and live, which compounds the issue of an ageing population. This creates the risk of a working age population that is not large enough or skilled to the right level to meet current and future labour needs.

Region poised for economic growth

After a turbulent period of natural disasters, the pandemic and rapid and anticipated transition of energy and resources industries, Gippsland is poised for economic growth over the next 3 years. The region is well positioned to reap the benefits of strong migration, the return of tourists, infrastructure investment, and increasing consumer demand for food and fibre products.

Major investment is underway, supported by government stimulus, to expand service and infrastructure capacity to meet growing demand, including upgrades to hospitals, education facilities and roads and rail. Government reforms focusing on family violence, mental health, disability, aged care, early childhood and education are increasing health, community and education services. This investment and reform – along with the return of tourists drawn by the region's natural attractions, major events and creative industries – are adding to the demand for new workers.

Growing domestic and international consumer demand for food and fibre products is set to drive growth in the agriculture industry and upstream manufacturing. Both industries are rapidly adopting technology to improve productivity and efficiency in pursuit of this growth opportunity. This will create demand for highly skilled workers, but also reduce the labour intensity of production, meaning that strong output growth is not fully reflected in workforce growth. Regardless, both industries need a large number of workers to fill current vacancies.

Decarbonisation will create a significant transition in the energy and mining industry as fossil fuel based operations are downscaled. This may also lead to a large number of people leaving the labour market altogether to retire, given the relatively older profile of this workforce. Similarly, the end of commercial native timber harvesting and transition to plantation forestry will disrupt the region's forestry industry. To help workers in these industries take up other employment opportunities in the region, specialist training, targeted upskilling initiatives and wrap-around services are being made available through the Victorian Forest Worker Support Program and the Opal Worker Support Service.

Outlook on jobs growth

Employers are expected to seek 7,750 to 10,500 new workers to meet demand in the next 3 years. In addition to new workers, 6,000 workers will be needed to replace retirements. Table 1 provides estimates of job growth across key industries. This is based on data analysis and insights from the Gippsland Regional Skills Taskforce comprising representatives from industry, local government, training institutions, and related agencies in the region. These estimates do not include the workers required to fill existing vacancies. With high vacancies across the region, the number of total workers required by industry will likely be higher.

Table 1 | Estimated new job demand outlook for 2022–25 by industry[1]

Industry	Estimated current workers 2022[5]	Taskforce adjusted forecast new jobs (CAGR[6])	New workers to fill new jobs[6]	New workers to fill retirements[7]	Total new workers needed*
Construction	13,100	3.5 to 5%	1,350 to 1,950	600	1,950 to 2,550
Health and community services	19,350	4.5 to 5.5%	2,750 to 3,450	800	3,550 to 4,250
Energy and mining	12,250	0.5 to 1.5%	50 to 300	300	350 to 600
Agriculture and forestry	9,500	-0.5 to 0.5%	-150 to 150	550	400 to 700
Manufacturing	11,300	2 to 3%	500 to 750	400	900 to 1,150
Visitor economy	21,850	1.5 to 2.5%	950 to 1,650	1,050	2,000 to 2,700
Other	42,350	N/A	2,250	2,300	4,550
TOTAL	129,700	N/A	7,750 to 10,500	6,000	13,700 to 16,500

*Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority (VSA) website.

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1 This profile defines the health and community services industry as the health care and social assistance ANZSIC industry, the energy and mining industry as the mining and electricity, gas, water and waste services ANZSIC industries and the visitor economy industry as the retail trade, arts and recreation services and accommodation and food services ANZSIC industries.

Challenges

The outlook for job growth in Gippsland is positive, but the economic potential depends on adequate labour supply. Workforce shortages are already straining businesses and have potential to considerably constrain growth. With demand for workers critical, Gippsland will need to mobilise underutilised labour such as women returning to the workforce, Aboriginal Victorians, people from culturally diverse and refugee backgrounds, young people who may have disengaged and people with disability, in addition to attracting new residents.

Compared to other Victorian regions, Gippsland has a larger population of people who are not currently in the labour force or who are not fully engaged. This potential workforce could be mobilised with access to careers advice and job search support through existing services such as Skills and Jobs Centres (available across the region with sites in Warragul, Morwell, Sale and Bairnsdale and a presence in Leongatha), Australian Government or Jobs Victoria employment services, and access to work preparation, training or upskilling programs, including through Learn Local providers. Coupled with stronger commitments from employers to workforce inclusion and diversity plus strategies to attract new residents, the region is well placed to achieve the workforce supply it needs for growth.

Opportunities

The education and skills system must support more people to pursue education and training that supports jobs and careers, particularly in the areas of greatest growth. Success, in large part, rests on education and training delivery that is flexible and responsive to meet the needs of Gippsland's learners, industries and employers.

Key priorities for Gippsland's education and skills system

Building the pipeline of workers through education

To secure workers, Gippsland needs to have opportunities and pathways for school leavers and address persistent lower-than-average rates of educational attainment and labour market participation. Educational institutions and related services will need to foster a sense of aspiration and opportunity in communities. Training, including in employability or 'soft' skills, has a significant role. It can bridge the gap between school leavers and disengaged jobseekers to meet the needs of local employers. Targeted support can help people through training and build confidence that there are local career prospects for them.

Enabling flexibility in education and training delivery

Educational institutions and industry have said they are finding it increasingly difficult to service Gippsland's learners through the traditional funding and regulatory models for training. Vocational education and training (VET) qualifications remain essential in preparing for many of the occupations in demand in Gippsland and underpin upskilling as industries change their skills mix. However, for some other jobs in Gippsland, national VET qualifications that focus on specific needs of an occupation along with the rules defining scope, can make it difficult to prepare potential candidates with the combination of skills needed to secure work. Furthermore, taskforce members observed that formal qualifications are broader than VET – noting higher education qualifications are also essential. A strong message from local industry has been that core skills – those that enable a worker to operate within a team and engage effectively with customers – are just as important as technical skills. More flexible and collaborative delivery models offer opportunities to attract new learners and meet industry needs. Taskforce members called for more flexibility for educational institutions to respond to Gippsland's unique local circumstances.

Strengthening collaboration

Educational institutions want their programs to connect learners to jobs and assist jobseekers with the skills that lift their employment prospects. Work placement opportunities for learners as they progress through their qualification can support this. Collaboration between employers and the education and skills system within Gippsland will have positive outcomes for all and help address labour supply challenges.

The education and skills system can enable Gippsland to play a major role in Victoria's clean economy transition

Gippsland currently makes a large contribution to Victoria's energy economy. The transition to a clean economy with renewable energy, the circular economy and climate adaptation will create disruption for the region but also opportunity, with the need to construct clean economy assets including wind, solar, hydrogen and battery-based operations. This phase will require appropriately skilled workers in the next 3 years, including electricians, planners, high voltage workers and managers. Longer term, workers needed into the future will include electrical engineers, wind turbine technicians and a range of supporting supplier and contractor roles. The new State Electricity Commission (SEC) is a key pillar of Victoria's transition to renewable energy. The opportunities this will bring to all Victorians will mean the education and skills system will need to be at the forefront of developing the skilled workforce that can support Gippsland's and Victoria's transition to a net zero economy.

Next steps

Forthcoming investment in the region and expansion of key industries means people living and working in Gippsland can benefit from work opportunities and new skills to build a secure career. Gippsland also has a major opportunity to support Victoria's transition to a net zero emissions.

To deliver on these opportunities, the skilling responses for Gippsland need to support jobseekers experiencing barriers into work and offer options for workers to upskill, as well as full qualifications particularly for occupations in demand where a qualification is required for entry. Furthermore, consideration needs to be given to skills responses that support leadership training for employers.

Upskilling for workers is important because it can help new entrants with job security, improve the skills of workers for career progression and widen their job choices. Formal skills – qualifications and skills sets – remain critical as they mean the skills of individuals are recognised and it is easier for people to work and move across businesses and industries.

Skill responses need to align with the skills requirements of industries. Most industries are reporting the need for high-level skills, especially with the increasing use of digital and automation technologies to respond to clean economy adaptation, new markets and higher consumer expectations. Many of these emerging skills are horizontal – they can be transferred across occupations and industries. This is a new approach to skilling that will be important to regions like Gippsland. Education and training organisations also need the flexibility and permission to deliver skilling interventions that can meet these needs.

Following on from the taskforce and this profile, an action plan will be developed to begin to put these approaches in place and address the identified priorities in collaboration with the community.

Approach to developing Gippsland's Regional Skills Demand Profile

The profile was developed through research, qualitative and quantitative data analysis and consultation about the region's economy, population, workforce, and education and skills environment. Consultation involved the taskforce and representatives from key industries, as well as education representatives within the region. In addition, other community stakeholders were asked for their perspectives, including Aboriginal Victorians and Elders to ensure a wide range of views were captured in the profile.

The data presented was obtained and analysed from various reputable sources, as referenced throughout the profile, and represents the data that was available at the time of taskforce meetings and profile development. It should be noted that the Victorian Skills Authority is currently updating its data for the 2023 Victorian Skills Plan. The update will reflect the changed economic conditions noted above, as well as improvements in the modelling techniques used to estimate employment across the regions. For this reason, the data in the profiles is likely to change with the release of the new Victorian Skills Plan due to be released in late 2023.

The insights and opportunities identified within this profile are a starting point for industry, education and training institutions, and government to deliver the education and skills pathways required to meet current and future industry and workforce needs. The onus remains on all stakeholders to sustain collaboration, so that the people of Gippsland have access to skilling opportunities that help them to develop their skills and prosper. In addition, the taskforce and government, can use this profile to tackle broader workforce challenges that cannot be addressed through the training and skills system.

Acknowledgements

Acknowledgement of Country

The Victorian Skills Authority (VSA) acknowledges and recognises the Traditional Owners of the land within the regional area of the Gunaikurnai, Bunurong, Wurundjeri and Taungurung Nations and their connections to land, sea, and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples.

Acknowledgement of support to undertake this work

The Regional Skills Demand Profiles have been prepared with support from Regional Development Victoria. The profiles are a valuable resource for regional Victoria, the Department of Jobs Skills, Industry and Regions, the Department of Education and broader government. The VSA will work closely with stakeholders to address the opportunities and issues identified in the profiles.

Acknowledgement of Regional Skills Taskforce members

The VSA acknowledges the time, contribution and insights of the Regional Skills Taskforce (Table 2) and additional representatives from industry, local government, education and training institutions and related agencies. The findings in this profile would not be possible without their openness, generosity, expertise and commitment to the regional economy and community.

The VSA also acknowledges the contributions of Abbey Smith, East Gippsland and Margaret Atkinson, Central Gippsland Wurreker Brokers, Joanne Brunt, Coordinator of the Vocational Training and Employment Centre (VTEC) based in Latrobe City Council, and First Nations Kurnai Elder Aunty Cheryl Drayton and Daniel Miller, CEO of GunaiKurnai Land and Waters Aboriginal Corporation.

Table 2 | Regional Skills Taskforce members

| Member	
Andrew Tingate	Mt Baw Baw Alpine Resort
Anita Raymond	Latrobe Regional Hospital
Benjamin White	TasNetworks
Catherine Basterfield	Phillip Island Nature Parks
David Vercoe	Opal Australian Paper
Denise Campbell-Burns	Construction, Forestry, Maritime, Mining and Energy Union
Elena Kelareva	GippsTech
Grant Radford and Linda Austin	TAFE Gippsland
Katrina Langdon	Star of the South
Leigh Kennedy	Federation University
Leisa Clark	Gippsland Forestry Hub
Michael Crane	Gippsland Water
Nicola Pero	Food and Fibre Gippsland
Renee Kurowski	AGL
Steve Dodd	Australian Manufacturing Workers Union and Gippsland Trades and Labour Council
Stewart Carson	Burra Foods
Sue Geals	Community College Gippsland
Therese Tierney	Gippsland Regional Partnership
Charlene Kenney	SafeTech
Tony Britton	Radial Timbers

Victorian Skills Authority

Introduction

The Victorian Skills Authority has a critical role to play in understanding and communicating the skills needed to ensure Victoria can meet the current, emerging and future skills and industry demands that enable inclusive growth and prosperity for all Victorians.

Regional Victoria is critical to a thriving Victoria. The Regional Skills Demand Profiles are an important element in setting the regions up for success and prosperity.

Figure 3: Victorian Regional Partnerships map
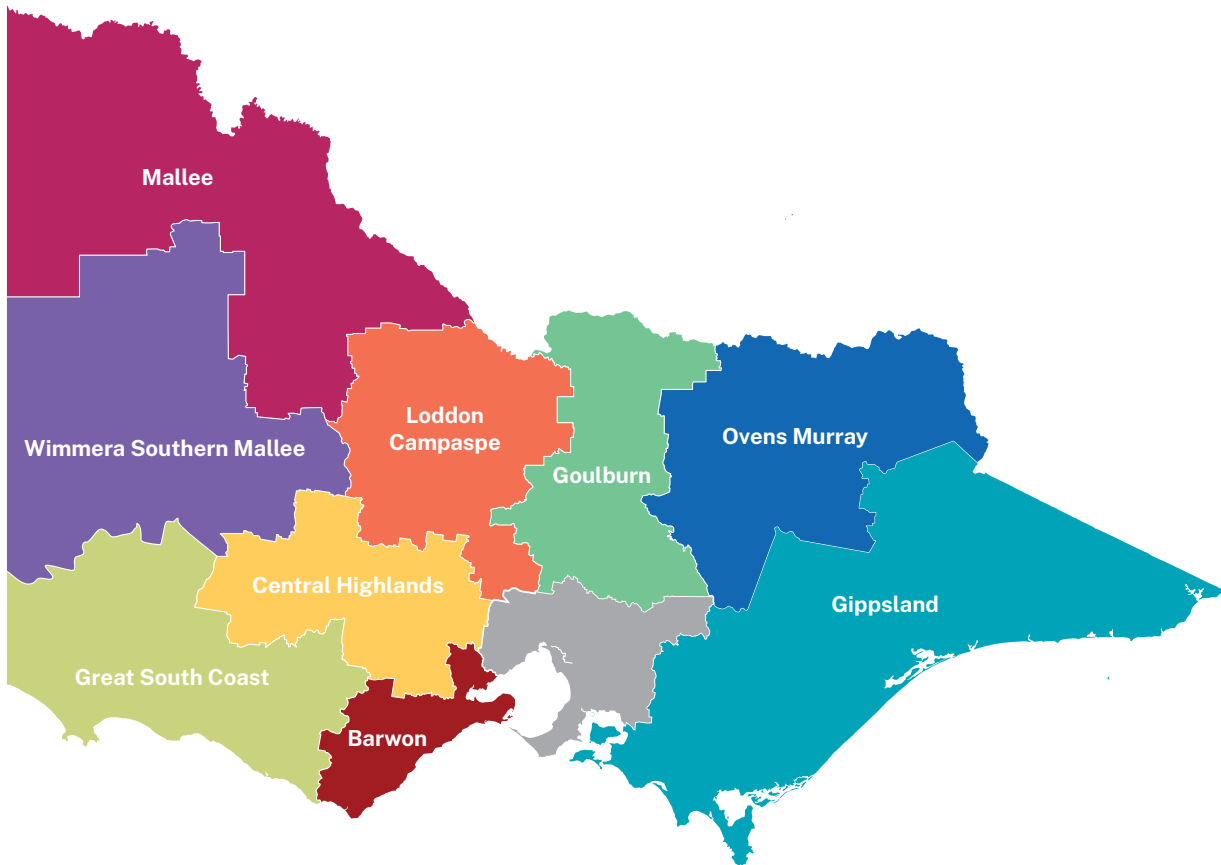
The purpose of the profiles is to provide a robust evidence base that draws on a wide range of data and information that is supplemented by the valuable insights and experience of key stakeholders, brought together through dedicated Regional Skills Taskforces and industry roundtables.

The profiles are developed through a collaborative and robust process, with a focus on providing local insights and a tailored and actionable response to support decision-makers to understand broad workforce trends, challenges and opportunities. This profile has been established with the intention of being accessible, practical and valuable to a range of stakeholders, including government departments and agencies, employers, training providers, local industry and the region.

This profile focuses on the 3-year outlook for the Gippsland region, and the education and training opportunities that can assist in developing the required workforce. Whilst the profile acknowledges that many factors contribute to economic development, this work is centred on the skills and training responses (to engage, train and retain the workforce) rather than other levers that are also essential to secure labour and ensure the region's prosperity.

Connection to the Victorian Skills Plan

The Victorian Skills Plan defines current and emerging skills needs and labour market shortages across the state at both industry and local levels to direct and enable more targeted investment that ensures a Victorian skills system which can meet the current, emerging and future demands of industry and the community.

As the first of many, the inaugural plan, alongside the development of the profiles, highlights the need for ongoing conversations and collaboration across the sector to address current and emerging skills requirements. While the plan covers the current landscape of the Gippsland region and industry needs, the profile focuses more deeply on the localised challenges and opportunities for the Gippsland region.

The plan will be continually refined, building on data and insights year on year, with a clear focus on driving better collaboration and innovation across the state and each of Victoria's regions.

Figure 4: Connection between the Regional Skills Demand Profile and the Victorian Skills Plan
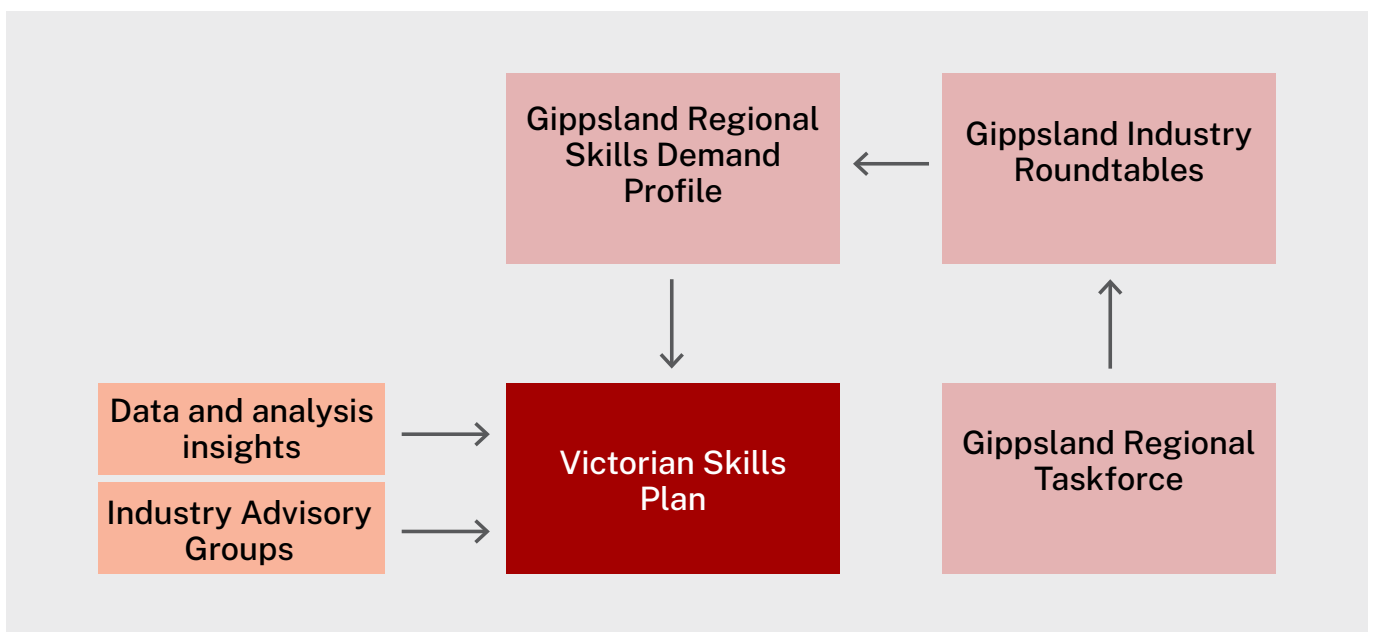
The data used in this profile is based on the latest available information at the time of its development. Updated data and insights can be accessed via the Victorian Skills Authority website where appropriate or through various data sources, as referenced throughout the profile.

Strategic context

The Victorian Government is committed to tackling the challenges facing the state, through investment, planning and delivery of strategic initiatives that have a positive and sustainable impact on Victorian regions.

The Skills for Growing Victoria's Economy Review by Jenny Macklin (the Macklin Review) and the Review into Vocational and Applied Learning Pathways in Senior Secondary Schooling by John Firth (the Firth Review) highlight the need for sector reforms and transformation to ensure a future-proof skills system that can deliver the skills of the future.

In line with key recommendations from the Macklin Review, government is prioritising improvements to Victoria's skills system to ensure the sector can continue to innovate and meet the changing needs of students and industry in creative and collaborative ways.[8]

Committed to skill-led economic recovery for the state, the government's skills reform agenda seeks to transform the delivery of senior secondary education and vocational education and training.

This agenda will ensure Victorians have access to high quality education and training that supports the attainment of meaningful jobs and careers, while simultaneously increasing access to a skilled workforce for industry and employers, supporting the social and economic prosperity of individuals and the community.

Statewide trends and the impact on the Gippsland region

This profile is being prepared in a complex and challenging period that goes beyond the skills system and skills policy. The Australian and Victorian economies are being impacted by cost of living pressures, significant labour shortages and the continued recovery from the pandemic that has exacerbated many underlying challenges.

These conditions are recognised as megatrends as they are present across diverse sectors and contexts. Certain megatrends present unsustainable pressure for businesses and residents, globally, within Victoria and in a localised context unique to Gippsland specifically.

Figure 5: Megatrends impacting the Victorian economy
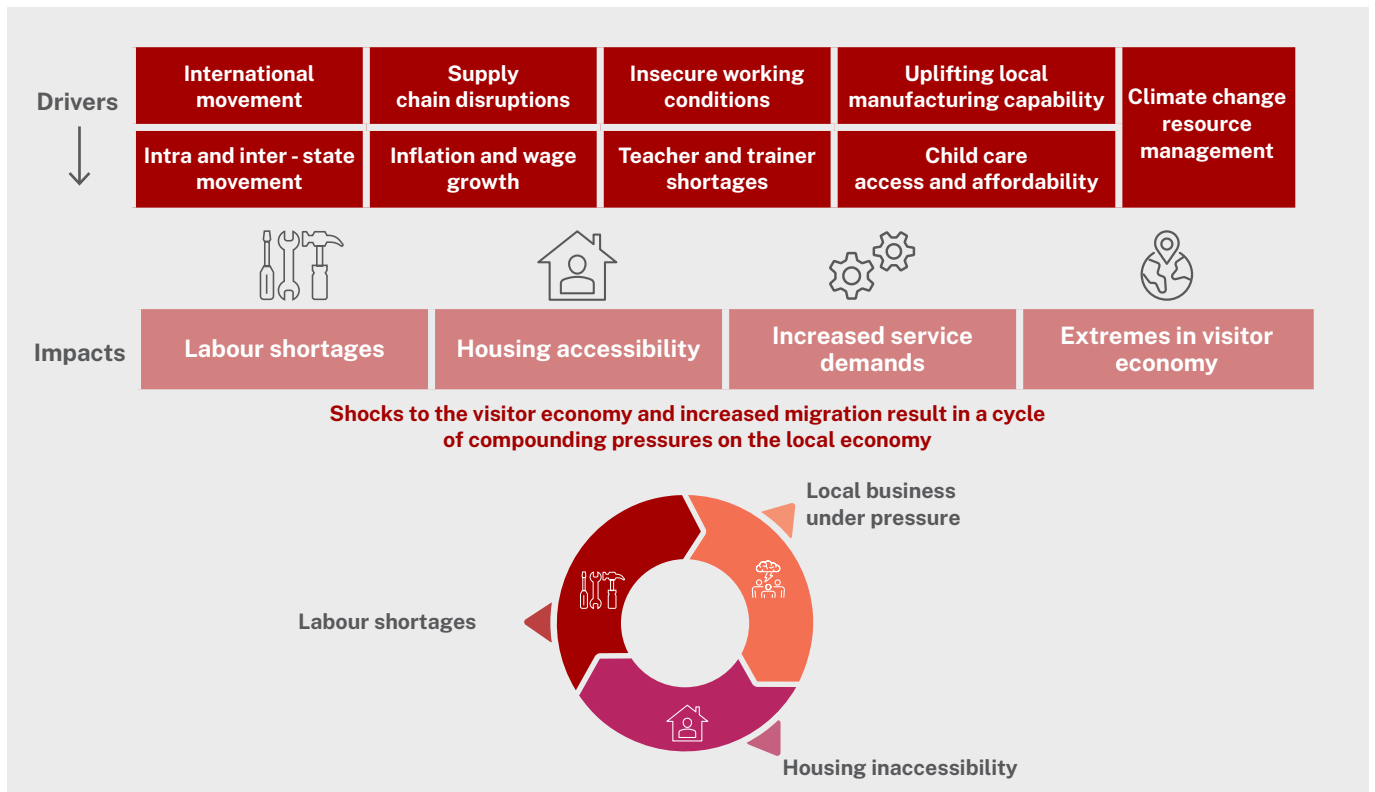
Gippsland's economy is strong but faces transition in key industries

Historically, Gippsland has been Victoria's fossil fuel based energy production powerhouse but the state is transitioning to clean and renewable energy sources. Gippsland is also one of Victoria's leading sources of food and fibre and is a well-renowned tourist destination with opportunities for growth and diversification.

Broad strategy and directions for the Gippsland region have been set out in other plans and strategies that have also identified key challenges and opportunities.

The Gippsland Regional Plan 2020–25[9] is a strategic plan for improving economic, social and environmental outcomes for the Gippsland region. It outlines a long-term vision to be Australia's most liveable region by 2040 and identifies priority actions over the next 5 years to achieve this vision, including investments in leadership, environmental assets, regional innovation, enabling infrastructure, lifelong learning and inclusive communities. The Gippsland Regional Plan was developed by the Gippsland Regional Partnership, Regional Development Australia Gippsland, Committee for Gippsland and One Gippsland and is a partnership that involves all levels of government, business, industry and community.

The Aboriginal Economic Development Strategy,[10] developed by the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC), facilitates and promotes opportunities for all Aboriginal communities in Gippsland to make a significant contribution to the economic development of the region. The strategy seeks to harness the skills and knowledge of Aboriginal Victorians living in Gippsland and strengthen and grow productive partnerships and collaborative ventures.

Other key strategic work informing the future direction of the region includes the Australian Government's Local Jobs Plan[11] which aims to create employment opportunities and upskill and reskill local jobseekers to meet local employer demands. The plan notes Gippsland has challenges with lower levels of educational attainment and high youth unemployment. It also calls for prioritising training that supports pathways for jobseekers and upskilling of employees in major industries including health and community services, construction and food and fibre.

A recent parliamentary inquiry report[12] into the closure of the Hazelwood and Yallourn Power Stations called for skilling responses that learn from the Latrobe Valley Authority's experiences in coordinating responses for transitioning workers. The transitioning industries in the region are being supported through transition support services that include skills responses so workers, their families and communities, are well placed for the region's current employment opportunities and future jobs.

State and federal infrastructure initiatives

The Victorian Infrastructure Plan 2021 lays out the government's infrastructure priorities across 8 sectors, including significant projects, reform directions and funding over the next 5 years and beyond. The plan also responds to each of Infrastructure Victoria's 94 recommendations in Victoria's Infrastructure Strategy[13] which was released in August 2021. Victoria's 30-year Infrastructure Strategy has a number of recommendations for Gippsland, including road and rail line upgrades, a new mental health facility for young people, a new alcohol and drug residential treatment facility in Traralgon, a renewable energy zone, internet access, healthcare accessibility and improved social housing across the region.

Key construction projects include Latrobe Regional Hospital Expansion and Regional Rail Gippsland Line Upgrade. Gippsland is one of 6 Renewable Energy Zones (REZ) in Victoria[14] and the first national priority area to be assessed for suitability to develop offshore wind infrastructure.[15] There are several major projects in pipeline, including the Star of the South Offshore Wind Project, Delburn Wind Farm, Perry Bridge Solar Farm and the Marinus Link project, a second undersea electrical interconnector with Tasmania.

The region's population is growing and ageing

Gippsland had a resident population of 300,664 at the time of the 2021 Census,[16] which has grown steadily over the last decade.[17] Pre-pandemic projections forecasted this trend to continue, with a 1.2% annual population increase projected over the next 10 years.[18] However, the region is showing signs of accelerated population growth post-pandemic, with recent growth exceeding these projections at 1.6% in 2020–21.[18] This growth is higher than other areas of the state, with regional Victoria experiencing growth of only 1% in the same period.[18]

Gippsland's western areas are likely to continue to experience particularly high population growth. Baw Baw and Bass Coast areas grew by 3.7% and 3.1% respectively in 2020–21,[18] with both areas ranking in the top 5 fastest growing areas in Victoria.[19] Taskforce members reported that newer residents are people from metropolitan areas such as Melbourne seeking a regional lifestyle post-pandemic. Based on this trend, the region may continue to experience strong population growth, particularly in the Baw Baw and Bass Coast areas.

Gippsland's population is ageing. Compared to the rest of Victoria, the region has a low share of people aged 20 to 44 years old and a higher proportion of people aged 55 to 70 years old.[20] Taskforce members noted a longstanding tendency for young people to leave the region to pursue education and employment opportunities. However, stakeholders also noted this trend may be slowing, with the impact of the pandemic creating greater incentives, including online educational opportunities, for young people to remain in Gippsland.

This ageing population is reflected in the region's workforce. Around 6,050 workers are expected to retire in the next 3 years, equivalent to approximately 5% of the region's workforce.[21] Industries with relatively high proportions of older workers are particularly vulnerable to this challenge, including the agriculture and forestry industry, where one in 5 workers are aged over 65 years. Workers may remain in this industry beyond this age, but the nature of their work may change to be less labour intensive. Large-scale retirements would require substantial replacement of workers, creating a large shift in workforce composition and potentially contributing to the loss of knowledge and experience within some industries and businesses.

Strategic direction for the Gippsland region

Regional consultations undertaken through the taskforce broadly align with strategic directions set out in the Gippsland Regional Economic Development Strategy (REDS) but also identified others, including construction. The Gippsland REDS identified 5 strategic direction areas set out below. All are further explored in this report.

1. Maximise the role of the food and fibre industry in the local economy

Activating the food and fibre innovation ecosystem through on-farm innovation, local research and development, and attracting a skilled workforce will help to develop future-focused industries and unlock new markets.

Examples already underway include the Internet of Things which is working with Gippsland's dairy industry at Maffra to support the growth and use of digital technologies to lift industry productivity and performance and the Ellinbank SmartFarm which is Australia's leading dairy innovation facility, funded as part of the Victoria Government's $5 million investment in Smarter, Safer Farms initiative.

2. Accelerate advanced manufacturing capabilities in the region

Immediate opportunities in food product manufacturing, energy supply chains and health manufacturing can be linked to collaborative research and digitalisation to encourage innovation and investment. There are also existing strengths in pulp and paper, high-tech machinery and aircraft production.

The Morwell Innovation Centre, which is part of the High-Tech Precinct and co-located alongside TAFE Gippsland's Morwell Campus, supports collaboration between advanced manufacturing businesses, research, education and industry to strengthen development and innovation along the sector's entire supply chain.

3. Pursue opportunities emerging from energy industry transition, including in clean and renewable energy and earth resources

The international and domestic focus on renewable energy and climate change mitigation is driving opportunities to activate clean energy and carbon capture and storage potential and positions Gippsland to supplement existing strengths in energy production with hydrogen and earth resources.

There are a number of projects under development, including CarbonNet, Star of the South, Solar Farms and the Hydrogen Energy Supply Chain pilot project that are expected to further enable the region's leadership in energy opportunities for the future.

4. Support growth and diversification in the visitor economy

Creating experiences that enable year-round visitation and promoting the region's Aboriginal Victorians' heritage and agritourism will be central to driving growth in the tourism industry and creating further opportunities to showcase the region's significant attractions.

5. Enhance regional specialisation in health care and social assistance

Stronger partnerships between industry and education and training providers will facilitate career pathways in health care and social assistance, supporting labour market inclusion and meeting the increasing demand for services.

'Gippsland is one of Victoria's leading sources of food and fibre and is a well-renowned tourist destination with opportunities for growth and diversification.'

Key industries across Gippsland

This Gippsland Regional Skills Demand Profile has in-depth analysis of the economic and workforce outlook for 6 industries over the next 3 years, acknowledging that the region also has other important and connected industries. The 6 industries are:
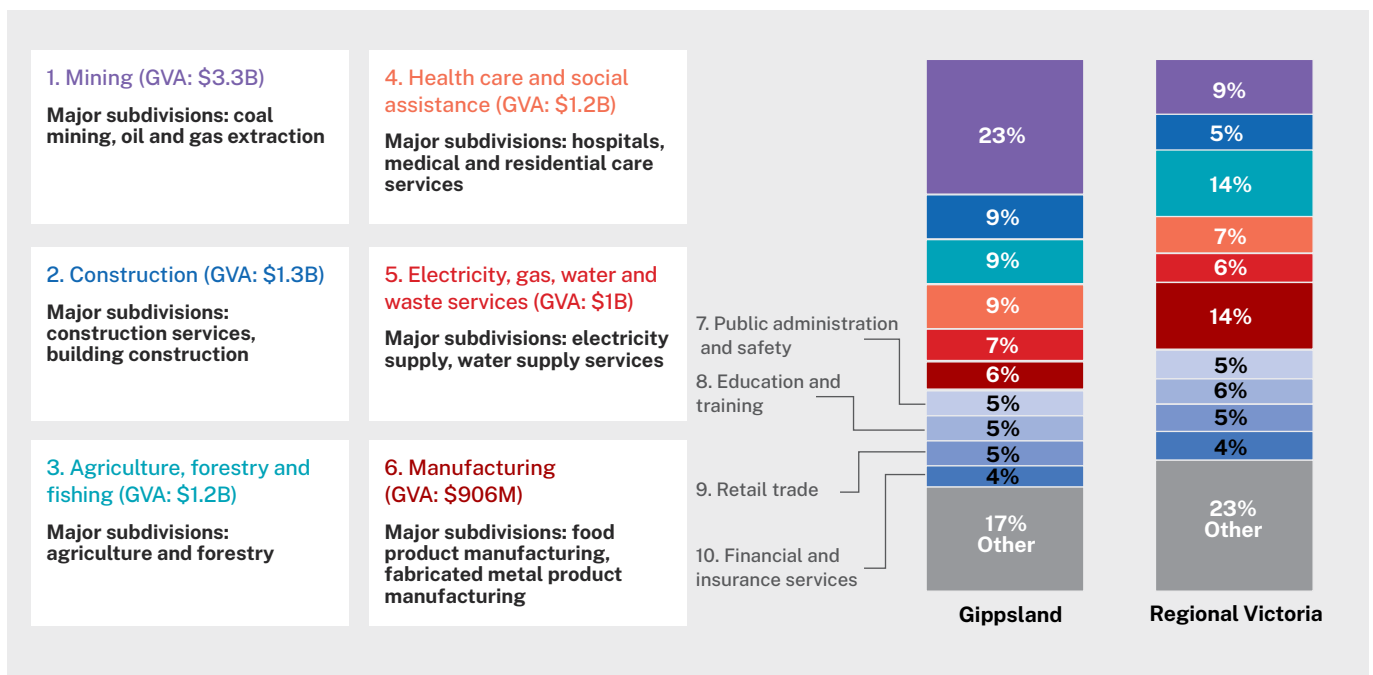
1. Construction

2. Health and community services

3. Energy and mining, including the mining and electricity, gas, water and waste services industries

4. Agriculture and forestry

5. Manufacturing

6. Visitor economy, including the accommodation and food services, arts and recreation services, and retail trade industries.

These have been selected because of their economic contribution to the region, and the critical dependence they have on securing a workforce with the right skills. They broadly align with the 5 priority industries identified in the Gippsland REDS, with construction as the sixth. The industry profiles provide a snapshot of their outlook, occupation requirements and challenges and opportunities which impact on their workforce.

The region's economy comprises interconnected industries

A range of industries contribute to Gippsland's economic prosperity and employment prospects.

Figure 6 | Industry gross value added (GVA), 2021[22]

1. Mining (GVA: $3.3B)

Major subdivisions: coal mining, oil and gas extraction

2. Construction (GVA: $1.3B)

Major subdivisions: construction services, building construction

3. Agriculture, forestry and fishing (GVA: $1.2B)

Major subdivisions: agriculture and forestry

4. Health care and social assistance (GVA: $1.2B)

Major subdivisions: hospitals, medical and residential care services

5. Electricity, gas, water and waste services (GVA: $1B)

Major subdivisions: electricity supply, water supply services

6. Manufacturing (GVA: $906M)

Major subdivisions: food product manufacturing, fabricated metal product manufacturing

7. Public administration and safety

8. Education and training

9. Retail trade

10. Financial and insurance services

Gippsland: 23%, 9%, 9%, 9%, 7%, 6%, 5%, 5%, 5%, 4%, 17% Other

Regional Victoria: 9%, 5%, 14%, 7%, 6%, 14%, 5%, 6%, 5%, 4%, 23% Other

Energy and mining

Gippsland's coal, oil and gas deposits have historically placed the region, and particularly the Latrobe area, as Victoria's energy powerhouse. In 2015 the region produced 85% of the state's electricity.[23] The energy and mining industry is central to Gippsland's economy, contributing 3 times the gross value added (GVA) of the next largest industries and supporting a range of businesses in other industries. However, government policy and community calls for decarbonisation has resulted in a period of transition, with fossil fuel based power assets set to close or dramatically reduce production with a shift towards clean and renewable energy sources.

Agriculture and forestry

Agriculture

Gippsland has a strong agriculture industry. The region's expansive land base and transport hubs mean it is a leading food and fibre bowl, producing a sizeable proportion of Victoria's vegetables, dairy and meat. Growing consumer demand for locally produced, high-value food products is also driving growth in the agriculture sector. The Aboriginal Economic Development Strategy for Gippsland identifies sustainable land and water management and commercialising native plants and bush food as key opportunities.[24]

Forestry

Gippsland has extensive native forests and 25% of the state's plantation timber estate,[25] which has enabled the region's forestry sector to produce wood products. However, the Victorian timber industry is transitioning due to a decrease in native timber resources because of fire, wildfire protection and third-party litigation. Workforce shortages in other growth sectors such as energy and manufacturing offer alternative employment opportunities for native timber workers and associated occupations.

Manufacturing

The manufacturing industry relies on and contributes to other industries. Local manufacturers benefit from close connections to the agriculture sector to produce dairy, meat and ready-to-eat food products, and the forestry sector to produce paper, pulp and timber products. Other manufacturing outputs including machinery, equipment and mineral products support the region's energy and mining, construction and transport industries.

Visitor economy

Gippsland's natural amenity, engaging towns and vibrant creative industries position the region as an attractive visitor destination. Natural assets including Phillip Island, Lakes Entrance, Wilsons Promontory National Park and Mount Baw Baw attract visitors to the region. Nearly 8 million tourists visited Gippsland each year prior to the pandemic.[3] Cultural tourism is an emerging and unique product that Traditional Owners and Aboriginal businesses are working to develop alongside other tourism experiences. The growth in cultural tourism can potentially provide an opportunity to deliver training solutions for improved engagement of Aboriginal Victorians in the tourism industry.

Visitors create demand for local accommodation, food, beverage, and recreation services. Pandemic travel restrictions have hindered visitation over the last 2 years, however businesses are reporting signs of recovery.

Construction

The region's economic activity supports thriving communities, creating demand for industries that are being driven by changes in population. Demand for housing is being driven in part by new residents and is creating activity in residential construction. Commercial and civil construction are developing the infrastructure, facilities and offices for industry to operate and for the Gippsland population to access services.

Health and community services

Health and community services deliver essential services to support health and wellbeing. The strength of this industry is critical to Gippsland, as the region has an ageing population, a growing number of retirees and approximately 35% of the population with one or more long-term health conditions.[26,27] Service provision is highly valued in remote areas that would otherwise face long travel distances to regional centres.

Education sector

The region's education and training sector supports local industry, workers, and communities. The region's education system is a major employer and facilitates the skill development of local people from primary to tertiary level. Collaboration between industry and educational institutions, such as the Hi-Tech Precinct Gippsland and Morwell Innovation Centre, is helping to align training with industry needs and support industry innovation. The education sector is critical to fostering a skilled local workforce that can realise the region's economic potential.

Workforce location across Gippsland

Nearly 130,000 people are employed in Gippsland in 2022[4]. The visitor economy industry comprises retail trade, accommodation and food services and arts and recreation industries and collectively represents 16.8% of the region's workforce. Health and community services is the largest single employing industry, accounting for 14.9% of the total jobs.

Construction and education and training are 10.1% and 8.2% of the region's workforce respectively. Other large employing industries include agriculture and forestry (7.3%), energy and mining comprised of electricity, gas, water, waste services and mining (9.4%) and public administration and safety (5.9%). Figure 7 shows employment by the number of workers employed in each industry.

Figure 7 | Industry* by workforce, 20225

Source: VSA and Nous (2022), modelling of NSC (2022) Employment Projections.
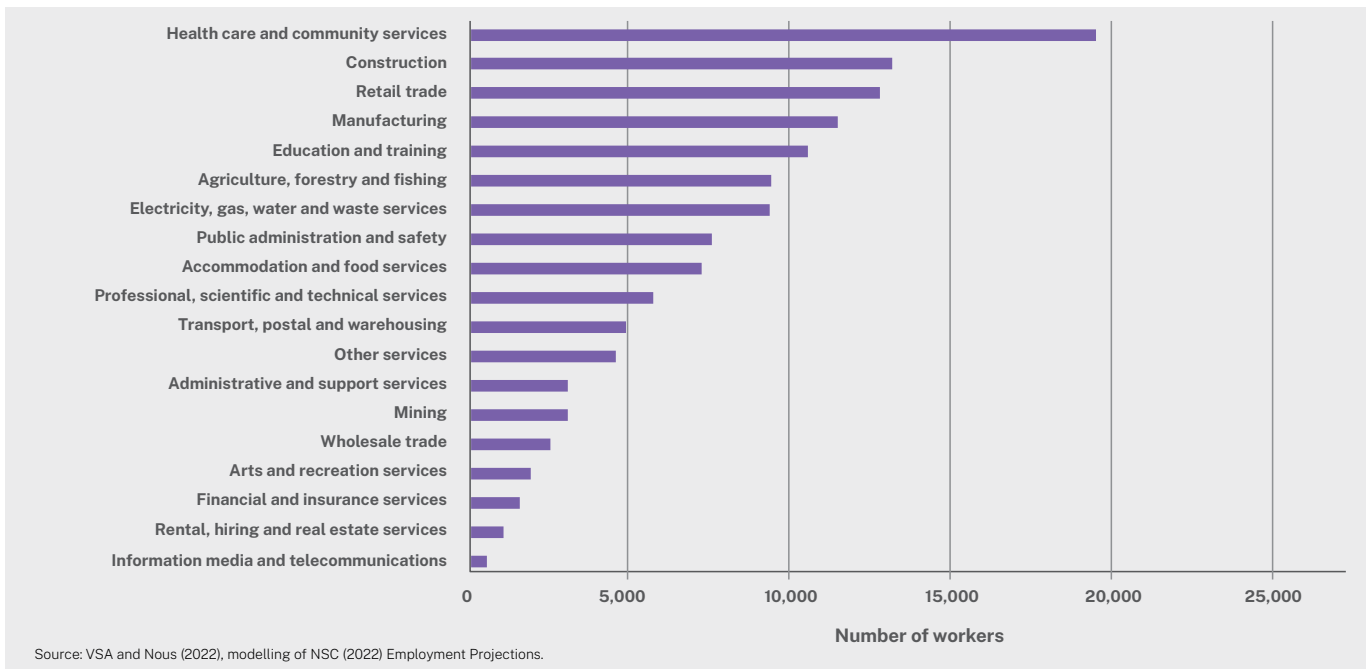
Latrobe is home to the largest workforce, which includes large concentrations of workers in the energy and mining industry. Natural attractions in Bass Coast, Baw Baw and East Gippsland attract tourists, requiring relatively large visitor economy workforces in these areas. Other areas across South Gippsland and Wellington have a greater proportion of agriculture and forestry workers.

Workers are predominantly employed by small and medium enterprises. Most businesses in the region have fewer than 20 employees; 65% are owner-operator businesses that don't employ staff; and 60% have a turnover of less than $200,000 per annum. There are some large businesses in the region, with 2% of businesses having an annual turnover of more than $5 million.

The region has longstanding challenges with workforce participation

Gippsland has had an increase in demand for workers in the last 2 years, driven by industry growth and high rates of vacancies due to constrained labour supply. Figure 8 shows the region's increase in employers seeking new employees, with online job advertisements increasing 106% above pre-pandemic levels.

The trend has been consistent over the last 2 years, driven by pandemic restrictions on domestic and international travel restricting the flow of labour into the region. Employers across all industries reported extensive workforce shortages, describing critical occupations that need to be filled to meet current demand, let alone expand further in the next 3 years.

Figure 8 | Internet vacancy index of Gippsland region, 2010 to March 2022[28]
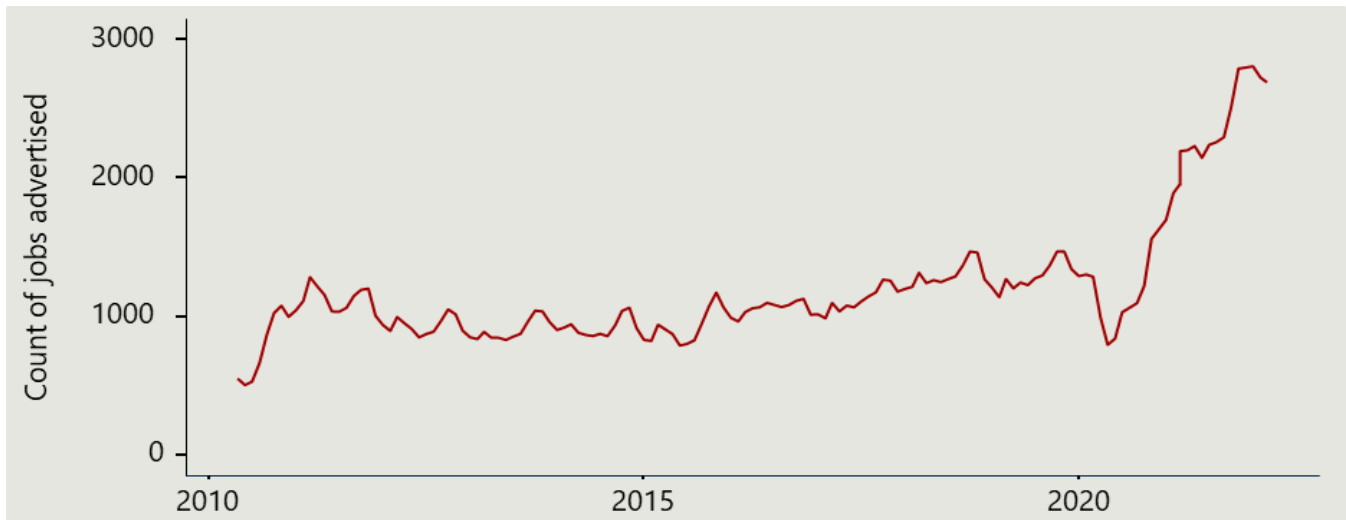
The region's unemployment was 3.2% in July 2022 which was just above the state average of 3.1%.[29] Gippsland's labour force participation rate was 55.1% in July 2022, the lowest of any region in Victoria. This lag may be due to a combination of social and economic factors, including a lower socioeconomic profile, higher early school leaver rates and lower levels of higher education attainment than the state and national averages.[30] Female labour force participation consistently lag behind male participation across all age groups, particularly in the 25 to 54-year old bracket. This discrepancy may be caused by structural barriers to workforce participation, such as a lack of available and affordable child care across the region.

Young people and people from diverse cohorts, such as culturally and linguistically diverse (CALD), face persistent employment challenges. The region's 12-month smoothed youth unemployment rate was 15.1% in July 2022, well above any other Victorian region and the state average of 9.9%. The high rate of youth unemployment is attributed to structural barriers such as lower than average rates of educational attainment, health issues, discrimination or issues in accessing affordable and reliable transport.

Aboriginal and Torres Strait Islander people or people from culturally and linguistically diverse (CALD) backgrounds in the region typically have higher unemployment and lower labour force participation rates. Taskforce members reported these poor employment outcomes are a longstanding challenge. They wanted more work to be done to support people in these cohorts to enter employment.

The region's unemployment and labour force participation rates indicate an opportunity to engage more people in education and employment, particularly young people. Increasing participation would provide industries in the region with access to the workers they need, with direct benefits to Gippsland's economy.

Key opportunities for the region

Gippsland is poised for economic growth in the next 3 years. However, economic growth is contingent on multiple enablers, including, but not limited to, the availability of labour, affordable housing and supply chains.

Growth in economic output affects workforces differently between industries, due to differences in technological advancements, skill requirements and economies of scale. The profile identifies anticipated change (if any) in workforce growth.

There is considerable risk that the growth potential across all industries will not be realised if vacancies are not filled and if demand for new workers (above and beyond current vacancies) cannot be met.

Influences on Gippsland's workforce growth

Gippsland's workforce outlook is influenced by state and national trends, including increased government investment, changing migration patterns post-pandemic and an increased adoption of technology. Government policy intervention in areas of regional strengths, including the energy and mining and agriculture and forestry industries, will shape changing workforce requirements.

Drivers for workforce change in Gippsland are shown in Table 3, with further detail below. The table identifies key policy initiatives; economic opportunities and challenges; social and demographic factors; technological changes; and environmental challenges that will influence the workforce outlook for Gippsland.

Table 3 | Drivers of workforce outlook

Policy	Very high	• Major government reforms across health and community services will increase the number of workers required to deliver services, including family violence, early childhood, mental health, disability and aged care reforms. • Climate change and related environmental impacts are necessitating new policy approaches and transitions in the energy, mining and forestry industries. • Investment in housing, transport and tourism infrastructure. **Strongly affecting:** agriculture and forestry, health and community services, energy and mining, construction, visitor economy, education and training.
Economic	High	• Recovery underway following recent natural disasters in the region, including floods and bushfires. • Increasing consumer demand for locally produced high value products. • Priority to secure supply chains through expanded onshore manufacturing capability. • Record pricing and high export demand for commodities. • Increasing desire for secure employment opportunities. **Strongly affecting:** agriculture, manufacturing, visitor economy, construction.
Social	Very high	• Population movement from metropolitan areas to the region. • Return of visitors to the region. • An ageing population, with higher dependency on government services and support. • Relatively high rates of underlying health conditions, chronic disease and drug and alcohol use. • Inter-generational trends of high unemployment and disengagement with the education system. **Strongly affecting:** health and community services, visitor economy, construction, education and training.
Technological	High	• Increase in technology-driven production, automation and Internet of Things. • Investment in the construction of clean energy assets, such as wind and solar farms, and associated infrastructure. **Strongly affecting:** agriculture, manufacturing, energy and mining, construction.
Environmental	Medium	• Increasingly challenging climate conditions, including a decline in expected rainfall and increased incidence of natural disasters. • Reduced availability of natural resources. **Strongly affecting:** agriculture and forestry, manufacturing, energy and mining, visitor economy.

Population growth will drive demand for service-based industries

Gippsland is experiencing heightened population growth following the pandemic. Domestic migration has increased, as working arrangements become more flexible and people pursue a regional lifestyle. This trend has been particularly notable in Bass Coast and Baw Baw areas, reflecting the liveability and close proximity to Melbourne, with both shires ranking in the top 5 fastest growing areas in Victoria.[18]

Industries driven by changes in population need to increase capacity to keep up with demand. Strong industry growth is triggering significant demand for new workers across construction, health and community services, education and training, utilities, public administration and professional, technical and scientific services. Meeting this demand will be contingent on the availability of workers with the appropriate skills.

The turbulence of the last few years has also contributed to the spike in economic activity. Devastating natural disasters, reduced operations throughout the pandemic followed by government stimulus caused a build up in demand that is still being felt in a backlog of housing, infrastructure and service demand.

Government reform in family violence, mental health, disability, aged care, early childhood education is expected to create more demand and change the nature of services. It is anticipated that more workers will be needed to deliver an enhanced level of care, requiring skills in person-centred care and innovation.

Major investment in the region is expanding service and infrastructure capacity with funding to upgrade hospitals, education facilities and roads and rail. For these industries, the growth outlook is strong but could be considerably constrained by resource shortages. Strained supply chains and critical worker vacancies are already disrupting operations. Labour shortages have potential to worsen, as burnout pushes workers to either retire or pursue employment in other industries. The number of workers needed to service the industry growth potential is likely considerably higher than the job growth.

'Strong industry growth is triggering significant demand for new workers across construction, health and community services, education and training, utilities, public administration and professional, technical and scientific services.'

Key challenges facing the region

Visitors are returning, but more workers are needed to realise growth

Gippsland's visitor economy has been disrupted over the past few years, but the outlook is positive as visitors begin to return. With demand increasing, the visitor economy is eyeing the potential to return to, and grow beyond, pre-pandemic levels. The region seeks to capture the renewed interest of visitors by investing in Gippsland's unique offerings in nature-based tourism, high-value luxury experiences and culture, arts and events.

Gippsland will need a substantial increase in workforce size in visitor economy industries, beyond pre-pandemic levels. Job growth is expected to be greatest in accommodation and food, and arts and recreation, while retail expects conservative growth. However, the industry had workforce exits during the pandemic and employers report high vacancies, with many businesses struggling to keep the doors open. Vacancies are exacerbated in peak periods because surge workforces normally available through international sources have not been available. This is increasing demand for local workers, however, the seasonality of work can make it difficult to attract locals.

Agriculture and manufacturing require workers to fill current shortages

With growing consumer demand and high exports, the agriculture and manufacturing industries are expecting strong growth in output over the next 3 years. Technological advances and use of data are improving farm management and automating processes, which flows on to higher-value products. Technology-driven production is also reducing the labour intensity of these industries but will create greater demand for workers who understand and work with advanced technology.

Strong growth in output is not fully reflected as growth in the workforce, although the workforce required to service this growth is expected to remain relatively stable. Conversely, the manufacturing industry is expected to experience some workforce growth as businesses expand to meet growing consumer demand, requiring new workers in entry level and seasonal roles.

Both industries will require a large number of workers over the next 3 years to fill current vacancies. Pandemic travel restrictions created a labour shortage for both industries, which typically rely on migrants and backpackers. These shortages are exacerbated during seasonal peaks including the horticulture harvest season, which requires many entry level workers to support picking and manufacturing food products.

The adoption of technology also has implications for the type of skills required, creating demand for higher-order skills such as those in engineering, data and digital. The skilled workforce is critical to enable the innovation across the agriculture and manufacturing value chains.

Industry transition will create workforce disruption and new skill development opportunities

Decarbonisation is set to create a major transition in the energy and mining industry over the next decade, with mine closures creating uncertainty for direct employees and a broader range of suppliers and contractors. This transition may cause a large number of retirements given the workforce's relatively older profile.

Workers who do not retire will need access to a range of training (covering both technical or specialist and other skills such as digital literacy) and support services to pursue employment opportunities in industries such as clean economy, construction and manufacturing. Similarly, the end of commercial native timber harvesting will shift worker demand in the forestry industry along the supply chain to plantation, processing and milling roles.

Initiatives such as the Victorian Forest Worker Support Program, Opal Worker Support Service and significant investments in TAFE Gippsland such as the new Morwell Trade Skills Centre and the Port of Sale campus, are – and will be – supporting workers in transitioning industries to access specialist training so growing industries can get skilled workers and workers can transition to good jobs.

Industry growth will drive demand for workers over the next 3 years

Table 4 shows the workers required by key industries to fill new jobs over the next 3 years. These estimates are informed by data-based projections and figures provided by the taskforce.

Demand for new workers is forecast to be spread across industries, with the taskforce estimating the potential for workforce growth in all 6 key industries. Employers are likely to seek an additional 7,750 to 10,500 workers to meet demand in the next 3 years. The taskforce-adjusted estimates for the construction, health and community services and manufacturing industries are higher than the original base data estimates. Adjustments are based on taskforce intelligence about planned investments and increases in service demand within the region.

Table 4 | Estimated new job demand outlook by industry[2]

Industry	Estimated current workers 2022[5]	VSA forecast new jobs 2022–25 (CAGR)[6]	Taskforce adjusted forecast new jobs 2022–25 (CAGR)[6]	New workers to fill new jobs[3]
Construction	13,100	2%	3.5 to 5%	1,350 to 1,950
Health and community services	19,350	3%	4.5 to 5.5%	2,750 to 3,450
Energy and mining*	12,250	1.5%	0.5 to 1.5%	50 to 300
Agriculture and forestry	9,500	-0.5%	-0.5 to 0.5%	-150 to 150
Manufacturing	11,300	0.3%	2 to 3%	500 to 750
Visitor economy*	21,850	2.5%	1.5 to 2.5%	950 to 1,650
Other	42,350	1.5%	N/A	2,250
TOTAL	129,700*			7,750 to 10,500

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

Table 5 provides an estimate of overall workforce demand across key industries in the region, based on data analysis and taskforce estimates. Workforce demand comprises the new jobs estimates outlined in Table 4 and workers required to replace retirees expected to exit the workforce. These estimates do not include the workers required to fill existing vacancies, and therefore the number of total workers demanded by industry will be higher. Vacancies have grown considerably in the region – from February 2021 to February 2022 the number of job ads grew by 32%.[31]

In addition to the 7,750 to 10,500 workers to meet demand, industry will require a further 6,000 workers to replace retirements. Retirements are estimated to be particularly acute for the health and community services industry.

Table 5 | Estimated workforce outlook by industry[2]

Industry	Estimated current workers 2022[5]	New workers to fill new jobs[6]	New workers to fill retirements[7]	Total new workers needed
Construction	13,100	1,350 to 1,950	600	1,950 to 2,550
Health and community services	19,350	2,750 to 3,450	800	3,550 to 4,250
Energy and mining*	12,250	50 to 300	300	350 to 600
Agriculture and forestry	9,500	-150 to 250	550	400 to 700
Manufacturing	11,300	500 to 750	400	900 to 1,150
Visitor economy*	21,850	950 to 1,650	1,050	2,000 to 2,700
Other	42,350	2,250	2,300	4,550
TOTAL	129,700	7,750 to 10,500	6,000	13,700 to 16,500

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

2 This profile defines the health and community services industry as the health care and social assistance ANZSIC industry, the energy and mining industry as the mining and electricity, gas, water and waste services ANZSIC industries and the visitor economy industry as the retail trade, arts and recreation services and accommodation and food services ANZSIC industries.

There is a supply of workers available, if the right supports are in place

The outlook for industries in Gippsland is positive, but the economic potential depends in large part on adequate labour supply. Gippsland will require between 13,700 and 16,500 workers over the next 3 years to meet industry growth, let alone account for shortages. Following 2 years of reduced international migration, labour supply is considerably constrained across Victoria. Critical labour shortages have potential to worsen as the state struggles to keep up with demand. With demand for workers critical, Gippsland will need to mobilise all available in the local workforce, in addition to attracting new residents.

Compared to other Victorian regions, Gippsland has a larger population of people who are not currently in the labour force or who are not fully engaged. There are 2 potential pools of labour to draw on: an estimated 2,900 school leavers over the next 3 years and 11,400 people currently accessing JobSeeker.[32] While it may not be possible to re-engage all unemployed people in the region, an additional 2,000 people are currently on JobSeeker compared with periods prior to the pandemic.

Attracting migrants will also be necessary to achieve an adequate workforce supply. While the pandemic disrupted migration, migrants have been returning in substantial numbers recently. In the past, many roles have been filled through international migration, including temporary and working holiday visas holders filling entry level roles and skilled migrants entering specific roles on an employer sponsorship. Domestic migration has remained strong and even accelerated. If this trend continues, the region could see an additional 8,100 people in the next 3 years from domestic migration alone. A full return to pre-pandemic international migration levels could see a further 1,450 people join the labour supply.

The challenge will be to ensure the workforce is equipped with the right skills, qualifications, and attributes to meet industry needs. A collaborative response across education, industry and government will be necessary to meet the region's needs and education and training has a key role in delivering this. Opportunities for Gippsland to secure the required workforce are outlined in the following section.

'A collaborative response across education, industry and government will be necessary to meet the region's needs and education and training has a key role in delivering this.'

Opportunities to deliver a skilled workforce

A connected and responsive education and skilling system is needed for Victoria's response to the economic conditions that are prevalent across regional Victoria, and Gippsland in particular. The growth in critical and emerging industries requires a skilled workforce.

The system can provide foundational training such as literacy, numeracy or 'job-ready' skill development to help people enter employment and can help produce a workforce with the skills or qualifications required of industry in both the current environment and the longer term.

No single opportunity can address all of the challenges facing Gippsland. The suite of opportunities in this profile can help attract, retain and develop quality workers. Other initiatives will need to occur in parallel to address structural barriers such as affordable, accessible child care and housing.

3 priorities identified for Gippsland's education and skills system include:

1. Building the pipeline of workers through education.
2. Enabling flexible training delivery.
3. Strengthening collaboration.

Building the pipeline of workers through education

It is imperative to build a strong workforce to address critical labour shortages and realise growth in Gippsland. Even with increased migration, Gippsland will need to retain existing workers and engage local jobseekers to meet demand. Gippsland needs to provide opportunities and pathways for school leavers and address persistent disengagement in education and employment by working-age young people and adults. An estimated 2,900 school leavers in the next 3 years and more than 11,400 people accessing JobSeeker provide a clear focus for this work.

Many people born in the region leave to pursue education and employment opportunities elsewhere. This arises, in part, from a perceived lack of local career opportunities. Industry innovation and change is creating new, exciting opportunities but clearer signals and pathways are needed to show this potential. This must start in school and continue through life-long learning. Another factor is the accessibility of education. Challenges with access extend beyond education to industry placements. For example, students in health may have access to qualifications within the region but must seek placement opportunities in Melbourne.

Region needs to mobilise workers

Gippsland will need to mobilise all available and potential workers, such as women returning to work, Aboriginal Victorians, people from culturally diverse and refugee backgrounds, young people who may have disengaged and people with disability. Persistent challenges, such as with youth disengagement are well documented for the region. Significant progress has been made, but longstanding, systemic barriers still prevent participation. There are also people who are under-represented in the workforce who may experience discrimination and structural racism, face health issues or struggle to gain a foothold. With the right supports in place, there is an opportunity to create equal access to education and employment opportunities and secure the workforce that industry needs.

Gippsland must provide opportunities and pathways for school leavers and address persistent lower than average rates of educational attainment and labour market participation. Educational institutions and related services will need to foster a sense of aspiration and opportunity in communities. Training, including employability or soft skills, has a significant role. It can bridge the gap between early school leavers and disengaged jobseekers to meet the needs of local employers. Targeted support can help people through training and build confidence that there are local career prospects worth investing in.

Gippsland has the impetus to address these longstanding challenges, and trial innovative approaches that could then be applied elsewhere.

Table 6 | Opportunities to build the pipeline of workers through education

Situation	Opportunity
Systemic barriers prevent participation in education and training.	Expand and learn from collaborative approaches that provide joined up support and engagement in training. For example: • Learn Locals deliver place-based initiatives, such as the Strengthening Pathways for Adult Learner in Gippsland (SPALG) toolkit.[33] • support knowledge sharing between organisations on engaging disadvantaged learners • continue and expand collaborative approaches that support access and engagement in training for key cohorts, including culturally and linguistically diverse (CALD) people and older workers. Programs such as the I am Deadly program, provide staged engagement in training and employment for young Aboriginal people,[34] and the Community Employment Connectors program, provides culturally responsive support to help disadvantaged jobseekers connect with employment and training services.[35]

Job opportunities focus on a role rather than a career pathway, which does not communicate the exciting prospects in Gippsland.	Develop and promote local career pathways. For example:
	
	• collaborate with industry to develop and map pathways within and across industries that demonstrate rewarding careers and opportunities for lifelong learning in Gippsland. This could include targeted programs, school and industry relationships and online career resources. Current examples of online career resources include:
	  • What's YOUR pathway? by Gippsland Learn Local[36]
	  • Federation University health and community services pathway videos[37]
	  • Food and Fibre Gippsland Connect 2 Employment videos.[38]
	• continue to deliver secondary school programs that connect students with hands on experience in industry such as through industry placements and excursions. For example, the Baw Baw Trade Training Alliance provides a Year 9 Trade Pathways program with trials of 2 trades.[39]
	• develop programs for primary school students that create aspiration to work in the region
	• collaborate with industry and educational institutions to highlight higher education and Adult Community and Further Education (ACFE) Learn Local pathways available in the region
	• identify transferable and core skills within local industries and ways to deliver these within the region to support both jobseeker access to entry level opportunities and worker mobility
	• undertake research to explore the needs, perspectives and behaviours of young people and their guardians in considering local career opportunities.

Future workforce and skills requirements

A connected, accessible and responsive education and skilling system is central to Gippsland's economic prosperity. The system has an opportunity to expand access to training in the region, improve the relevance of training to industry needs, and support non-traditional skilling approaches.

Educational institutions and industry are finding it increasingly difficult to service Gippsland's learners through the traditional accreditation and regulatory models for training. More flexible and collaborative delivery models offer opportunities to attract and skill new learners and meet industry needs. This warrants an approach that gives educational institutions the autonomy to respond to unique local circumstances which include:

- a dispersed geography that creates thin markets
- seasonal workforces where training packages are not timely or fit-for-purpose
- large transitioning workforces that need specialist training to upskill
- disengaged learners who need to build their confidence before engaging in a full qualification.

Gippsland's expansive geography creates unique challenges. Learners can struggle to access the courses they require locally, but remote locations and specialist training needs create thin markets for providers. Critical shortages of trainers and assessors in the region is further straining delivery.

Formal qualifications remain essential in many occupations and underpin upskilling requirements as industry needs change, but in other occupations such as seasonal agriculture and visitor economy workers, traditional training packages are not meeting the needs of the learner, or industry.

Flexible learning that responds to local circumstances

Large transitioning workforces are likely to need supplementary specialist training; disengaged learners may need a 'stepping-stone' before commencing a qualification; or employers may require only a small component of a course to get a worker started in a job.

The gap in fit-for-purpose training products, timeliness, deliverability and availability has led to the growth of non-accredited and industry-led training, which meets immediate needs but also creates challenges including lack of transferability and recognition.

More flexible and collaborative delivery models – desired by both educational institutions and employers – are not effectively enabled by the current system. The experiences from the worker transition response to the Hazelwood mine closure is providing a template for the skilling responses in place for other transitioning industries.

A strategic approach that gives educational institutions the flexibility to respond to unique local circumstances could create the flexibility to collaborate, resulting in a workforce with the skills needed immediately, and better planning for the long term. Such response would need to be implemented through all aspects of the training and skills system, including the region's TAFE, Adult Community and Further Education (ACFE) providers, Registered Training Organisations (RTOs) and universities.

Table 7 | Opportunities to improve education and training delivery

Situation	Opportunity
Locals must leave Gippsland to access training not delivered in the region.	Support essential training provision and adopt models to address thin markets. For example: • develop specialised training programs to meet skill gaps for emerging industries to secure long-term viability of these industries • increase collaboration between educational institutions for joint-delivery of vocational and higher education training for people in Gippsland, particularly where full delivery in Gippsland is not feasible, such as: • marine offshore courses, a key requirement of emerging industries, are only available interstate, but most delivery could occur locally, with the remaining specialised training delivered out of region • explore a cluster model that brings together employers for critical skills that have thin markets • advocate for reform to adjust funding to improve viability of niche vocational and higher education training in thin markets • increase the availability of courses that enable career progression within Gippsland such as, leadership or management.
Training delivery is constrained by teacher and assessor availability.	Incentivise trainers to gain accreditation and enter the education system. For example: • work with regulators to develop innovative approaches to meeting dual requirements (training and assessment and industry experience) for vocational education • explore innovative solutions to encourage people into training or mentoring roles, such as, the trade association is successfully engaging retired tradesmen from the Men's Shed to provide guidance and training • work with industry organisations to second staff part-time to deliver training and provide industry expertise.
An accredited qualification is not always desired by industry or needed by learners.	Support non-accredited or pre-accredited programs. For example: • work readiness programs to build skills to find employment such as teamwork and punctuality. Examples include Baw Baw Latrobe LLEN's Project Ready,[40] and South Gippsland Bass Coast work-readiness skills program.[41] • targeted pre-accredited training programs, such as the Domestic Building Industry Entry Course, a short course for basic tickets, employability skills and industry exposure • short courses or skill sets that build the foundational skills required to gain employment or upskill into new roles, such as, courses in farm skills such as tractor driving, customer service, work health and safety or leadership • increase visibility of opportunities for non-accredited, pre-accredited training and placements.
Educational institutions cannot tailor delivery to meet local need due to regulation requirements.	Advocate for reform to give institutions more flexibility in training delivery. For example: • support local vocational and higher education providers to design courses that meet industry needs, including course structure, timing and start dates, and mode (online, face-to-face, onsite), such as, a new package in Advanced Diploma in Planning is demonstrating success in blended delivery • flexibility to adapt training packages to local needs and circumstances • support training institutions to recognise prior learning more easily.
Industry increasingly delivers their own training, which is not accounted for by the system.	Recognise and support industry-based training. For example: • explore options to formally recognise industry-led training, which may include strengthening collaboration between industry and institutions • capture and account for industry-led training in training data, to create a more accurate picture of training activity • consider funding pre-accredited training for industry to upskill existing workers.

Strengthening collaboration

Employers and educational institutions share the same goal of connecting jobseekers to the right jobs. Collaboration has potential to deliver an education and skills system that works for all and addresses labour supply challenges.

Strong partnerships between educational institutions and industry already exist across the region. An example is Federation University and Gippsland Lakes Complete Health Occupational Therapy cadetship program. The program offers students paid work experience while studying and access to enter full-time employment once a Bachelor of Occupational Therapy is completed,[42,43] providing a direct pathway to a career in a high-demand occupation. The region has similar partnerships that ensure training is aligned to industry needs, provides employers with access to a local supply of suitably skilled workers and encourages young people to remain in Gippsland.

Collaboration is the key that enables these partnerships to succeed. However, more can be done to embed collaborative ways of working. Processes that support and encourage collaboration are essential including active input from industry into the structure, content and delivery of education and training.

In addition, there are opportunities for collaboration between employers to address shared labour challenges. Employers could benefit from employing greater creativity in workforce arrangements, including exploring opportunities to share workers between industries. Workforce attraction and retention could be improved by highlighting the opportunities for career progression in the region to improve attraction and retention of workers. This requires a shift in mindset from promotion of individual industries to a broader demonstration of regional career pathways that may span across multiple industries.

Table 8 | Opportunities for collaboration in the region

Situation	Opportunity
A disconnect sometimes exists between the needs of industry and community and what educational institutions can deliver.	Sustain connections between training institutions, schools, government and community. For example: • the region's industry and community should engage with educational institutions to identify their needs • all parties should continuously collaborate to develop solutions that address the region's unique education and training needs.
Some industries, in particular agriculture, manufacturing and visitor economy, struggle to attract labour to fill short-term or part-time jobs created by seasonal workforce demand.	Explore opportunities for collaboration between employers. For example: • employers could explore sharing a casual workforce or provide a sequence of work through consecutive seasons to provide better conditions for workers • there is potential to collectively train a pool of workers and offer contracts for the equivalent of full-time work with multiple employers.
Industries in transition will create disruption and the loss of employment for some workers.	Continue to support workers in transitioning industries. For example: • employers with transitioning workers should continue to collaborate with workers, emerging industries, unions, educational institutions and government to find suitable employment opportunities for workers.

Action essential to address labour supply challenges

Industry and government have an important role to drive broader reform to resolve workforce and skill challenges. Many workforce challenges extend beyond training and skills and involve addressing structural barriers to participation in training or work.

Housing accessibility is reported to be the greatest barrier to attraction and retention of workers in Gippsland. Short-term visitor demand drives up rental property prices in some areas, with the supply of available affordable rentals in Gippsland dropping by nearly 50% in the 12 months to June 2021.[44] High rental prices makes housing unaffordable for workers in seasonal or entry level roles, creating a barrier to attracting people to work in the region.

Structural barriers also impede access to education and work, especially in remote areas. Wrap-around support services, such as family support groups, counselling and substance misuse rehabilitation services, are essential to complement education and training interventions. Many parts of the region are poorly serviced by public transport. Lack of public transport infrastructure limits the ability of young people and others without access to a car from participating in education or employment. As an example, the bus service from Moe Rail Station stops 1 km away from the Yallourn TAFE campus.

Participation is also particularly low among women aged 25 to 54 years. Improving participation for this cohort is arguably dependent on expanding childcare access, with parents and guardians with young children currently unable from returning to the workforce.[45]

The response to address labour supply challenges must also include reform from industry to attract and retain workers. Taskforce members spoke of the need for employers to get support in workforce approaches to flexibility and adaptation when hiring and managing workers, for example, English-speaking requirements for some roles or childcare friendly shift arrangements. The taskforce also noted that industry must also address reported issues with workplace discrimination and attitudes to create a safe working environment for diverse groups in Gippsland.

Industry can also aid workforce attraction by improving the actual and perceived value of local employment opportunities. The taskforce reported a mismatch between the expectations of young people and the reality of careers available in the region. Roles with manual labour, unconventional working hours and relatively low remuneration are reported as less desirable careers by young people. Work to explore the needs, perspectives and behaviours of young people and their guardians in considering local career opportunities could help improve participation and employment of workers in the region.

Table 9 | Broader opportunities to increase labour attraction, retention and participation

Opportunities
Identify short-term opportunities to leverage existing infrastructure for accommodation: work with local councils, the community and employers to design and implement innovative accommodation and housing solutions for casual and seasonal workers.
Advocate for childcare services to increase participation: advocate to government and private sector to increase the availability of child care in the region and reduce the cost for parents and guardians with young families returning to work.
Identify opportunities to improve accessibility of education and training through improved transport: work with local councils and government to improve transport options in the region.
Embrace flexibility when recruiting workers: employers could benefit from being more creative and flexible when seeking to hire workers in a labour constrained environment, such as adjusting language requirements to enable a person from a cultural and linguistically diverse (CALD) background to take on a vacant position.
Improve the actual and perceived value of jobs in the region: heavy labour or difficult working conditions means careers in some industries are less attractive to jobseekers. There is significant opportunity to strengthen and communicate the value proposition of working in some industries in the region.

Specific skills and training needs and opportunities of each industry

Consultations with leaders and representatives across key industries in the region have identified opportunities to better align the education and skills system with industry forecast workforce demand and skills requirements. The following industries are addressed, with commentary on the opportunities provided in the industry profiles (Appendix A).

- Construction
- Health and community services
- Energy and mining, including the mining and electricity, gas, water and wase services industries
- Agriculture and forestry
- Manufacturing
- Visitor economy, including the accommodation and food services, arts and recreation services, and retail trade industries.

Implementation considerations and next steps

Industry, education and training institutions and government must work together to address labour supply problems, align the education system with future economic demand and realise benefits for Gippsland's economy. It is expected that key leaders across the region will continue the conversation within and between their industries to support implementation, and taskforce members will be champions for change within their industry and the region.

Employers and educational institutions across Gippsland share similar challenges. A coordinated regional response is likely to offer greater success to act on opportunities that address specific skills needs. To address broader enablers and labour supply, collaboration and strong engagement will be required between all levels of government, industry, education and training institutions and the Gippsland community.

Next steps

The completion of this profile provides a localised view of Gippsland's education and training challenges and opportunities over the next 3 years. The next phase of work is as follows:

- the profile complements the inaugural Victorian Skills Plan, published in 2022, which set out Victoria's skills needs and opportunities. Actions will dovetail with the response to the Victorian Skills Plan and future plans developed by the VSA
- the Gippsland regional taskforce manager will work collaboratively with local stakeholders to address opportunities identified in this profile. This includes implementation of quick wins that can benefit the region and longer-term advocacy work to support the skills need of emerging industries
- the taskforce can continue to advocate for the Gippsland region at all levels of government, to help ensure that the region's unique workforce challenges and education and training requirements are understood and supported
- the Victorian Skills Authority will work with relevant departments and levels of government to address the broader workforce challenges identified in this report, in addition to supporting education and training responses
- the profile, in addition to the region's Regional Economic Development Strategy (REDS) published by the Department of Jobs, Skills, Industry and Regions, will support future planning for the region.

'Industry, education and training institutions and government must work together to address labour supply problems, align the education system with future economic demand and realise benefits for Gippsland's economy.'

Appendix A: Industry profiles

Construction

Note: industry profiles were prepared in 2022 during the period of the taskforce meetings and profile development. They reflect the economic outlook at that time. The Victorian Skills Authority (VSA) is updating its data for the 2023 Victorian Skills Plan. The update will reflect changed economic conditions and improvements in modelling techniques used to estimate employment across the regions.

Industry profile and outlook

Industry composition

Construction is the second largest industry in Gippsland by gross value added at 9.1%. It is responsible for the construction of buildings and other structures, as well as other services such as demolitions, additions and maintenance. In general, it comprises 3 sectors: residential building, commercial and industrial building and civil infrastructure.

Residential construction is an important enabler of population growth, with construction activity in detached houses and medium-density dwellings, which includes townhouses and semi-detached houses. Both commercial and civil construction include the construction of larger-scale projects. For commercial, this focuses on activities primarily used for commercial purposes including offices and wholesale trade. Civil construction is associated with structures such as roads, bridges, airports and train stations.

Businesses in construction are diverse, ranging from sole traders to small businesses and large corporations. The commercial sector also includes registered commercial builders, dependent in the main, in winning tenders for business. Feedback from taskforce members was that procurement requirements tend to favour large corporations operating from Melbourne. Industry representatives requested consideration be given to procurement policies that would give regional businesses increased access to engage in procurement for these projects.

Demand and outlook

The industry has a history of strong growth in Gippsland, but demand spiked to unprecedented levels during the pandemic. Commonwealth government stimulus through the 2021 HomeBuilder Grant and a population shift to regional areas triggered significant demand for residential construction. For one builder in the region, this translated to a 350% increase in new builds from 2019–2020 and sustained high demand through 2021. This experience reflects broader trends, with 3,742 homes approved last year across the region, compared with 2,271 in the previous year.[46] Demand is particularly acute in the Baw Baw Shire where population growth has doubled rates in other parts of Gippsland, reflecting the liveability and close proximity to Melbourne.[3] In addition, communities in East Gippsland still require construction services in demolition, cleanup and rebuilding of bushfire affected capital stock.

Major infrastructure projects are also generating demand for civil and commercial construction. Construction projects and investments include:

- $600 million, including a $48.2 million grant from the Australian Government, for the Maryvale Energy from Waste project, expected to create more than 500 jobs in Victoria and Gippsland. Construction commences in 2022, with the facility starting operations in late 2025[47]

- $16 million redevelopment of Maryvale Private hospital, expected to create 110 construction jobs[48]

- $115 million expansion of Wonthaggi Hospital creating 35 jobs in construction. Early works have commenced and construction is on track for completion in the first half of 2023[49]

- $217 million to deliver the next stage of the Latrobe Regional Hospital Expansion, creating 600 construction jobs. Construction began in late 2021, set for completion late 2023[50]

- $44 million to plan, upgrade and maintain regional roads[51]

- Gippsland Line Upgrade Project, including station upgrades and track work, as part of Victoria's Big Build.[52]

Other projects include early learning centres, school upgrades, aged care facilities, sports and community facilities, and tourist trails.[53] With a major shift in energy production underway in Gippsland, projects will also focus on the construction and maintenance of clean energy infrastructure, and decommissioning of power station sites such as Hazelwood. This includes instalment of solar power such as the Perry Bridge Solar Farm[54] and solar power at Gippsland Water.[55] Osmi Australia's Delburn Wind Farm has also been proposed for construction across 2022–2023, creating an estimated 180 jobs in construction.[56] Other major projects, such as Star of the South, Australia's first offshore wind project,[57] and Marinus Link, an underground electricity connection between mainland and Tasmania,[58] are in planning, likely to generate construction activity over the next 10 years.

Significant demand is expected, but in the current circumstances the industry will find it difficult to satisfy this growth. Gippsland businesses are experiencing the strain of national resources and labour shortages. Employers reported that builders are waiting up to 16 weeks for laminated veneer timber, up from approximately 1.5 week wait prior to the pandemic[59] and the timeline of new domestic builds has blown out from 16–24 weeks to 12 months. Prices are increasing exponentially and builders are not always able to pass on costs to customers, scheduling is becoming a major issue and margins are shrinking. Employers estimated 20% of vendors can no longer afford to build with concern that some construction businesses in Gippsland may not survive over the next few years.

These concerns are less acute for larger construction companies, but with 99% of construction businesses in the region employing less than 20 employees, insufficient resources and labour are likely to be a major constraint in Gippsland.

Workforce profile and outlook

Workforce composition

Construction currently has an estimated workforce of 13,100, accounting for 10% of workers in Gippsland. Small-to-medium business often hire directly, employing workforces typically between 10 and 30 people, while corporations employ large workforces directly or subcontract trades. These sole traders and subcontractors perform specialised roles on site.

Businesses employ a range of trades such as electricians, carpenters, joiners, plumbers, concreters, plasterers and painters, as well as labourers and technicians. Other roles include planners, engineers and architects, and roles in earth moving, demolition and truck driving. Businesses also employ a range of support staff including procurement, accounts, assistants, sales and marketing.

Workforce outlook

The construction industry will require a significant workforce between 2022 to 2025 to meet strong residential growth expectations and demand from civil and commercial infrastructure projects. Additional workers will also be required to replace retirements.

It is anticipated that demand for construction workers will remain heightened beyond this period with major clean energy projects in the pipeline. For example, Star of the South offshore wind project has potential to generate 760 jobs across Gippsland[60] and the Marinus Link will create 1,400 direct and indirect jobs in peak construction.[61] Although these are not accounted for in 3-year growth projections, forward planning for this workforce is crucial given the size and shift in skilled workers required.

However, critical shortages mean the industry is unable to meet current demand, let alone account for growth, which industry expects will be curbed because of this challenge. The industry is experiencing widespread shortages, causing a competitive labour market and wage inflation. There is also a discrepancy across the region regarding access to labour. In the western areas of Gippsland, proximity to Melbourne creates an additional pool of workers (but also competes with metropolitan government builds) while the remoteness in the east makes it very difficult to attract and retain workers. To compound the challenge, employers are anticipating higher exits from the industry as heightened demand causes burnout.

Table 10 shows key workforce indicators and estimated growth in the next 3 years. This provides an indicative estimate of workforce demand, based on taskforce estimates. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 10 | Construction: key labour market indicators and estimated demand for workers 2022–2025

Share of region workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[7]	Total workers required*
9.7%	13,100	3.5 to 5%	1,350 to 1,950	600	1,950 to 2,550

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

Many trade occupations such as carpenters, concreters, scaffolding installers, tilers and painters are in shortage. Apprentices in general are in shortage, and there is concern for the pipeline of some trades in particular, such as bricklaying, as older workers retire, and young people are not sufficiently attracted to the industry.

Across commercial and civil construction, roles such as procurement professionals and construction managers and supervisors will be critical to support major projects, and as the clean energy sector grows emerging occupations including cable installers, solar installers, wind turbine technicians, risk analysts and energy efficiency engineers the shortage is expected to be exacerbated.

Table 11 describes the major occupations in the construction industry and their estimated growth over the next 3 years. This profile defines occupations using ANZSCO classifications and associates a proportion of each occupation to an industry, as defined by ANZSIC classifications. While employers often rely on a broader range of occupations across industries, Table 11 describes only workers in ANZSCO occupations that are directly attributed to the construction industry.

Table 11 | Construction: top occupations and forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Carpenters and joiners	1,763	175 to 230
Construction managers	1,447	145 to 190
Plumbers	1,299	115 to 150
Electricians	911	175 to 230
Concreters	663	55 to 75
Earthmoving plant operators	631	95 to 120
Painting trades workers	452	65 to 85
Building and plumbing labourers	395	60 to 80
Architectural, building and surveying technicians	348	45 to 60
Metal fitters and machinists	137	45 to 60
Bricklayers and stonemasons	195	25 to 35
Wall and floor tilers	64	15 to 20

*Data was prepared in 2022 at the time the taskforce was undertaken.

Education and training outlook

The industry relies heavily on skilled tradespeople, and a vocational education and training (VET) level qualification, via an apprenticeship or traineeship is required for major occupations such as plumbers, electricians and construction managers. Many apprenticeships and traineeships are government funded, demonstrating the value that this labour force has to the construction industry. Other entry level opportunities and pathways exist for laborers who do not necessarily hold a post-school qualification, but may require tickets or licenses, while some supporting roles require a higher education qualification, such as for engineering, architecture, surveying and mapping services.

Demand for construction related qualifications is expected to increase to meet expectations for strong workforce growth. Given an apprenticeship takes at least 3 to 4 years to complete, the industry will need to rely on the existing pipeline of apprentices, but additional enrolments in trades will be required to meet sustained growth of the industry.

Some employers reported concerns with the breadth of apprenticeship programs and observed that apprentices are increasingly specialised or narrow in their practice, meaning they are not equipped with the set of skills required to work end-to-end in a project. For example, learning to construct a building frame without an understanding of how the foundations are laid. This trend has potential to dilute the breadth of skills available to the industry, increase the rate of workers with limited scope of practice, and create costs and challenges in accessing and scheduling these workers into projects. This is a recent phenomenon and is acutely felt in the region.

Table 12 below outlines the key VET qualifications for workers in the construction industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives.

Table 12 | Construction: key qualifications and training requirements

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[62]	Anticipated training requirement
Construction trade workers	Certificate II in Engineering Studies	250	Likely increase in demand
	Certificate III in Civil Construction	330	Likely increase in demand
	Certificate III in Electrotechnology Electrician	380	Likely increase in demand
	Certificate III in Carpentry	430	Likely increase in demand
	Certificate III in Civil Construction Plant Operations	330	Likely increase in demand
	Certificate III in Plumbing	330	Likely increase in demand
Pre-apprentice construction trade workers	Certificate II in Building and Construction (Pre-apprenticeship)	880	Likely increase in demand
	Certificate II in Plumbing (Pre-apprenticeship)	190	Likely increase in demand
	Certificate II in Electrotechnology (Career Start)	310	Likely increase in demand

With major infrastructure projects in the pipeline, many construction occupations that rely on a higher education qualification are projected to grow over the next 3 years. This generates demand for courses, including:

- Bachelor of Architectural Design, Bachelor of Design (Architecture) and Master of Architecture
- Bachelor of Construction Management, Bachelor of Building Surveying, Master of Construction Management
- Bachelor of Engineering (Civil and Infrastructure), Bachelor of Civil Engineering (Hons).

Specialist entry level and post-trade pathways will also be important to provide the skills required for occupations needed to support construction for energy renewal. Although many of these projects do not commence in the immediate term, the pipeline of skilled workers must be secured. Planning is underway to articulate the skills and training required for some of these major projects. This may include:

- Graduate qualification in energy
- Power Stream: Electrical Protection and Testing
- Power Stream: Power System Operations (HV)
- Advanced Diploma of ESI – Power Systems
- Advanced Diploma of Mechanical Engineering Technology
- Bachelor of Engineering (electrical engineering)
- Master of Engineering Technology (Renewable Energy and Electrical Power Systems)
- Master of Engineering Technology (Mechatronics and Automation Engineering).

Employers also highlighted that non-technical skills are becoming more important. Skills such as communication, teamwork, and time management are necessary to manage the increasing complexity of the supply-constrained operating environment.

Opportunities to improve education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the construction industry. Table 13 provides an outline of key findings.

Table 13 | Opportunities for the construction industry

Situation	Opportunity
The industry struggles to attract people to trades due to perceived lack of career opportunities and job sustainability.	Develop and promote career pathways. For example: • develop trade pathways beyond the entry level apprenticeship role, including opportunities in exciting and emerging industries such as clean energy • provide exposure to the breadth of opportunities available in the industry and generate interest in specialist trades. Employers point to the previous technical school model as a good example of where students trial multiple trades and then chose a pathway that is right for them • strengthen articulation pathways from school to vocational education and training (VET) and promote VET through career counselling • increase the availability of formal and informal mentors such as, retired construction industry workers.
Employers struggle to attract people from diverse and underrepresented backgrounds (for example, women, or CALD).	Actively recruit people from diverse backgrounds. For example: • promote career pathways and provide support through initiatives such as the Women in Apprenticeship scheme • engage with Learn Local providers to develop programs that support women to engage in trades • target investment in developing multi-lingual communications materials and, or visual support materials to enhance training (and workforce) participation • explore and develop pathways for culturally and linguistically diverse (CALD) jobseekers with skills or qualifications that are not recognised locally to find pathways that recognise their skills and qualifications.
Tickets and qualifications do not always meet the expectations of industry.	Increase breadth of practical experience in training. For example: • work with industry and local educational institutions to update course programs and learning materials • in entry level qualifications, increase foundational knowledge of all steps and trades in the construction process, to ensure good preparation and handover at each step • explore opportunities to share or transition apprentices between employers to provide sufficient exposure to a range of skill sets across businesses specialising in only one trade, such as through group training organisations • increase the supply of quality supervisors and mentors to pass on best practice expertise. This could include supervision at a distance (where appropriate) and provision of financial support to mitigate wage loss, if mentorship is provided during work hours.
Workplace-based training is desired, yet employers feel unequipped to train others.	Provide resources and guidance to employers. For example, work with training institutes to develop materials that allow employers to deliver high-quality apprenticeships. This may include site-based guidance and collaboration between training institutions and employers.

'Demand for construction related qualifications is expected to increase to meet expectations for strong workforce growth.'

Health and community services

Industry profile and outlook

Industry composition

Health and community services is the fourth largest industry in the region, contributing 8.7% of the region's gross value added (GVA). The industry provides services across Gippsland and makes a considerable contribution to GVA in all 6 local government areas (LGAs). The region highly values local health service provision, particularly in more remote areas such as East Gippsland that otherwise face long travel distances to regional centres. The industry delivers essential services to the region, including child care that enables parents and guardians to participate in the workforce, and wellbeing services targeted toward the region's below average health outcomes.[26]

The health and community services industry is diverse. The industry comprises a range of services, including allied health, hospital-based care, aged care, disability support, mental health, social assistance, family violence, general practitioner and childcare services. Services are delivered by a range of organisations including hospitals, clinics and community organisations. Latrobe Regional Hospital in Traralgon is the largest hospital in the region, with sub-regional hospitals in Bairnsdale, Sales, Leongatha, Warragul and Wonthaggi.[16] Smaller health services provide allied and community health care across the region, particularly in smaller and more isolated areas.[16]

Demand and outlook

Population growth and an ageing demographic will drive demand for health and community services in the next 3 years. This growth will be particularly pronounced in areas closer to Melbourne, with the Bass Coast and Baw Baw areas projected to experience population growth above the national average.[63] The region's older population will also drive demand for aged care and community services, with the proportion of people in Gippsland aged over 65 years and 85 years projected to rise.[62]

Government reform is driving growth in the industry at a local, state and national level. Recent royal commissions into mental health, aged care, early childhood, disability and family violence set out recommendations to improve access and quality of health and community services. These recommendations are set to catalyse investment to improve the quality of care and expand service delivery, particularly in Gippsland, which reports relatively high rates of mental health issues and an ageing population.[64]

Prioritising preventative care will increase demand for practitioners as well as for early intervention services.[65,66] The pandemic prompted an increased uptake in digital service delivery options, such as South Gippsland Hospital offering after-hours telehealth support.[67]

However, pandemic impacts may create higher demand for treatment and wellbeing services in the next 3 years, including physical health, mental health and substance abuse treatment services.[68]

Government investment has been announced to meet the growing demand for services, including:

- $217 million to support Stage 3 of the Latrobe Regional Hospital upgrade, which is set to deliver 3 new operating theatres, over 60 new beds and an extra emergency department bay once open in late 2023[48]
- $16 million to redevelop Maryvale Private Hospital to double surgical output and attract specialists to Gippsland, including 2 new operating theatres and 19 additional beds[69]
- $115 million to enable Wonthaggi Hospital to deliver a new operating theatre, add 32 new inpatient beds and redevelop the emergency department. Early works on the project have commenced and construction is on track for completion in the first half of 2023[70]
- funding to upgrade local health care facilities across all 6 LGAs in the region through round 5 of the Regional Health Infrastructure Fund[71]
- funding to expand community service provision, including $2.3 million to support Mirridong's Sustainable Supported Living for Disability Participants in Yarram,[72] funding to expand service provision at the Phillip Island Community Hospital[73] and funding to build a new residential aged care facility in Orbost[74]
- funding to expand wellbeing and rehabilitation service provision, including $6.5 million to build a mental health, alcohol and other drug crisis hub at Latrobe Regional Hospital[75] and funding for a 20 bed, youth-specific residential alcohol and drug addiction rehabilitation centre in Traralgon[76]
- funding to expand family violence support and wellbeing services, including the establishment of Orange Door, a family violence safety hub, in Morwell, Warragul and Bairnsdale in 2022.[77]

The region's labour shortage is constraining the industry's ability to meet current demand, let alone forecasted growth. Employers report existing labour shortages in key occupations, and expect this trend to be further exacerbated as staff experience burnout due to overwork throughout the pandemic.

Workforce profile and outlook

Workforce composition

Health and community services is the second largest employing industry in the region, comprising 14.9% of the region's workforce. Consistent with broader trends, the industry's workforce is predominantly female.

The industry includes a range of occupations, from entry level workers to highly specialised employees. Skilled workers operate across all areas from primary to tertiary care and include registered nurses, general practitioners, allied health professionals (such as occupational therapists, physiotherapists, and speech pathologists), disability support workers, family violence workers and mental health support workers. The workforce also includes a range of supporting roles that operate across acute and community-based settings, such as kitchenhands, receptionists and cleaners.

Workforce outlook

The industry will require a significant increase in workforce to meet industry growth, fill existing labour shortages and replace workers who exit the industry.

New workers will be needed to respond to service demand and expansion. An estimated 2,750 to 3,450 new workers will be required to fill new jobs created by the industry's growth.[6] Additional workers will also be needed as the industry's ageing workforce approaches retirement age, with 800 retirements expected in the region in the next 3 years.[5] The retirement trend may also create a loss of knowledge and experience in the industry.

Finding sufficient workers will be challenging. The region is experiencing a critical workforce shortage, particularly acute in remote parts of Gippsland. Before the pandemic, Gippsland had fewer health professionals per 100,000 people than the national average for most occupations.[78] This region's lack of adequate workers has been exacerbated in the last 2 years, as the pandemic increased demand for health services and caused many workers to leave the industry in response to workplace pressures. Employers reported mass unmet workforce demand, with some health care providers in the region advertising 200 vacancies monthly. Workforce attraction is also challenging for employers in more isolated areas of the region with limited available housing and public transport.

These shortages have potential to worsen. Employers reported concern with the effect of current working conditions on their workers, describing high-stress working environments, long shifts and burnout. This may push more workers to leave, creating further strain on the workforce. The challenge becomes cyclical.

Table 14 shows key workforce indicators and estimated growth in the next 3 years. This provides an indicative estimate of workforce demand, based on taskforce estimates. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 14 | Health and community services: key labour market indicators and estimated demand for workers 2022–2025

Share of region workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[5]	Total workers required*
15.1%	19,350	4.5 to 5.5%	2,750 to 3,450	800	3,550 to 4,250

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

The industry is expecting strong demand across most roles, but particularly:

- health professional roles across allied health, mental health, family violence and aged care
- specialist roles including surgeons, dentists, paediatricians and occupational therapists, with employers reporting shortages for these roles
- support roles, including receptionists, administration, finance and human resources workers. Employers face competition from other industries for workers in these roles.

Table 15 describes the major occupations in the health and community services industry and their estimated growth over the next 3 years. This profile defines occupations using ANZSCO classifications and associates a proportion of each occupation to an industry, as defined by ANZSIC classifications. While employers often rely on a broader range of occupations across industries, Table 15 describes only workers in ANZSCO occupations that are directly attributed to the health and community services industry.

Table 15 | Health and community services: top occupations by forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Aged care and disability carers	3,532	600 to 705
Registered nurses	3,199	630 to 745
Receptionists	1,325	170 to 205
Nursing support and personal care workers	981	210 to 245
Welfare support workers (including mental health workers)	646	100 to 120
Child carers	517	110 to 130
General clerks	487	90 to 105
General practitioners	473	115 to 135
Commercial cleaners	454	80 to 90
Kitchenhands	448	65 to 75
Social workers	294	50 to 60
Occupational therapists	280	45 to 55
Physiotherapists	254	40 to 50
Midwives	228	40 to 50
Psychologists	150	30 to 35
Nurse managers	24	30 to 40

*Data was prepared in 2022 at the time the taskforce was undertaken.

'New workers will be needed to respond to service demand and expansion. An estimated 2,750 to 3,450 new workers will be required to fill new jobs created by the health and community services industry's growth.'

Education and training outlook

Workers require tertiary qualifications for most roles. Professional health staff, such as registered nurses, general practitioners, physiotherapists and occupational therapists require higher education qualifications. Other roles, such as allied health assistants, disability care and aged care workers require certificate level qualifications. Support roles such as cleaners, receptionists and kitchenhands do not require formal qualifications.

Employers do not see short courses and micro-credentials as potential substitutes for tertiary qualifications for professional health staff. Workers must be trained to provide high-quality care to maintain patient expectations, manage complex situations and meet regulatory requirements for service provision. However, health care providers desire workers to hold soft skills including resilience, conflict resolution and emotional intelligence, and emerging skills including digital literacy, leadership and a wholistic understanding of the health care system, which can be fostered through short courses.

Local provision of education and training is critical to the industry. Several training institutions offer health qualifications in the region, including Federation University Gippsland's allied health and nursing degrees,[79] Monash University's regional health placements in 6 locations across Gippsland[80] and TAFE Gippsland's range of health and community service qualifications. Employers strongly support further expansion of local training provision, as workers who have studied in the region are easier to attract and retain as workers.

Employers reported relative satisfaction with the quality of education but want tailored and practical training. Education programs that are successful tend to directly address industry needs and make full use of placements to build the practical experience of students. However, the industry also acknowledged difficulty finding staff to supervise placement students and the various levels of support that training organisations offer to students to complete their placements.

Table 16 below outlines the key vocational education and training (VET) qualifications for workers in the health and community services industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives

Table 16 | Health and community services: key qualifications and training requirements

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[61]	Anticipated training requirement
Therapy aide Enrolled nurse	Certificate III in Allied Health Assistance	270	Likely increase in demand
	Certificate III in Individual Support	890	Likely increase in demand
	Diploma of Nursing	430	Likely increase in demand
Mental health worker	Certificate IV in Mental Health	135	Likely increase in demand
Aged care and disability worker Child carer	Certificate IV in Ageing Support	180	Likely increase in demand
	Certificate IV in Disability	370	Likely increase in demand
	Certificate III in Early Childhood Education and Care	480	Likely increase in demand
	Diploma of Early Childhood Education and Care	430	Likely increase in demand
Community worker Family support worker Residential care officer Youth worker	Certificate III in Community Services	370	Likely increase in demand
	Certificate IV in Community Services	310	Likely increase in demand
	Diploma of Community Services	490	Likely increase in demand

In addition to the above listed VET qualifications, the following higher education qualifications are likely to be in higher demand, based on projected workforce demand:

- allied health, for example, Bachelor of Occupational Therapy, Bachelor of Physiotherapy, Bachelor of Speech Pathology
- medicine, pharmacy and nursing for example, Doctor of Medicine, Bachelor of Nursing, Bachelor of Pharmacy.

Opportunities to improve education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the health and community services industry. Table 17 provides an outline of key findings.

Table 17 | Opportunities for the health and community services industry

Situation	Opportunity
The industry struggles to attract and retain sufficient workers, particularly in more remote areas.	Develop and articulate the value of a health career pathway in Gippsland. For example: • develop materials for secondary school students that articulate potential career pathways within and across the industry, and across different settings, for example, primary to tertiary settings such as the Federation University health and community services pathway videos[35] • expand formal graduate programs for allied health workers to experience a variety of services to aid workforce retention, for example, Bairnsdale Regional Health Service's graduate program[81] • expand existing promotional campaigns to market the benefit of living and working in Gippsland to students who undertake a regional placement • map overseas qualifications to local regulatory requirements to facilitate timely skilled migration.
The industry struggles to attract people from diverse and underrepresented backgrounds, especially men and older people.	Actively recruit people from diverse backgrounds into relevant training. For example: • engage with high school counsellors to promote career pathways in the industry to male students • explore training pathways for non-school leavers including work placements for jobseekers • promote programs that enable workers who have left the industry to rejoin the industry, for example, Nursing and Midwifery Board's re-entry to practice program.[82]
Despite the recent expansion of training, workforce attraction and retention is still inhibited by the lack of local training.	Expand Expand local training delivery. For example: • introduce qualifications for in-demand occupations, for example, Bachelor of Pharmacy • introduce cluster models to support training delivery in thin markets such as East Gippsland.
The industry struggles to provide sufficient placements.	Create additional placement and training opportunities in the region. For example: • explore opportunities to break placements into more manageable chunks for employers • provide financial support for out-of-region workers to become a student supervisor in the region • reduce administrative effort for industry to take on and manage students on placement.
Workforce retention is inhibited by the lack of upskilling opportunities.	Foster skill development for existing workers. For example: • develop and promote training programs that deliver skills needed to progress to management, such as, emotional intelligence and leadership such as the Latrobe Valley Authority's micro-credentials[83] • develop and promote community of practice groups to enable staff to share experiences, for example, the Australian Primary Health Care Nurses Association (APNA) Online Community.[84]
New workers are not sufficiently skilled relative to industry demand.	Update qualifications to align with industry needs. For example: • ensure nurses develop an understanding of the broader health system within existing qualifications • integrate non-technical skills into curriculum such as critical thinking, learning strategies and negotiation • pursue flexibility in funding and regulatory requirements to enable local training institutions to tailor curriculum and create courses in response to local industry needs.

Energy and mining

Gippsland has a major opportunity to support Victoria's transition to a net zero economy and the education and skills system can play a key part.

Gippsland currently makes a large contribution to Victoria's energy economy. The transition from fossil fuel-based production to a clean economy will create disruption for the region but also opportunity, with the need to construct clean economy assets including wind, solar, hydrogen and battery-based operations. This construction will require appropriately skilled workers in the next 3 years including electricians, planners, earth moves, high voltage line workers and managers.

The operation of these new assets will mostly occur beyond the next 3 years. However, action must be taken now to ensure an adequately skilled workforce is available in the region. Workers will be required in a range of operational roles including electrical engineers, wind turbine technicians, operations managers and control room operators, as well as a range of supporting supplier and contractor roles.

The new State Electricity Commission (SEC) is a key pillar of Victoria's transition to renewable energy. The opportunities this will bring to all Victorians means the education and skills system will need to be at the forefront of developing the skilled workforce that can support Gippsland's and Victoria's transition to a net zero economy. This work could be supported through Skills Labs, which co-design new approaches to skill development through a collaborative process informed by emerging industry practice and technology.

Industry profile and outlook

Industry composition

Energy and mining is the largest industry in Gippsland, accounting for 30% of economic gross valued added (GVA). This GVA value is more than 3 times the next largest industry, placing energy and mining as a signature industry of Gippsland.

Gippsland's natural and physical endowments have enabled energy and mining to prosper. The region is rich with natural resources, with the Latrobe Valley estimated to contain a quarter of the world's known brown coal reserves and the Gippsland Basin operating as Victoria's most productive petroleum region.[85] Natural resources are supported by infrastructure, including electricity transmission lines from the Latrobe Valley to Melbourne and Tasmania,[66] and a network of pipelines to distribute oil and gas. These competitive advantages have historically placed the region as the powerhouse of Victoria's natural resources and energy economy, with the region producing 85% of the state's electricity in 2015.[66,22,86,87]

Energy and mining production is centred on large commercial enterprises. The industry's economic activity is focused on the Latrobe Valley, with coal mined and used for power generation at the Yallourn, Loy Yang A and Loy Yang B power stations. Oil and gas production is spread across South Gippsland and East Gippsland.[21] The Energy and mining industry also supports a range of businesses in the supply of goods and services, including engineering services, transport, construction services and equipment suppliers.

Demand and outlook

The industry is undergoing significant change. Government policy and community demand to address climate change and reduce carbon emissions is creating a shift away from fossil fuel powered energy sources, with the Victorian Government committed to reach net zero emissions by 2050.[88,89] This decarbonisation trend has brought about the closure of coal-fired power stations and their associated mines. The Yallourn power station expected to close in 2028,[90] and other power stations in the region forecast to follow in the 2040s.[91] Oil and gas extraction is also set to decline, with Esso continuing to decommission oil and gas infrastructure in the region.[92]

Government has taken action to support the industry and workforce through the transition period. The Latrobe Valley Authority (LVA) was set up in response to the 2017 closure of the Hazelwood power station to support businesses, workers and families impacted by transitioning industries in the region.

Disruption characterises the outlook for energy and mining, but the following drivers present opportunities for the region:

- the operation of clean energy production assets, such as solar and wind powered electricity generation. The region has multiple operational wind farms, including Bald Hills Wind Farm and Toora Wind Farm.[93,94] Other projects may come into operation in the next 3 years subject to planning approvals and construction timelines, including Delburn Wind Farm, and the Perry Bridge and Fulham Project solar farms.[55,95,96]

- the operation of energy infrastructure such as electricity transmission lines. The region has strong existing transmission infrastructure and is estimated to require additional network capacity to capture the clean energy production opportunity.[96]

- investment to support innovation across the clean economy supply chain, including $17 million to develop the Morwell Innovation Centre, a collaboration between businesses, researchers and industry to strengthen research and development in the region[97]

- private sector investment to support natural gas production and in the Gippsland Basin, with an estimated $400 million investment between 2023 and 2027[98]

- the mining of non-fossil fuel-based metals and minerals, such as gold mining in East Gippsland[99]

- the industry has a number of longer-term projects in the pipeline (although not expected to be operational in the next 3 years) including Star of the South and other offshore wind farms[100] and Marinus Link, a proposed 1,500MW undersea cable to connect the region with Tasmania.[101]

Workforce profile and outlook

Workforce composition

Energy and mining is the fourth largest employing industry in Gippsland, with 12,250 employees who account for over 9% of the region's workforce. The industry workforce is centred in the Latrobe and Wellington areas, with jobs in the industry typically full-time, unionised and well remunerated.

Firm-specific onsite roles include power generation plant operators, mine workers, and roles with more transferable skill sets include mechanical fitters, boilermakers, riggers, scaffolders, electricians and truck drivers. Supporting roles include administration, engineers (mechanical, electrical and civil) design and management. The industry is inherently connected to a broader workforce across other industries, such as material and equipment suppliers, and contract workers in construction and professional service roles.

Workforce outlook

The industry's transformation over the next decade is likely to bring about considerable workforce disruption. The Yallourn power station's closure is expected to close in 2028, impacting the 500 onsite employees and the 500 suppliers and contractors that support the plant.[102] Many of these workers have worked with the same employer for decades and are typically older, with many of these workers likely to enter retirement.

Table 18 shows key workforce indicators and estimated growth in the next 3 years. This indicates workforce demand, based on taskforce estimates. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 18 | Energy and mining: key labour market indicators and estimated demand for workers 2022–2025

Industry	Share of region workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[5]	Total workers required*
Mining	2.2%	2,850	0 to 1%	0 to 50	100	100 to 150
Electricity, gas, water and waste services	7.2%	9,400	0.5 to 1.5%	50 to 250	200	250 to 450
Energy and mining total	9.4%	12,250	0.5 to 1.5%	50 to 300	300	350 to 600

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

Employees in transferable roles, including electricians, truck drivers and engineers, possess skill sets that are more readily transferable to other employers within the industry, and to the construction and manufacturing industries. However, workers in firm-specific roles, such as dredger drivers, plant operators and miners may face greater difficulty in finding comparable employment as the industry experiences transition. Industry reported the expectation that workforce planning in the next 3 years can improve employment outcomes for these workers.

While the industry is set to experience disruption, some occupations will experience growth in demand:

- skilled roles to operate clean economy assets, such as wind, solar, battery and hydrogen-based electricity generation and storage equipment. Occupations include electricians, welders, machinery operators and plumbers and support roles including data scientists, managers, safety staff and engineers.[103] Demand for these workers is expected to peak after the next 3 years

- highly specialised workers to support the development of electricity transmission infrastructure, particularly high voltage line workers. Industry reported that transmission infrastructure specialists are typically sourced from elsewhere in Victoria or internationally, with this labour shortage creating a bottleneck that may delay the development of new clean energy generation projects

- engineering, management and machinery operators to support the decommissioning of fossil fuel production, including offshore oil extraction assets[92]

Table 19 | Energy and mining: top occupations by forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Chemical, gas, petroleum and power generation plant operators	1,113	25 to 35
Metal fitters and machinists (including fitters and turners)	1,062	40 to 65
Truck drivers	835	15 to 20
Other specialist managers	732	10 to 15
Other building and engineering technicians	671	15 to 20
Electricians	618	15 to 25
Electrical engineers	553	25 to 25
Structural steel and welding trades workers (including boilermaker)	386	5 to 10
Drillers, miners and shot firers	259	45 to 75
Other stationary plant operators	205	15 to 20
Contract, program and project administrators	190	10 to 15

*Data was prepared in 2022 at the time the taskforce was undertaken.

Education and training outlook

The bulk of workers in energy and mining may not have formal qualifications but are highly skilled for the industry. Mining operation employees typically undertake training on the job and as they progress through the business will take advantage of formal programs, typically post-certificate level in leadership and management. Regulated occupations such as electricians require certificate level training, with employers valuing a degree-level qualification for management and engineering roles for higher-level roles in the industry.

The education and skills system has a key role to play in supporting workers impacted by the industry's transition. While workforce disruption is expected to occur predominantly beyond the next 3 years, the industry has expressed desire for timely, flexible and locally available upskilling and retraining courses to aid the workforce transition. The Hazelwood mine closure in 2017 demonstrates that timely action is needed to support workers to find new employment. This experience shows that workforce planning and specialist training are needed well in advance of closure dates to ensure training access and availability. This education and skills system needs to be highly responsive.

Employers are largely satisfied with existing educational pathways but identified room for improvement. Employers reported variable satisfaction with local in-school apprenticeship programs, with great success with electrical apprentices, but varied outcomes for boilermaker and fitter and turner pathways.

Employers voiced support for programs that enable young workers to experience a potential career pathway before committing to a specialisation, such as a progression of diplomas and degrees in clean energy that enable students to exit into the workforce upon the completion of each qualification.

However, employers have highlighted gaps in local training provision for critical occupations set to experience demand growth. Certificate level qualifications for cable joining and transmission infrastructure, including Advanced Diploma of ESI–Power Systems and Advanced Diploma of Mechanical Engineering technology, are not offered in Gippsland. The region also has limited access to higher education qualifications for emerging skill sets, including Associate Degree in Engineering (Renewable Energy) and Bachelor of Engineering (Renewable Energy). The lack of local training provision limits the available workforce to fill key occupations, including high-voltage line workers, creating a bottleneck in the development of transmission infrastructure and clean energy assets.

Table 20 outlines the key vocational education and training (VET) qualifications for workers in the energy and mining industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives.

Table 20 | Energy and mining: key qualifications and training requirements*

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[61]	Anticipated training requirement
High voltage line workers	Certificate III in ESI–Power Systems–Distribution Overhead	20	Likely increase in demand
	Certificate II in ESI–Powerline Vegetation Control	20	Likely increase in demand
	Certificate III in ESI–Power Systems–Distribution Cable Jointing	5	Likely increase in demand
Water management workers	Certificate III in Water Industry Treatment	30	No change
	Certificate III in Water Industry Operations	25	No change
Mine workers	Certificate II in Drilling Operations	5	No change
	Certificate III in Drilling Operations	10	No change
	Certificate III in Surface Extraction Operations	5	No change

* Qualifications for trade-based occupations, such as electricians and metal fitters and machinists, are included in the construction industry profile.

Opportunities for education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the energy and mining industry. Table 21 provides an outline of key findings.

Table 21 | Opportunities for the energy and mining industry

Situation	Opportunity
The industry's transition will require many people to seek alternative employment opportunities .	Enable workers to recognise and articulate existing skills. For example: • leverage existing skills mapping work to understand the transferable skill sets of workers in transition • introduce a Skills Passport that formally recognises an employee's skills, prior learning and in-house training • develop and promote programs that support workers to articulate their skill sets to new employers.
	Develop specialist training that meets skills gaps for workers in transition, such as, continue to collaborate between industry, educational institutions, unions and government to develop and promote specialist training courses that enable workers to gain new employment in other industries.
Specialised programs are difficult to access for people working full-time.	Pursue flexible training delivery. For example: • explore opportunities for onsite training delivery at energy and mining businesses during work hours • create formal channels for students to request flexibility in timing and delivery mode of training, such as intensive offerings outside of work hours to enable students to earn and learn.
Young people are less willing to enter the industry due to a lack of visibility or understanding of long-term career pathways.	Create visibility of career pathways. For example: • expand programs that offer secondary school students the opportunity to try a range of trades, particularly for students in Years 7 to 9. Including, the Baw Baw Trade Training Alliance providing a Year 9 Trade Pathways. • introduce apprenticeships that enable apprentices to rotate between employers, such as Esso's apprenticeship program[104] • promote TAFE-to-university-to-career pathways, such as a Certificate IV in Electrical Engineering to a Bachelor of Engineering (Mechanical or Electrical).
Training for critical occupations is not offered in the region.	Enable local training institutions to provide training that meets industry demand. For example: • expand local training to deliver qualifications for high voltage line workers for example, Advanced Diploma of ESI – Power Systems and Advanced Diploma of Mechanical Engineering Technology • expand and promote programs that support soft skill capability development such as leadership and management training • pursue flexibility in funding and regulatory requirements to enable local training institutions to create courses in response to the industry's need to create a smooth transition for workers.
Clean energy developments will require an adequately skilled workforce to operate beyond the next 3 years.	Foster the long-term development of a local workforce to support clean energy operations: • utilise Skills Labs to co-design new approaches to skill development that are informed by emerging industry practices and technologies • continue to support collaboration between industry, government and the education and skills system to understand the workforce and skilling requirements of emerging clean energy developments in the region • expand local provision of training that provides workers with the skills required to operate and maintain clean economy assets.

Agriculture and forestry

Industry profile and outlook

Industry composition

Gippsland's expansive land and infrastructure positions the region as one of Victoria's major food and fibre hubs. Agriculture, forestry and fishing is the third largest industry in the region, accounting for nearly 9% (8.8%) of gross value added (GVA).

In Gippsland, 28% of land is used for agricultural purposes, supporting an estimated 6,500 farming families who contribute to 250 Gippsland communities.[24] The region specialises in vegetables, beef and dairy, producing 32% of Victoria's milk by volume, and continues to diversify agriculture production, including into intensive horticulture of fresh fruit. National food companies have major operations in the region including Flavorite, Patties, Bega, Burra Food and Vegco.

The region also makes a significant contribution to the state's timber production with 25% of Victoria's plantation timber estate.[24]

The industry is supported by common-use infrastructure, including Longwarry Saleyards, South Gippsland Food Processing and Production facilities and Latrobe City Gippsland Logistics Precinct.[105]

Demand and outlook

The outlook is diverse within the agriculture and forestry industries. Both sectors have been challenged by natural disasters and competition for land from Melbourne's urban expansion.

Agriculture, and more broadly food and fibre, is expecting robust growth in output. Consumer demand is rising, and employers reported that global and national supply chain disruptions are putting pressure on the region to increase agriculture production. This aligns with Gippsland's ambitious growth agenda for food and fibre, suggesting potential for growth of 5% compound annual growth rate (CAGR) by 2025.[24] Growth opportunities include further diversifying commodities in to high-value products such as saffron, truffles, olives, garlic and seaweed, and investment in technology and innovation.

Technology, data and automation are expected to be key enablers of growth. Real-time data collection is improving decision making and precision in farm management, which flows on to higher quality products and efficiency gains across the entire supply chain. Robotic technology, such as automated pickers, transplanting devices and automatic closed greenhouse systems, is boosting productivity.

The region is also investing heavily in innovation including:

- $890,000 support from Food Innovation Australia for the Food and Fibre Gippsland[24]
- dairy farming in Maffra included as part of a $27 million on-farm Internet of Things trial. This trial aims to support the uptake of apps and devices such as sensors, gateways, wireless transmission and dashboards[106]
- support from the $136 million investment in Smart Farms program by the Australian Government's Department of Agriculture, Water and the Environment[107]
- creation of the Ellinbank SmartFarm – Australia's leading dairy innovation facility, funded as part of the Victoria Government's $5 million investment in Smarter, Safer Farms initiative[108]
- the Innovation Centre of Gippsland's new Hi-Tech Precinct, linking students directly with local industry and skills[24]
- $1 million investment for Gippsland Agriculture Group to develop an education centre as part of the research farm in Bairnsdale.

Growth in manufacturing capability will also benefit this sector, retaining more of the supply chain within Gippsland to create high-value exports. Overall, the industry is expecting high exports, driven by rebounding commodity prices and a diversified export market such as the new Australia–UK Free Trade Agreement[109] as it navigates reduced access to China.

Forestry is in transition. Government support has been announced to ease the effect of this transition, through the $200 million Victorian Forestry Plan transition package. The package seeks to retain community capability and support the transition of the workforce. Targeted financial support has also been provided for Gippsland's Maryvale Mill.

The forestry industry will require a different commercial model when native harvesting ceases. While the outlook is uncertain, there are opportunities emerging including alternative supply options through plantation timber and small dynamic logs and opportunities to grow farm forestry through partnership with agriculture, with benefits for both sectors.

Agriculture will need to overcome resource challenges to realise the strong potential for growth. For example, climate change and increasing urban demand are affecting the availability of water. A report into the Latrobe Valley region suggests agriculture has already reached capacity of production within available water.[110] The region expects to see a decline in average rainfall with heavier downpours and extreme events,[111] as well as decreased quality of water[24]. Securing water resources is critical to enable growth.

For agriculture, an industry that relies heavily on a seasonal workforce, the loss of international workers throughout the pandemic has also been extremely challenging. Employers reported that crops with good yields have been pulled out of the ground and discarded due to shortages of pickers.

Workforce profile and outlook

Workforce composition

Agriculture, forestry and fishing has the seventh largest workforce in the region at just over 7%. Agriculture records 90% employment. The industry is currently male-dominated, but there are increasing opportunities to encourage women into the industry plus other cohorts such as people from cultural and linguistically diverse (CALD) backgrounds. This workforce is interconnected with other industries along the food value chain such as manufacturing, and businesses in the region often employ both pre-farm-gate (such as pickers) and post farm-gate (such as processors and packers). Therefore, the agriculture, forestry and fishing workforce alone does not account for the full workforce associated with food and fibre.

In Gippsland, 79% of agriculture, forestry and fishing businesses have no employees. These businesses are often family run and operated but may employ a handful of additional workers to support peak periods. Larger corporations employ permanent roles and seasonal workforces, and are supported by additional roles in finance, marketing, and administration.

Permanent on-farm roles include agronomy, livestock farmers, crop workers, machinery operators, farm supervisors and maintenance workers. The industry also employs large workforces in field positions such as milkers, pickers, tractor operators and farm workers, which have seasonal requirements. In forestry, many tasks require highly skilled machinery operators, but plantation in forestry is seasonal and also labour-intensive.

Workforce outlook

Consistent with statewide trends, employment in agriculture and forestry has been declining compared with output, as technology and automation create new ways of working, and result in higher productivity per worker. While the industry in Gippsland expects strong growth in activity, demand for new workers is expected to remain steady.

Despite this, agriculture will need workers to fill shortages across the region. The absence of international workers throughout the pandemic is straining the industry. The Australian Agriculture Visa program is looking to secure migrants to help fill seasonal positions, but immediate relief will need to come from local workforces. Employers reported that large organisations such as Flavorite are turning to new means to fulfill their workforce requirements, such as employing school students over the summer peak season.

In forestry, the transition away from native timber harvesting will leave many workers seeking new roles within the industry or transitioning to other industries.

Table 22 shows key workforce indicators and estimated growth in the next 3 years. This provides an indicative estimate of workforce demand, based on taskforce estimates.

Table 22 | Agriculture and forestry: key labour market indicators and estimated demand for workers 2022–2025*

Industry	Share of region workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[5]	Total workers required*
Agriculture	6.6%	8,550	-0.5 to 0.5%	-150 to 100	500	350 to 600
Forestry	0.7%	950	0.5 to 1.5%	0 to 50	50	50 to 100
Agriculture and forestry total	**7.3%**	**9,500**	**-0.5 to 0.5%**	**-150 to 150**	**550**	**400 to 700**

* All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

In agriculture, there is a critical shortage of middle management positions both on-farm and in corporate or supporting roles such as human resources, communication and production managers.

Farm management skills are becoming increasingly important. Older workers may remain in the industry past the age of 65, but may shift to less labour intensive work to focus on supervisory and management roles. People are also moving in to the dairy industry, with strong business skills but lacking the farm management expertise. Other on-farm roles in shortage include milkers, pickers, truck drivers, machine and equipment operators.

The forestry industry is experiencing more difficulty recruiting non-entry level roles, and have a shortage of saw technicians and maintenance, and those able to operate heavy and hand-held machinery. As forestry transitions, native forest harvest workforces will need to adapt to other skills in plantation, farm forestry and bio processing. This change is also increasing demand for skills in innovation, communication and stakeholder engagement.

Table 23 describes the major occupations in the industry and their estimated growth over the next 3 years. This profile defines occupations using ANZSCO classifications and associates a proportion of each occupation to an industry, as defined by ANZSIC classifications. While employers often rely on a broader range of occupations across industries, Table 23 describes only workers in ANZSCO occupations that are directly attributed to the agriculture and forestry industry.

Table 23 | Agriculture and forestry: top occupations by forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Livestock farmers	4,430	195 to 330
Livestock farm workers	964	40 to 70
Agricultural and forestry scientists	416	10 to 15
Truck drivers	359	5 to 10
Crop farmers	297	20 to 30
Crop farm workers	279	10 to 15
Agricultural, forestry and horticultural plant operators	258	50 to 75
Forestry and logging workers	248	25 to 40
Deck and fishing hands	241	15 to 25
Mixed crop and livestock farmers	223	10 to 20
Metal fitters and machinists	53	5 to 10

*Data was prepared in 2022 at the time the taskforce was undertaken.

Education and training outlook

The agriculture, forestry and fishing industry provides many employment opportunities for people without a post-school qualification. Employers often hire seasonal workforces for attitude and work ethic, willing to provide basic training onsite. But this workforce is also underpinned by anchor roles with specialist education and training. In addition, the industry is being transformed by new technologies and this has implications for the education and training required by workers. Training requirements are expected to increase to account for these emerging skills and worker shortages.

Where training is utilised, it is often non-accredited and conducted within the business. Registered training organisations generally deliver training in areas required for compliance or regulation, such as work health and safety, machinery training and first aid.

Some on-farm positions require technical skills such as tractor driving and farm safety, which are mostly taught on the farm. Employers have raised concerns with this approach, describing poor on-farm learning environments, yet extending full qualifications such as Certificate III Agriculture (Dairy Production) is also challenging because it is too onerous on the trainee and the employer. The industry expressed a preference for skills development on an as-needs basis.

Training delivery in forestry is mixed, but overall the industry has a strong preference for on-the-job training.[112] Larger businesses generally use in-house training, while smaller rely on registered training organisations. Forestry also relies on apprenticeships in saw technicians and wood machinists, which require nationally accredited Certificate III training. The industry finds access to training difficult, given these specialist training requirements lead to thin delivery markets.

Table 24 below outlines the key VET qualifications for workers in the agriculture and forestry industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives.

Table 24 | Agriculture and forestry: key qualifications and training requirements

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[59]	Anticipated training requirement
Farmers and farm workers	Certificate III in Agriculture	100	Likely increase in demand
	Certificate II in Agriculture	60	No change
	Certificate II in Horticulture	130	No change
	Certificate III in Horticulture	80	No change
	Certificate III in Agriculture (Dairy Production)	45	Likely increase in demand
	Certificate III in Agricultural Mechanical Technology	25	No change
Farmers and farm managers	Certificate IV in Horticulture	20	Likely increase in demand
	Certificate IV in Agriculture	35	Likely increase in demand
Agriculture and forestry scientists (including agronomist)	Diploma in Agronomy	10	Likely increase in demand
Forestry and logging Workers	Certificate II in Forest Growing and Management	10	Likely increase in demand
	Certificate III in Forest Growing and Management	35	Likely increase in demand

In addition, the number of workers with a university degree in agriculture and forestry has been growing. Key qualifications in higher education include:

- Bachelor of Agriculture, Bachelor of Agricultural Sciences, Bachelor of Agriculture and Technology
- Master of Agricultural Sciences
- Master of Ecosystem Management and Conservation.

Opportunities to improve education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the agriculture industry. Table 25 provides an outline of key findings.

Table 25 | Opportunities for the agriculture and forestry industry

Situation	Opportunity
The industry struggles to recruit workers due to a perceived lack of career opportunities.	Develop and articulate career opportunities in the industry. For example: • work with industry to develop career pathways that incorporate leadership roles, and opportunities across the entire food-value supply chain, such as the Food and Fibre Gippsland Connect 2 Employment videos[36] • programs that offer secondary school students exposure to the agriculture and forestry industry • mentoring opportunities that connect local young people with passionate members in their local community. A previously successful mentoring campaign, DairySage Mentoring run by the Dairy industry, could offer a template.
Key training is not available in the region.	Expand local training provision. For example: • leverage skills mapping work to understand the transferable skill sets of workers in transition in forestry • other training that could be expanded to meet industry need includes Certificate III in Production Horticulture, Agriculture Chemical Skill Set and other skills in land management, plantation and bio processing.
Limited access to qualified trainers and assessors hinders training delivery.	Incentivise trainers to gain accreditation and support non-accredited trainers. For example: • work with regulators to develop new approaches to gaining the required qualifications to deliver training • consider ways to provide flexible delivery options, which could include e-learning and e-assessment material that may support and potentially substitute trainers.
Existing agriculture qualifications are not delivering for industry need.	Refine training and delivery models. For example: • break down larger training packages to enable employers and workers to pick the exact skills they need • recognise unaccredited micro-credentials and provide credit for broader accredited courses • develop skill set or short course on foundational farm skills, such as tractor driving, and farm safety • work with industry to review agriculture qualifications and delivery model to ensure they provide the practical experience required to work on farm, including industry future needs, such as aquaculture, waste management and circular economy • ensure any online training is supported with adequate face-to-face or on-the-job models.
Industry-led training is not recognised by the system.	Support workplace-based training. For example: • work with existing workplace trainers and approaches to achieve recognised qualifications. Training led by industry and industry associations is valued by industry and delivers training that aligns with the qualifications but is not recognised • capture and account for industry-led training in training data, to create a more accurate picture of training activity to inform funding requirements • establish guidance and resources for farm managers to provide on-the-job training and mentoring.

Manufacturing

Industry profile and outlook

Industry composition

Manufacturing is the sixth largest industry in Gippsland, contributing 6.3% of the region's gross value added (GVA). The manufacturing industry is engaged in the transformation of material, substances or components into new products for consumption or use as an input to produce other goods. Manufacturers include process manufacturers, who produce high volume of the same product, and specialised manufacturers, who produce lower volumes of bespoke items.[113] The industry operates across Gippsland, with all 6 local government areas (LGAs) home to manufacturing facilities that span a range of sectors.

The food product manufacturing sector is linked to the region's agriculture and forestry industry. Major food product manufacturers such as Burra Foods, Patties Foods and Fonterra, produce dairy, meat and ready-to-eat food products. The industry also includes timber and pulp sector manufacturers such as Opal, machinery and equipment manufacturers such as Safetech and a range of smaller metal and mineral product operators. The region's road, rail and air transport infrastructure connects the industry to consumers across Australia and internationally.

Demand and outlook

Increased adoption of technology, consumer demand and government investment have the potential to drive industry growth in the next few years. However, the industry must overcome challenges associated with a constrained supply chain, labour shortages and transition in the region's agriculture and forestry industry, which supplies key production inputs for manufacturing.

Technological advancements create an opportunity for the industry to increase efficiency, safety and automation. New equipment or techniques can improve productivity, which enables manufacturers to expand production to meet consumer demand and ensure financial competitiveness.

The food product manufacturing sector expects to grow to meet emerging consumer demands. Domestic and international consumers are increasingly seeking value-added food products[114] and artisanal foods produced in rural areas.[115] Value-added products have fuelled recent growth in the sector, with Victorian food and fibre exports now comprising 27% of national food and fibre exports in 2020–21.[116] This sector can work with Gippsland's strong agriculture industry to enhance innovation across the supply chain and meet growing domestic and international demand for high-value sustainable and traceable food products.

Gippsland's clean economy development presents an opportunity for the machinery and equipment manufacturing sector. The region's natural resource endowments are expected to spark growth in wind, solar and transmission infrastructure assets in the next 3 years.[16] The region's manufacturing industry has an opportunity to produce high-value infrastructure components and support the maintenance of these assets.[16]

The timber, pulp and paper manufacturing sector faces disruption. The sector is heavily dependent on the region's forestry industry, which must undergo transition to phase out commercial native timber harvesting[109]. The manufacturing sector's ability to transition to production methods suitable for commercial timber inputs will be critical to success in the next 3 years and beyond.

The industry will be supported by government investment in domestic manufacturing, including:

- the Australian Government's Modern Manufacturing Initiative provided $1.3 billion nationally for Australian manufacturers to scale-up production.[117] The initiative has delivered funding to Gippsland, including a $48.2 million grant for Opal to secure energy requirements with an Energy from Waste project.[45]

- $10 million to support the Morwell Food Manufacturing precinct, which has the potential to support 1,700 jobs once operational[49,118]

- $3 million to support defence manufacturer DefendTex to advance Gippsland-based commercial production of rocket boosters for space launch.[119]

Increasing demand for manufacturing presents a sizeable growth opportunity for the region but may exacerbate existing labour and material shortages. Shortages for key materials extend beyond Gippsland as a concern for many regional areas, exacerbated by the pandemic induced global supply chain disruptions. Manufacturers that can increase productivity will be better placed to overcome these disruptions.

Workforce profile and outlook

Workforce composition

Manufacturing is the fifth largest employing industry in Gippsland, with 11,300 employees that account for 8.7% of the region's workforce. Consistent with broader trends, the workforce is predominantly male and older than the state average.

Trades and entry level roles include steel and welding trades workers, timber and wood process workers, food and drink factory workers, packers and manufacturers. The industry's increasing uptake of technology means businesses require workers with specialised skill sets such as software programmers, data workers and engineers. This core workforce is supported by a range of ancillary roles, including management, administration and finance workers.

The food product manufacturing sector is also supported by a seasonal workforce. Dairy product manufacturers rapidly increase production during spring, which requires a large pool of entry level workers in processing and packing roles. This seasonal workforce tends to be more transient and has historically been filled by backpackers. Employers reported that the region's labour shortage and pandemic travel restrictions inhibited the ability of manufacturers to attract workers to these roles.

Workforce outlook

An estimated 500 to 750 new workers will be needed over the next 3 years as businesses expand production to meet growing consumer demand.[6] The industry's technological transformation also requires the workforce to evolve, with increased demand for workers with specialised skills. Manufacturing has an older workforce, with 13% of workers aged over 60 years old. This presents another workforce challenge, with additional workers required to replace the 400 workers expected to retire in the next 3 years.[5]

The industry has a high number of existing vacancies, which may hinder industry growth in the next 3 years. Employers report that staff shortages have prompted some skilled workers to consistently work weekends and at night to ensure their businesses can keep up with demand. Workforce attraction is particularly difficult in more remote areas of the region such as East Gippsland. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 26 shows key workforce indicators and estimated growth in the next 3 years. This provides an indicative estimate of workforce demand, based on taskforce estimates. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 26 | Manufacturing: key labour market indicators and estimated demand for workers 2022–2025

Share of total workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[5]	Total workers required*
8.7%	11,300	2 to 3%	500 to 750	400	900 to 1,150

*All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

The industry will experience strong demand in a range of occupations, including:

- digital, software engineering, artificial intelligence and data specialist workers to facilitate an increased use of automation and robotics in production.

- trade-based roles such as boilermakers, welders and fitters and turners. Employers reported difficulty attracting trades workers due to competition from other industries.

- entry level and seasonal roles such as packers and processors, which will increasingly need to develop digital literacy skills to handle the industry's increased adoption of technology.

Table 27 describes the major occupations in the manufacturing industry and their estimated growth over the next 3 years. This profile defines occupations using ANZSCO classifications and associates a proportion of each occupation to an industry, as defined by ANZSIC classifications. While employers often rely on a broader range of occupations across industries, Table 27 describes only workers in ANZSCO occupations that are directly attributed to the manufacturing industry.

Table 27 | Manufacturing: top occupations by forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Paper and wood processing machine operators	1,022	30 to 40
Structural steel and welding trades workers	953	75 to 95
Manufacturers	747	30 to 40
Metal fitters and machinists	704	30 to 40
Production managers	530	40 to 50
Food and drink factory workers	353	30 to 40
Timber and wood process workers	241	35 to 45
Packers	227	25 to 30
Cabinetmakers	210	25 to 35
Bakers and pastrycooks	203	25 to 30

*Data was prepared in 2022 at the time the taskforce was undertaken.

Education and training outlook

Workers typically hold qualifications for skilled and trades roles. Skilled roles including data workers, software programmers and engineers require specific higher education qualifications. Trade workers such as boilermakers, fitters and turners and welders in the main have completed a formal apprenticeship and this form of preparation is highly valued by employers.

Seasonal roles and most entry level roles do not require formal qualifications, instead employers seek workers who demonstrate attributes such as a strong work ethic, positive attitude and punctuality. Some of these workers are supported to complete vocational training once employed, such as a Certificate III in Meat Processing. Workers at large manufacturers tend to undertake in-house and non-accredited training.

Employers report satisfaction with the quality of local educational institutions, but desire greater local access to training. Some vocational training qualifications for in-demand occupations are not offered in the region, such as Certificate III in Paper and Pulp. Local provision is expanding, with TAFE Gippsland recently opening a training centre in Yallourn to offer Certificate III, Certificate IV and diploma-level qualifications in Biomanufacturing Operations in the future.[120,121] Employers also desire greater local provision of training for skilled workers such as electrical engineers and data workers to support the industry's increased uptake of technology.

The industry's changing skill needs presents an opportunity for education and training. Entry level workers will need to build general technological skills to adapt to advanced manufacturing techniques and productivity pressures. Employers reported a desire for training that provides quick and flexible upskilling opportunities for entry level and seasonal workers.

Table 28 outlines the key vocational education and training (VET) qualifications for workers in the manufacturing industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives.

Table 28 | Manufacturing: key qualifications and training requirements*

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[61]	Anticipated training requirement
Mechanical and engineering trade workers, Fabrication engineering trades workers	Certificate II in Engineering Studies	250	Likely increase in demand
	Certificate III in Engineering - Fabrication Trade	85	Likely increase in demand
	Certificate III in Engineering - Mechanical Trade	50	Likely increase in demand
	Certificate IV in Engineering	50	Likely increase in demand
Furniture and cabinet makers	Certificate II in Furniture Making Pathways	165	Likely increase in demand
	Certificate III in Cabinet Making	90	Likely increase in demand
Food product manufacturing workers	Certificate II in Meat Processing (Abattoirs)	35	Likely increase in demand
	Certificate III in Meat Processing (Retail Butcher)	50	Likely increase in demand
	Certificate IV in Food Processing	15	Likely increase in demand
Timber and wood process workers	Certificate III in Timber Truss and Frame Design and Manufacture	5	Likely increase in demand
	Certificate III in Harvesting and Haulage	5	Likely increase in demand
	Certificate IV in Timber Processing	5	Likely increase in demand

* Qualifications for trade-based occupations, such as electricians and metal fitters and machinists, are included in the construction industry profile.

In addition to the above listed VET qualifications, the following higher education qualifications are likely to be in increased demand, based on projected workforce demand:

- data science and programming, for example, Bachelor of Data Science, Bachelor of Engineering with a software engineering specialisation
- engineering, for example, Bachelor of Engineering with a mechanical or electrical engineering specialisation
- management, for example, Bachelor of Management, Bachelor of Commerce.

Opportunities to improve education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the manufacturing industry. Table 29 provides an outline of key findings.

Table 29 | Opportunities for the manufacturing industry

Situation	Opportunity
Employers struggle to attract people from diverse and underrepresented backgrounds (for example, women, CALD, or older).	Actively recruit people from diverse backgrounds. For example: • promote career pathways and provide support through the Women in Apprenticeship scheme and Workforce Training Innovation Fund • engage with Learn Local providers to develop programs that support older people to enter the manufacturing workforce • financially incentivise diverse cohorts to join manufacturing employers. The region could consider replicating a successful program by Portland Aluminium, the Women in Trades scholarship[122] • targeted investment in developing multi-lingual communications materials and, or visual support materials to enhance training (and workforce) participation.
The industry struggles to attract sufficient workers due to a perceived lack of career opportunities.	Develop and articulate career opportunities in the industry. For example: • promote experiential activities, such as site visits and 'day in the life' experiences, to secondary school students • market career pathways in high-skilled roles to students pursuing further education in other fields (data, software engineering, human resources).
Lack of local provision deters student participation.	Expand local training provision. For example: • introduce in-demand qualifications such as Certificate II in Engineering Studies, Certificate IV in Engineering Drafting • explore innovative delivery modes to expand local training provision in more remote areas of the region, such as local training hubs across Gippsland with centralised online trainer support • develop a cluster model to consolidate training for critical occupations across a number of employers • advocate to continue to fund the apprentice wage boost scheme.
Entry level workers do not meet employer work readiness expectations.	Foster skill development for entry level workers. For example: • introduce short courses (1–2 days) for secondary school students to develop basic work skills such as problem solving, teamwork and punctuality • promote existing programs that teach literacy and numeracy skills in a food manufacturing context such as Learn Local's Skills for Work and Study (Food Processing)[123] • ensure entry level apprenticeships provide basic manufacturing skills before jumping into advanced concepts, such robotics and advanced manufacturing.
Existing qualifications offer students limited exposure to career pathways within the industry.	Develop qualifications that provide exposure to a range of career pathways. For example: • introduce a manufacturing tester program for secondary school students and entry level workers, which students complete before choosing a specialisation • introduce programs that provide exposure to work in emerging sectors, including wind turbine manufacturing

Visitor economy

Industry profile and outlook

Industry composition

Gippsland is a well-renowned tourist destination, known for its national parks and pristine coastline. Industries of retail, accommodation and food, and arts and recreation support this visitor economy. Collectively, these industries account for 8% of gross value added (GVA) in the region. This activity is concentrated in the Bass Coast, Baw Baw and East Gippsland shires.

Gippsland is home to natural assets of Phillip Island, Lakes Entrance, Wilsons Promontory National Park and Croajingolong National Park. In the north, the region features Victoria's high country, home to Mount Baw Baw, one of the 5 major Victorian snowfields and part of the Alpine National Park. As well as natural assets the region is home to towns and villages that attract tourists, Aboriginal and colonial heritage, gourmet food and wine experiences and an increasing creative arts industry that attract tourists. Gippsland also hosts major events through venues such as Lardner Park, which attracts 230,000 patrons annually.[124]

Prior to the pandemic, Greater Gippsland and Phillip Island received approximately 10% of the Victorian market for visitors[125] which equates to nearly 8 million tourists visiting Gippsland each year. In Greater Gippsland visits are mostly day trippers (60%), followed by domestic overnight visitors (39%) with only 1% of visitors from international markets. In comparison, Phillip Island has historically seen higher international visitors, with the industry reporting that they made up approximately 70% of visitations pre-pandemic. Visitations are highly seasonal, creating a particular challenge for East Gippsland and the Alpine region to scale activity and workforce.

Demand and outlook

The last few years have been extremely challenging for the visitor economy in Gippsland. Consecutive natural disasters of the 2019–20 bushfires and 2021 storms and floods saw a tragic loss of life, property and livestock, and devastated communities and economies. It is estimated the bushfires alone saw a loss in annual tourism expenditure of 75%.[126] These events reduced visitations and reportedly had a prolonged influence on negative perceptions of Gippsland as a region to visit.

The pandemic further reduced visitations. Lockdowns saw major attractions such as ski slopes close, businesses shut or move out of the area and as a result, a significant reduction in the visitor economy workforce. The Victorian tourism sector saw a decline of almost $20 billion in expenditure from 2019 to 2020.[127] For Phillip Island, a destination greatly reliant on international visitors, the effect has been especially acute. The retail industry generally has been less affected than other industries with businesses able to shift to online offers.

Following this disruptive period, Gippsland is now looking to return and grow beyond pre-pandemic levels. Statewide modelling suggests Gippsland is likely to be one of the quickest regions to recover visitations,[127] with Phillip Island-based businesses reported to be expecting to return to 70 to 80% of pre-pandemic visitors in the next 18 months. These visitor numbers are increasing, but the nature of visitations has changed. Current visitors are mostly holiday homeowners or day trippers, and are showing preference for nature-based and walking attractions, rather than paid venues. Campgrounds report high occupancy, but other accommodation providers do not. Visitations is also becoming increasingly seasonal, with high demand in weekends and school holidays and quiet periods during the week – periods that were previously filled by international visitors. These trends affect the output of the accommodation and food, retail, and arts and recreation industries, creating a diverse story of growth across different sectors and concentrating activity in peak periods. Businesses are also needing to adapt to changing consumer preferences where this a desire for greater certainty in booking, and a digitally-enabled, accessible experience, but many do not have the funds required to support this change.

Stakeholders have emphasised investment in Gippsland's visitor economy is essential to realise the growth potential of returning tourists. From rebuilding infrastructure such as park toilets, to headline marketing campaigns that tell the state, and the world, Gippsland is open for business. The $633 million Visitor Economy Recovery and Reform Plan (VERRP) for the state will support this, with a goal of reaching $35 million annual expenditure and supporting 300,000 jobs by June 2024. In Gippsland, unique opportunities are emerging to increase visitations and output.

Development of luxury escapes that increase the average stay and visitor spend. This includes:

- $100 million investment in Metung Hot Springs at the Gippsland Lakes, set to open in mid-2022[128]
- $10 million investment in Phillip Island Hot Springs, set to open April 2023[129]
- Seacombe West Regenerative Project (Hot Springs Retreat) lucrative 6-star spa on the shores of Lake Wellington.[129]

Reinvigorating the nature and activity-based tourism that draws visitors to Gippsland. This includes:

- $23 million revitalisation of Wilsons Promontory will support conservation programs and upgraded visitor facilities[130]
- $750,000 funding toward Jemmy's Point Lookout, connecting tourists with Lakes Entrance[131]
- $1.5 million funding to a mountain bike trail project in Omeo.[132]

Supporting major event and creative arts industries, providing new experiences for visitors. This includes:

- $27.2 million redevelopment of the Cowes Cultural and Community Centre, scheduled for completion March 2023[133]

Growth in the visitor economy will also depend greatly on the ability to access workers. Businesses are struggling to keep the doors open due to a lack of staff, with many operating at reduced hours such as 5 days a week rather than 7 days, closing over winter, or closing public holidays as tight margins and public holiday rates make remaining open unfeasible. This disruption effects the visitor experience, and risks reputational damage that sees less visitors return to the region, threatening business prosperity further.

Workforce outlook

Workforce composition

The visitor economy is enabled by a large workforce mostly across the retail, accommodation and food, and arts and recreation industries. These 3 industries total an estimated 21,850 workers, or 16.8% of Gippsland's workforce. The workforce tends to be transient, seasonal or casual workers to accommodate fluctuations in demand.

The visitor economy workforce is highly diverse. Hospitality workers include front-of house staff such as waiters, baristas and food trade workers such as chefs, cooks and kitchenhands. Accommodation providers rely on a strong supply of cleaners and receptionists. The retail industry is a large employer, with roles across sales assistants, check out operators and shelf fillers. The industry also has managerial positions, and employs a range of support staff in areas of administration, finance and marketing.

The industry has a high proportion of entry level roles, with many workers choosing to work in this industry while completing education and training. In addition to external recruitment, roles such as chefs and experienced managers can be filled by progression from entry level roles. For example, from kitchenhand to chef, and from front-of-house to hospitality manager.

Workforce outlook

High visitation and tourism investment are likely to translate to significant growth in the accommodation and food, and arts and recreation industries. The retail industry will benefit from higher visitations and population growth, although is likely to see more conservative growth in the coming years than the other 2 industries, consistent with steady historic growth.

Industry growth alone will see an estimated 950 to 1,650 new jobs in the next 3 years. However, the workforce is starting from a reduced baseline – stakeholders estimate that during the pandemic the visitor economy workforce reduced to levels seen 10 years ago. The industry is now looking to grow this back to pre-pandemic levels over the next 18 to 24 months. Therefore, the number of new jobs significantly underestimates the workers that will be required over the next 3 years.

As demand returns, employers are struggling to fill these vacancies. The industry is experiencing a number of challenges in recruitment.

- Historically, much of the industry has relied on the highly-mobile backpacker workforce or employer sponsored skilled migration.[130] International border closures throughout the pandemic have reduced this source of labour. For example, the number of temporary skilled visas granted declined by 42% from 2018–2019 to 2020–21[130]

- The industry can be seen as transient or temporary, making it particularly difficult to recruit following the pandemic. The turbulence and insecurity of industries such as the visitor economy saw many workers exit in pursuit of securer employment opportunities. As unemployment drops to record lows, the opportunities to do so have been increasing in the competitive labour market

- Housing affordability and availability is making it difficult to attract people to the region. Availability of rental accommodation across regional Victoria has dropped by 22% from 2020 to 2021[130]

- Gippsland's size presents another challenge, with workers unwilling to travel long distances to service remote tourist experiences.

Table 30 shows key workforce indicators and estimated growth in the next 3 years. This provides an indicative estimate of workforce demand, based on taskforce estimates. Overall, the total jobs that need to be filled is a conservative estimate as existing vacancies are not included.

Table 30 | Visitor economy: key labour market indicators and estimated demand for workers 2022–2025*

Industry	Share of region workforce[5]	Current workers 2022[5]	Forecast workforce growth (CAGR)[6]	Forecast workforce growth (people)[6]	Estimated retirements[5]	Total workers required
Arts and recreation services	1.5%	1,950	2 to 3%	150 to 200	100	250 to 300
Accommodation and food services	5.7%	7,350	3 to 4%	800 to 1,100	400	1,200 to 1,500
Retail trade	9.7%	12,550	0 to 1%	0 to 400	550	550 to 950
Visitor economy total	**16.8%**	**21,850**	**1.5 to 2.5%**	**950 to 1,650**	**1,050**	**2,000 to 2,750**

* All numbers are rounded. Data was prepared in 2022 at the time the taskforce was undertaken. Updated data will be published in late 2023 and available on the Victorian Skills Authority website.

'As well as natural assets the region is home to towns and villages that attract tourists, Aboriginal and colonial heritage, gourmet food and wine experiences and an increasing creative arts industry that attract tourists.'

Demand is expected to be high across most roles to fill existing vacancies, especially for hospitality workers. Positions such as cooks and chefs have had long standing shortages, but this has become more acute with the absence of migration. These roles have recently been added to the Victorian Government's Workforce Skills Pathway (WSP) skilled migration program, which may provide some additional workers with these skills.[130] Waiters, baristas, bar staff and hospitality managers are also in shortage. Additional skilled workers that support the industry such as human resources, research, management and leadership are also needed, and becoming more difficult to recruit in the competitive job market.

As the industry moves through turbulent times, skills in capacity building, community engagement, grant writing and marketing are in demand. This extends beyond individual employees, with stakeholders highlighting the importance of building business and employer capability.

Table 31 describes the major occupations in the accommodation and food, arts and recreation, and retail industries and their estimated growth over the next 3 years. This profile defines occupations using ANZSCO classifications and associates a proportion of each occupation to an industry, as defined by ANZSIC classifications. While employers often rely on a broader range of occupations across industries, Table 31 describes only workers in ANZSCO occupations that are directly attributed to the accommodation and food, arts and recreation, and retail industries.

Table 31 | Visitor economy: top occupations by forecast demand

Top occupations (based on ANZSCO classifications)*	Estimated workers in 2022 (people)[5]	3-year forecast growth (people)[6]
Sales assistants (general)	5,470	250 to 390
Retail managers	2,317	110 to 180
Waiters	1,406	150 to 180
Checkout operators and office cashiers	1,087	70 to 110
Shelf fillers	967	35 to 60
Chefs	947	80 to 100
Kitchenhands	773	110 to 130
Bar attendants and baristas	580	120 to 150
Fast food cooks	465	70 to 90
Cafe and restaurant managers	366	65 to 80
Commercial cleaners	284	80 to 110
Cooks	270	60 to 70
Visual arts and crafts professionals	116	15 to 20
Greenkeepers	39	15 to 20

*Data was prepared in 2022 at the time the taskforce was undertaken.

Education and training

The visitor economy provides many opportunities for people with no post-school qualification. This includes young people in their first job, or older workers looking to re-enter the workforce or who may require flexible work arrangement to balance other commitments, such as caring responsibilities.

Employers mostly hire workers for attributes and general skills, but value training for specialist roles or to demonstrate an employee's commitment. Vocational education and training (VET) will continue to be the primary channel for training, such as a Certificate in Commercial Cookery for chefs and cooks. Professional and management roles may be filled by a worker with a higher-level qualification.

Skill sets are also delivered through VET, for the purpose of upskilling and professional development and, or to meet regulatory requirements. The Responsible Service of Alcohol (RSA) Certificate is required for working in most hospitality venues, and therefore has the highest enrolments of any skill set. Other development opportunities are mostly provided in-house. However, many businesses in the visitor economy are small and operate on tight margins and employers can struggle to find the capacity and money to invest in skilling.

Demand for training will likely increase to fill shortages in the region but employers feel pathways through training are underdeveloped. Industry is working with educational institutions to create dedicated pathways from barista courses or the RSA to local employers. Establishing a strong pipeline of workers will depend on a consistent volume of available students, a challenge that has made it difficult to make tailored pathways viable for institutions and employers.

Table 32 below outlines the key VET qualifications for workers in the visitor economy industry, the number of enrolments in the region and the anticipated training requirement in the next 3 years. Anticipated training requirement is based on each occupation's forecast growth, statewide training trends and input from industry representatives.

Table 32 | Visitor economy: key qualifications and training requirements

Occupation groups (ANZSCO)	Top qualifications	2020 enrolments[61]	Anticipated training requirement
Retail workers	Certificate II in Salon Assistant	235	Consistent demand
	Certificate II in Retail Cosmetics	180	Consistent demand
	Certificate III in Retail	240	Consistent demand
Kitchenhands and cooks	Certificate II in Cookery	210	Likely increase in demand
	Certificate III in Commercial Cookery	200	Likely increase in demand
	Certificate IV in Commercial Cookery	40	Likely increase in demand
Bar attendants and baristas Café and restaurant managers	Certificate II in Hospitality	345	Likely increase in demand
	Certificate III in Hospitality	245	Likely increase in demand
	Certificate IV in Hospitality	20	Likely increase in demand
Arts, sport and recreation workers	Certificate II in Sport and Recreation	100	Likely increase in demand
	Certificate III in Sport and Recreation	920	Likely increase in demand

Opportunities to improve education and training

Industry leaders and employers in the region have identified specific opportunities for the education and skills system to support the visitor economy industry. Table 33 provides an outline of key findings.

Table 33 | Opportunities for the visitor economy industry

Situation	Opportunity
The industry struggles to recruit workers due to a perceived lack of career opportunities.	Develop and articulate career pathways within the industry. For example: • improve access to apprenticeships and traineeships programs for in demand occupations like chefs and cooks. Including, through Head Start and the Regional and Specialist Training Fund • engage with high school career counsellors to articulate the value proposition of working in visitor economy • promote professional and management roles to skilled workers and students pursuing further education in other fields.
Lack of local provision deters student participation.	Expand local training provision. For example: • expand qualifications for critical occupations to East Gippsland, including Certificate IV in Hospitality and Certificate IV in Commercial Cookery • develop a cluster model to consolidate training for critical skills in thin markets, in collaboration with industry • Jobs Victoria's paid hospitality training program, which couples training with hospitality jobs, for jobseekers in the region.[134]
Smaller employers may have limited capacity and resources to engage in training.	Support existing business owners to upskill themselves and their employees. For example: • continue and expand business support services such as the Gippsland Business Connect Concierge[135] • incentivise subject matter expert owners to undergo available business training (for example, Victorian Chamber of Commerce courses)[136] • create formal channels for students and employers to request flexibility in timing and delivery mode of training to align with off-peak demand periods • advocate for public sector visitor economy entities to be eligible for workforce training funding.
Entry level workers are not consistently work ready.	Facilitate skill development for entry level workers. For example: • promote existing visitor economy skill development programs offered in the region such as TAFE Gippsland's hospitality short courses,[137] Food & Fibre Gippsland's Connect 2 Employment[36] and Warragul Community House's Retail Trade program[138] • promote existing professional development programs for soft skills such as Latrobe Valley Authority's Gippsland micro-credentialing program.[83]
Existing qualifications are not fully aligned to industry needs.	Ensure training is relevant for skilled occupations. For example: • work nationally to encourage the update of the Certificate III in Commercial Cookery to ensure it remains contemporary for the latest food trends • pursue flexibility in funding and regulatory requirements to enable local training institutions to tailor curriculum to industry needs in the region.

'The visitor economy is enabled by a large workforce mostly across the retail, accommodation and food, and arts and recreation industries. These 3 industries total an estimated 21,850 workers, or 16.8% of Gippsland's workforce.'

Appendix B: Data sources

Employment estimates

Source: Victorian Skills Authority, Nous (2022), modelling of National Skills Commission (2022) employment estimates.

This modelling estimates employment by ANZSIC3, ANZSCO4 and SA2 (usual place of residence) at quarterly periods that match the historical Labour Force Survey.

Census 2016 data by ANZSIC3, ANZSCO4 and SA2 is used as the base data. Iterative proportional fitting has been used to adjust the 2016 Census using the marginal tools of:

- total employment (that is, without any industry or occupation dimension) by SA2 from the Small Area Labour Market (SALM) estimates
- state by ANZSIC3 from the Labour Force Survey
- state by ANZSCO4 from the Labour Force Survey.

The net effect is that the broad interaction pattern of industry and occupation from the time of the Census is unchanged; growth in total employment at the regional level is matched from the SALM estimates; growth in particular industries and occupations in the state is matched from the Labour Force Survey.

Where an SA2 spans multiple partnership regions estimates have been apportioned on geographic area.

Detail on sources

Table 34 provides the sources used to input to the Nous (2022) modelling.

Table 34 | Data sources used to model SA2 employment estimates

Insight	Data source
Census data 2016 and 2021	Census data on employment by ANZSIC3, ANZSCO4 and SA2 usual place of residence.
Total employment by SA2	SA2 smoothed employment published by the National Skills Commission, calculated from the 'Smoothed SA2 labour force' sheet and 'Smoothed SA2' unemployment sheet of the 'SALM smoothed SA2 Datafiles'.
State x ANZSIC3	ABS Quarterly Detail cube published by the ABS, EQ06. Full-time and part-time are added together.
State x ANZSCO4	ABS Quarterly Detail cube published by the ABS, EQ08. This cube does not distinguish between full-time and part-time

While the SA2 seed data is smoothed, the weighting is to marginal totals from Australian Bureau of Statistics (ABS) Quarterly Detail cubes. The end result is the historical employment estimates by SA2 are not seasonally adjusted but best estimates of the employment in the industry or occupation in the reference week for that quarter of the Labour Force Survey.

Employment forecasts

Source: Victorian Skills Authority, Nous (2022), modelling of National Skills Commission (2022) employment projections.

This modelling creates sets of forecasts by ANZSIC3, ANZSCO6, BGTOCC (Burning Glass Technologies Occupation Classification) and state that match published Australian Government forecasts. A separate exercise is conducted for each forecast publication year.

Burning Glass data by ANZSIC3 x ANZSCO6 by BGTOCC is used as the base data. This is scaled to match ANSZIC3 x ANZSCO3 x state totals for 2016 from the 2016 Census. These values are then scaled in turn with iterative proportional fitting to match National Skills Commission Labour Market Insights forecasts of employment by ANZSCO4 for Australia and ANZSIC1 x state.

The ANZSIC3 by ANZSOC4 forecasts are then allocated to local government area (LGA). This approach is:

- base data comes from the 2016 Census as ANZSIC3 and ANZSCO4
- base values are scales to total employment area from the Small Area Labour Market Estimates and to the ANZSIC3 and ANZSCO4 forecast totals, creating 2 data sets for each projection year: employment area by ANSZIC3 and employment area by ANZSCO4
- a new set of base data from the 2016 Census – employment by place of residence by ANZSIC3 and ANZSCO4 – is now scaled to match the 2 data sets.

Employment forecasts are a best estimate of industry and occupation growth by region. They provide an indication of change but do not, and cannot, tell the full story of the region's economy. Extensive stakeholder consultation has been conducted to supplement the quantitative approach. A taskforce comprised of industry leaders and education and training institutions from across the region have provided and approved adjusted forecasts that reflect the circumstances in the region.

Detail on sources

Table 35 provides the sources used to input to the Nous and Victorian Skills Authority (2022) modelling.

Table 35 | Data sources used to model state and LGA employment forecasts

Insight	Data source
Census data 2016 and 2021 (subject to released data)	Census data on employment by ANZSIC3 and ANZSCO3. Census data on employment by place of residence by ANZSIC3 and ANSZCO4.
Employment by occupation forecast	Labour Market Insights https://labourmarketinsights.gov.au/our-research/employment-projections/
Employment by industry forecast	Labour Market Insights https://labourmarketinsights.gov.au/our-research/employment-projections/ The given industry forecast period is often not available until some months after the occupation forecasts. As at May 2022 there were no 2021 to 2026 ANZSIC1 by state forecasts available. The 2020 to 2025 ANZSIC1 by state forecasts were used and scaled up to match the Australian total employment numbers in the ANZSCO4 forecasts.
Total employment by SA2	SA2 smoothed employment published by the National Skills Commission, calculated from the 'Smoothed SA2 labour force' sheet and 'Smoothed SA2' unemployment sheet of the 'SALM smoothed SA2 Datafiles'.

Retirement estimates

Source: Victorian Skills Authority, DAE and Nous (2022), retirement projections 2022–2025.

Retirements are estimated by applying occupation-specific retirement rates to the employment forecasts outline above.

Using the Australian Census Longitudinal Dataset, an estimate of the size of the labour force aged 50 and over in 2016 was taken and compared to the size of the labour force aged 45 and over in 2011. After adjusting for migration, the gap is assumed to be a measure of retirement across the 5 years between 2011 and 2016. The relative age structures of occupations in the Census 2011 were then used to estimate retirements at the detailed occupation level (ANZSCO4).

The outputs were used to estimate an occupation-specific retirement rate, calculated as:

Retirement rate = retirements between periods t and t+1 / employment at t

The retirement rates to employment forecasts outlined above to estimate the number of retirements between 2021 and 2025 at the region (Regional Partnerships), industry (ANZSIC1) and occupation (ANZSCO4) level.

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