




Barwon Regional Skills Demand Profile 2023



**Victorian
Skills Authority**



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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 Barwon Regional Skills Demand Profile is complementary to the Barwon Regional Economic Development Strategy (REDS). The profile draws on the REDS in addition to other sources. Due to the specific focus and need of the profile, alternative data has been required for aspects of the analysis. As a result, some data and information may differ between the REDS and the profile. The data and information provided in the profile has been validated and adjusted with a taskforce comprised of industry leaders and education providers from across the region.

Data in this profile

The Victorian Skills Plan provides the Victorian Government and skills and training system with high-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.

This profile reflects most up to date data and statistics available in 2022 during the period of taskforce meetings and profile development. The data is aligned to the 2022 Victorian Skills Plan and various reputable sources were incorporated, as referenced throughout 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, set to be released in late 2023.

To access the latest data, readers are directed to the Victorian Skills Authority employment forecast dashboard: 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>





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Executive summary

About the Barwon Region

The Barwon Region is situated south-west of Melbourne, encompassing the local government areas of City of Greater Geelong, Surf Coast Shire, Colac Otway Shire, and Borough of Queenscliffe. The region is home to Eastern Maar and Wadawurrung peoples, who are the recognised Traditional Owners who have lived, worked, and cared for their Country and resources for many thousands of years.

Barwon is Victoria's most populated regional area, home to over 334,400 people.¹ Since 2011, the population has grown significantly faster than Victoria overall, increasing by over 80,000 people, or 28.6%. Central to this growth is Geelong, which is Victoria's second largest city. Its revitalised urban precincts, investment in infrastructure and leading educational facilities have made it an attractive place for people to live, work and study.

The region is also one of the most popular tourist destinations in Victoria, famous for its coastal towns along the Great Ocean Road and the Bellarine Peninsula, and other natural landscapes such as the Great Otway National Park and the You Yangs. In 2019, the region hosted upward of 2.5 million domestic and international visitors.² Colac Otway towards the west forms the region's agricultural and food manufacturing base.

Figure 1a: Overview of the Barwon Region



The transition to one of Australia's fastest growing regions

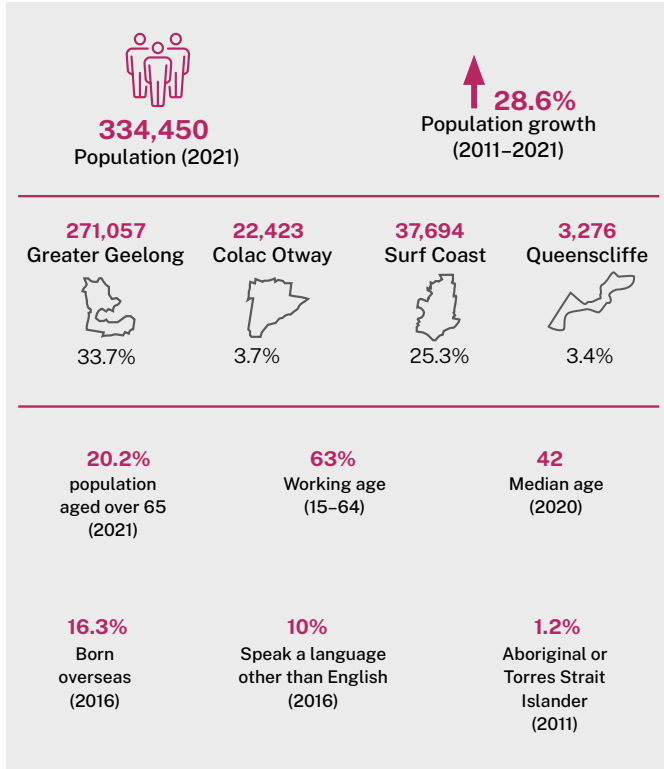
Historically, Barwon was known for its strength in manufacturing. The closure of large multinational firms, including Alcoa and Ford in 2014 and 2016 respectively, challenged the economic and social future of the region. In the years since, Barwon has experienced an incredible rebound and accelerated growth.³ The Barwon economy has transitioned from a virtually sole reliance on manufacturing to a more diversified range of activity bases, which have enabled accelerated growth across the region and boosted economic prosperity, employment, and population growth. With a gross value added (GVA) of \$14.5 billion in 2021,⁴ Barwon is now the largest regional contributor to total Victorian GVA. This diversification of industry has changed the nature of skills and training required in the region.

Barwon is expected to continue to grow, with estimates suggesting that it will have a population of around 431,200 by 2036, growing faster than the average population growth rate of both metropolitan Melbourne and Victoria overall.⁵ Greater Geelong is one of the fastest growing regional cities in Australia and is set to continue on this trajectory.⁶ Other parts of the region are also experiencing significant growth, particularly along the Surf Coast due to increasing residential populations and a thriving visitor economy.

Significant population growth is driving demand for services across the region, which is compounded by neighbouring regions' reliance on Barwon's essential services such as health care. Demand for residential and commercial construction as well as infrastructure requirements are also set to continue.



Figure 1b: Overview of the Barwon Region^{7,8,9,10, 11}



There are a range of factors and initiatives at local, state, and federal levels informing and driving the strategic direction for the Barwon region. The Barwon Regional Economic Development Strategy (REDS) released by Department of Jobs, Skills, Industry and Regions (DJSIR) in May 2022 lays out the medium to long-term strategic direction for driving socioeconomic growth and development across the region:

- accelerating the transition to new and high value manufacturing opportunities
- furthering innovation across the skills ecosystem
- realising the potential of the visitor economy
- maximising the economic benefit from expanding service-based sectors
- building a sustainable and climate-resilient economy.

The development of a skilled supply of local workers is vital to enable sustainable industry growth and innovation, which will in turn continue to enhance social and economic prosperity for the Barwon region.



Outlook on jobs growth

The Victorian Skills Authority (VSA) 3 year employment projections show that there is significant demand for workers in the region – with over 10,530 additional new workers required in the 3 years between 2022 and 2025.¹² At least 7,590 workers will also be needed to replace retirements.¹³ Table 1 provides estimates of job growth across the 6 key industries in Barwon.

Discussions with the Barwon Regional Skills Taskforce and industry roundtable participants highlighted a range of additional factors that need to be considered alongside these forecasts – suggesting that the impact of recent government policies and industry investment across the region is likely to drive higher demand for workers than forecasted. Additionally, current labour shortages and vacancies across the region are not captured in the projected demand. The type of skills required by industry is also becoming more complex, highlighting the need to ensure workers are equipped with the skills that meet industry's evolving needs.

Table 1: Estimated new job demand outlook for 2022–25 by industry

Industry ¹	Estimated current workers 2022 ¹⁴	New workers to fill new jobs ⁶	New workers to fill retirements ¹⁵	Total new workers needed ²
Business, professional, and public administration services	29,170	1,920	1,510	3,490
Construction	19,100	830	690	1,520
Health and community services	33,820	2,700	1,150	3,870
Manufacturing	12,770	70	550	660
Visitor economy	33,490	2,740	1,490	4,250
Education and training	17,260	1,380	780	2,170
Other	30,520	30,520	30,520	30,520
TOTAL	176,130	40,160	36,700	46,470
<i>Please note totals may not add due to rounding</i>				

1 Refer Appendix C for details on the mapping of Barwon's key industries to ANZSIC industry classifications







2 Note that total new workers needed may not necessarily be the sum of new workers to fill new jobs and new workers to fill retirements. Totals may not add due to rounding.



Priority skills needs across Barwon's 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 can be transferred across occupations and industries which will entail a new approach to skilling which is important for a region like Barwon. Education and training organisations also need the flexibility to deliver

skilling interventions that can meet these needs. While each industry has identified gaps and additional requirements for sector specific skills and capabilities, it is clear there are common priority requirements across all major industries in the Barwon region. These relate to key capabilities that industry representatives believe individuals should have an awareness of when they enter the workforce and should focus on developing as their career progresses. These skills are consistent with those identified by the Committee for Geelong as part of the Future of Work.¹⁶

		
<p>Personal and social skills</p>	<p>Digital and technology skills</p>	<p>Leadership skills</p>
<p>There is a need for soft skills to complement technical skills for all workers. This includes interpersonal communication skills, emotional intelligence, conflict resolution skills and an ability to collaborate and work in teams.</p>	<p>These skills are fundamental for a future-proof workforce and to meet modern consumer expectations and increase business productivity. While competencies may differ between industries, digital skills are a foundation for most roles, currently and into the future.</p>	<p>There is a need to uplift capabilities of existing workforces to meet current gaps in leadership and management positions, ranging from younger workers with limited experience to qualified staff to step into more senior management positions.</p>
		
<p>Skills for sustainability</p>	<p>Diversity and inclusion awareness</p>	<p>Entrepreneurship, business and innovation skills</p>
<p>A broad range of skills and capabilities in relation to citizenship, cultural awareness and environmental responsibility are required across the region, to boost environmental consciousness, awareness, and sustainability.</p>	<p>An awareness and commitment to diversity and inclusion is needed across industries, particularly those in the service-based sectors, to attract more people into the workforce and for workers to reflect the diversity of those they serve.</p>	<p>There is a need for new generations of the workforce to have entrepreneurial, innovation and growth-focused mindsets, including problem-solving skills, a capacity to think critically, a commitment to continual learning and aspirations to push boundaries.</p>

Key challenges and opportunities

This profile is being prepared in a complex and challenging period. Like other parts of Victoria, Barwon is impacted by cost-of-living pressures, significant labour shortages, and continued recovery from the pandemic. These are exacerbated by underlying challenges in the region such as housing accessibility, access to child care and teacher and trainer shortages. At the same time, feedback indicates that the education and skills system, as well as industry itself, also need to transform to meet the changing needs of students, workers, industry, and community.

The Barwon Regional Skills Taskforce and industry roundtables raised some common challenges related to workforce skills and training in Barwon. This provides a clear set of opportunities to address the cross-cutting workforce and skills needs.

Challenge	Opportunity area
Perceptions of jobs across the major industries	1. Promote the benefits and opportunities within key industries
Greater coordination across education providers and industry can promote the benefits and attractiveness of industries in the region. This includes breaking down stereotypes often associated with traditional industries and pointing to the new types of jobs emerging across the region as a means of attracting and retaining workers in the region.	
Limited understanding of industry growth and career pathways	2. Broaden understanding of growth areas and career pathways within and across major industries
Targeted initiatives can increase understanding about industry growth areas within Barwon's major industries and increase visibility of possible career pathways. This includes pathways within and across industries built on transferable skills, which also need to be promoted and communicated more to employers.	
Alignment between education and training and workforce needs	3. Enhance industry involvement in localised planning and delivery of education and training
Employers and industry representatives can play a more active role in the design, planning and delivery of innovative education and training approaches, such as transferable and future skills, to help with mobility of workers for easier movement between jobs in the region.	
Skills to support sustainability	4. Build local skills and capabilities to support the environmental, social, and economic sustainability of the region
Environmental, social, governance and sustainability considerations are front of mind across major industries in Barwon, and there is an opportunity for employers to lead and contribute to efforts to create a more sustainable future if there is a workforce with the knowledge and skills to enable this.	
Inter and intra-sector workforce competition	5. Build opportunities to partner and collaborate on workforce attraction and retention across industries and within the region
Facilitating greater partnerships and collaboration between businesses through alternative approaches that focus on growing the skilled workforce, rather than competing for the same, limited workforce, presents an opportunity for sustainable solutions to addressing current labour shortages.	
Risk of a low-skilled workforce	6. Advocate the importance of skills development and support the promotion of life-long learning to ensure a future-fit workforce
Advocacy, promotion, and facilitation of opportunities for life-long learning through micro-credentials ³ , short courses and personal and professional skills development has been identified as a key solution to address skills gaps. This is particularly important in an environment where labour shortages are leading employers to recruit under-qualified employees and, or employees with no experience or relevant qualifications.	

³ Micro-credentials are shorter style courses (and in some instances accredited qualifications including Skills First Skill Sets) that demonstrate skills, knowledge, and, or experience in a given subject area or capability.



Next steps to address regional skills and workforce needs

The specific actions across the 6 key opportunity areas are summarised below. The Barwon Regional Skills Taskforce identified the time frame for each response (immediate, medium, or long term), and how complex each response may

be to implement (low, medium, or high). Some are actions the VSA will seek to address over the coming year, while others will require coordinated action by industry, government, and the education sector. An action plan will be developed in collaboration with the community.

		Immediate impact (1–2 years)	Complexity
Opportunity area	1.	Broker connections across the region to lift the perception of Barwon’s education and training opportunities and employment experiences across Barwon’s major industries	Low
	2.	Targeted engagement with students, vulnerable and under-represented communities, and industry to build awareness of education and training and career pathway opportunities	Low
		Publication of industry data and trends for current and prospective students, parents, and career counsellors	Medium
	3.	Collaboration across industry and education and training institutions to design and deliver industry recognised short courses and micro-credentials	High
	5.	Provision of data and insights to support workforce planning	High
	6.	Promotion of micro-credential courses that can meet industry and employee skill development needs	Low
Design and delivery of micro-credential courses to upskill employees		Medium	
		Medium-term impact (in 2–5 years)	Complexity
Opportunity area	1.	Support the Senior Secondary Pathways’ reform agenda through facilitation of local opportunities to improve vocational education and training (VET) within the region	Medium
	2.	Expand engagement activities with students and their networks	Medium
		Develop and improve visibility of cross-industry career pathways	Medium
	3.	Work with the VET Development Centre (VDC) and industry experts to support teacher training and development	Medium
		Leverage education and training facilities for student and employee upskilling opportunities	Medium
		Encourage industry and education providers to take a place-based approach to course design and delivery for skills and occupations unique to the Barwon region	Medium
	4.	Plan and invest in short course development to build appropriate skills and capabilities to support environmental, social, and governance priorities of the Barwon region	High
		Implement the Clean Economy Workforce Development Strategy	Medium
	5.	Advocate for ongoing workplace flexibility and policies that help brand the region as an ideal place to live and work	Medium

	Longer-term impact (in 5+ years)	Complexity
Opportunity area	1. Promote the successes of industries or sectors in Barwon and appropriately recognise the value of 'everyday' jobs that enable other activity	Low
	Facilitate recruitment and support activity for under-represented cohorts	Medium
	3. Provide local insights to support the development of the annual Victorian Skills Plan	Low
	Incentivise potential trainers to gain accreditation and enter the skills system	Medium
	5. Advocate to build better recognition of existing skills that enable more seamless transition across industries and sectors	High
	Identify success factors and implement shared recruitment pools across organisations where appropriate or feasible	High
6. Future skill requirement planning and mapping	High	

This profile acknowledges the issues facing the region and industry go beyond the identified workforce and skills challenges. Industry roundtables identified broader responses are required to support future growth in the region, including state and Australian Government policies and funding. These have been captured and the VSA will raise these with relevant areas of the Victorian Government.

Approach to developing the Barwon 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 Barwon Regional Skills Taskforce and representatives from key industries, as well as education representatives within the region. The perspectives of other community stakeholders, including Aboriginal Victorians and Elders, have also been captured in the profile.

The data presented was obtained and analysed from various reputable sources, as referenced throughout the profile, and represents the latest accurate data at the time of taskforce meetings and profile development.

The insights and opportunities identified are a starting point for industry, education and training institutions, and government to forge responses. The onus remains on all stakeholders to sustain collaboration, so that the people of Barwon have access to skilling opportunities that help them to develop their skills and prosper.



‘The VSA 3-year employment projections show that there is significant demand for workers in the Barwon region.’

Acknowledgements

Acknowledgement of Country

The Victorian Skills Authority (VSA) acknowledges and recognises the Traditional Owners of the land within the regional area of the Wadawurrung and Eastern Maar and its people, 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 (RDV). The profiles are a valuable resource for regional Victoria, the Department of Jobs, Skills, Industry and Regions (DJSIR), 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 Barwon Regional Skills Taskforce (table 2) and additional representatives from industry, local government, training providers, and related agencies who contributed to the development of this profile.

The findings in this profile would not be possible without their openness, generosity, expertise, and commitment to the regional economy and community.





Table 2: Regional Skills Taskforce members

Member	Organisation	Member	Organisation
Allan Hood	Bulla Dairy	Joe Ormeno	The Gordon TAFE
Anne Howard	Colac Otway Shire	Kerri Erler	Regional Development Victoria
Beth Rider	WorkSafe	Lee Jeffery	Barwon Health
Ben Flynn	Geelong Chamber	Lisa Smith	Epworth HealthCare
Brendan Windmeyer	Barwon Water – Barwon Asset Solutions	Mario Varricchio	South West TAFE
Brett Ince	Tourism Greater Geelong and The Bellarine	Matthew Dingle	FormFlow
Brett Winter	Geelong Port	Millie Keating	Hanwha Defense Australia
Dineli Mather	Deakin University	Robyn Seymour	Surf Coast Shire
Garry Ellis	Bellarine Community Health	Robyn Stevens	City of Greater Geelong
Jennifer Conley	Geelong Manufacturing Council	Tony Anderson	Geelong Trades Hall
Jennifer Cromarty	Committee for Geelong	Zoe Barnett	Primary care partnership (PCP) and G21 – Geelong Region Alliance

The following delegates were also involved in the Barwon Regional Skills Taskforce meetings: Brendan Sanders and Tamie Ryan (Tourism Greater Geelong and The Bellarine), Rebecca Bartel and Tom Slack (Deakin University), Simon Loone (Surf Coast Shire), Mary McGorry (City of Greater Geelong), Sue Spozetta (The Gordon TAFE), Louise Leonard (Bulla Dairy), Meg Bullen (Regional Development Victoria), Callum Urquhart (Barwon Water).

The VSA acknowledges and thanks the industry representatives who have participated in the industry roundtables and provided direction and guidance on the development of this profile.

Introduction

Purpose and scope of the Regional Skills Demand Profiles

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.

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

The purpose of the profiles is to provide a robust evidence base of skills and workforce demands to guide education and skills responses in the region. It draws on a wide range of data and information supplemented by insights and experience of key local stakeholders, brought together as a Regional Skills Taskforce 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 developed 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 Barwon region, and the education and training opportunities that can assist in developing the required workforce. While 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.

Figure 2: Victorian regional partnerships map





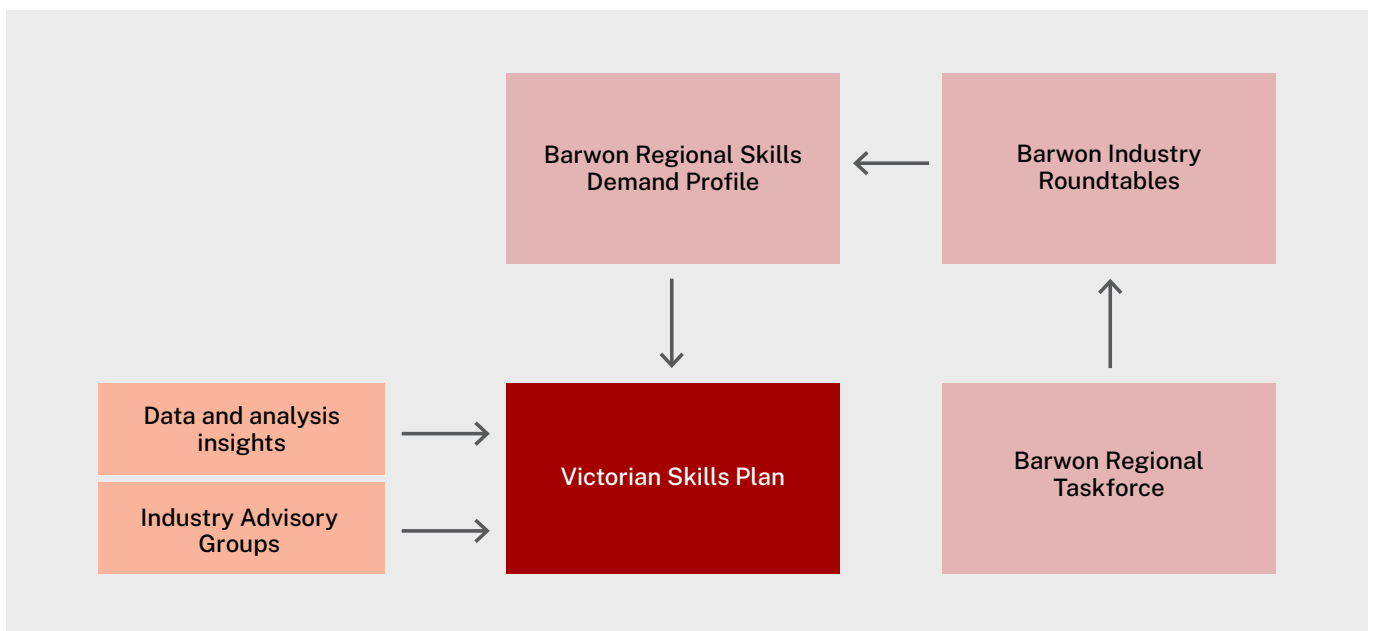
Connection to the Victorian Skills Plan

The Victorian Skills Plan outlines current and emerging skills needs and labour market shortages across the state, at both industry and local levels, to direct targeted investment so the Victorian skills system can meet the current and emerging demands for industry and the community.

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

The plan will be refined, building on data and insights year on year to build on collaboration and promote innovation in skills responses across the state, including each of Victoria's regions.

Figure 3: Connections between the Regional Skills Demand Profiles 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 Barwon region is situated south-west of Melbourne, encompassing the local government areas of City of Greater Geelong, Surf Coast Shire, Colac Otway Shire, and Borough of Queenscliffe. Barwon is Victoria's most populated regional area, home to over 334,400 people.¹⁷

At the economic heart of Barwon is Geelong, Victoria's largest regional city. Geelong's revitalised urban precincts, its increasing popularity as a business hub, combined with its growing arts and cultural sector, means that Geelong is poised for significant future growth. The region is also one of the most popular tourist destinations in Victoria, famous for its coastal towns along the Great Ocean Road and the Bellarine Peninsula, and other natural landscapes such as the Great Otway National Park and the You Yangs. To the west of the region is a strong agricultural community centered around the industrial, commercial, and service centre of Colac which is situated on the main highway that connects the region to the western parts of the state.

Progressing towards a future vision for Barwon

The Geelong Regional Plan, published by the G21 Geelong Regional Alliance⁴ in July 2007, looks towards 2050 and promotes a vision for the Geelong region: 'Australia's most desirable destination for living, visiting, working and investing ... renowned for its vibrant, cohesive community, exceptional physical environment and vigorous economy'.¹⁸

The Geelong Regional Plan recognises the number of challenges and opportunities the region will face, articulating short, medium, and long-term objectives related to environmental challenges, investment in infrastructure planning and development, increased access for social equity, creativity and learning and generation of new business.¹⁹

While the Geelong region has significantly changed, its strengths have ensured it is well positioned to actively plan for and address challenges and take up opportunities that arise in the economic, social, technological, environmental, and political landscape. Most prominently, the closure of large multinational firms, including Ford and Alcoa, challenged the economic and social future of the region. In the years since, Barwon's transition from manufacturing to a more diversified economy has contributed to accelerated growth across the region, encompassing economic prosperity, increased employment, and population growth.

Planning for a workforce with the skills to continue driving future growth and prosperity

Skilling the Bay²⁰ led by The Gordon TAFE in collaboration with Deakin University, the Department of Education (DE) and the Geelong Region Local Learning and Employment Network (GRLEN) coordinated education and skills responses to support social and economic recovery in the Geelong and Barwon regions post the pandemic. Skilling the Bay identified education and skills as critical enablers of economic recovery and prosperity for the region.²¹ The Skilling the Bay completion report included recommendations on developing a regional strategy to support socioeconomic recovery and secure a future-fit workforce.²²

'100 Jobs of the Future' is a research project looking at the future of work in an increasingly technologically driven society. The report was developed by Ford Australia, Deakin University and Griffith University and was published in July 2019. Most prominent of the changes identified were technological disruption, scientific innovation, climate change, globalisation, and population changes. It also investigated the changes in work that will occur in key industries and domains, jobs that will emerge, and skills needed to enable the creation and growth of these jobs.

The key findings and recommendations of this work and other sector-specific projects within the region have informed the potential responses in the profile. The ambition is to develop, maintain and grow the skills and capabilities required to ensure an economic and socially prosperous region now and into the future.

⁴ The G21 Regional Alliance is comprised of 5 local government areas: Colac Otway Shire, City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and Golden Plains Shire. Note that the Golden Plains region is not included in the Barwon region or this profile as defined in Appendix B.



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 Review²³ by Jenny Macklin (the Macklin Review) and the Review into Vocational and Applied Learning Pathways in Senior Secondary Schooling²⁴ 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.²⁵

Committed to a 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.

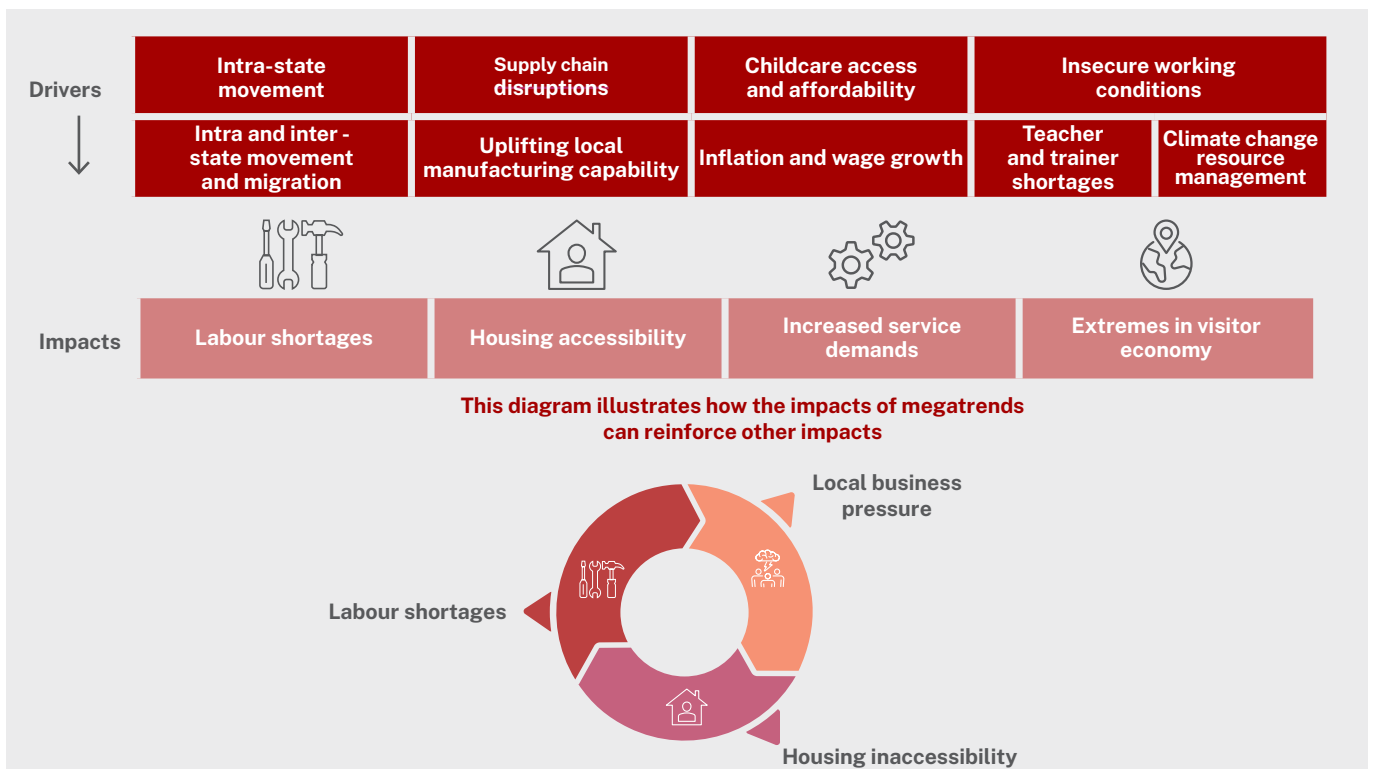
This agenda will ensure Victorians have access to high quality education and training to seek out meaningful jobs and careers, and industry and employers have access to a skilled workforce. In combination these lead to economic prosperity and well-being for individuals and the community.

State-wide macro trends and the impact on the Barwon region

The Barwon profile is being prepared in a complex and challenging period. 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 existing challenges.

These conditions are recognised as megatrends that are placing pressures on businesses and residents, within Victoria and in a unique way in Barwon. Housing accessibility and teacher and trainer shortages were identified as some of the most prominent challenges facing the Barwon region. While this can lead to acute challenges for the region, these trends can also represent opportunity for innovation, redesign of current practice, and overall growth in the economy due to increased demand across sectors. They highlight the need for collaborative action from government, industry and education and training providers.

Figure 4: Megatrends impacting the Victorian economy



Strategic directions for the Barwon region

The Barwon region is unique in its strengths and future opportunities. While this profile explores the current and emerging skills needs of the region, it is essential to note the wider planning that is informing the strategic directions for the region.

Figure 5: Strategic direction of the Barwon region

Local	City of Greater Geelong (UNESCO Creative city network) 'A clever and creative future'.	Surf Coast Shire 'Leave the Surf Coast better than we found it'.	Colac Otway Shire 'Embrace new people, new business and new ideas'.	Borough of Queenscliffe 'Caring community, welcoming to visitors'.
State	DJSIR region economic development strategy (REDS), May 2022.			
Federal	Barwon local jobs plan Increasing participation and training programs		Region strengths and weaknesses report Identifying the infrastructural pipeline.	





The Barwon REDS identifies 5 strategic directions for the region, which have been used to support the identification of future skills needs

The Barwon REDS²⁶ lays out the medium to long-term strategic directions for driving socioeconomic growth and development across the region. These directions are founded in an evidence base that considers the region's unique attributes, existing and emerging industries, and socioeconomic context.

1. Accelerate the transition to new and high-value manufacturing opportunities

To overcome the challenges presented through the closure of large multinational firms, Barwon's manufacturing industry has adapted towards higher-value, advanced manufacturing. Developing future-focused products and furthering advanced manufacturing capabilities will, along with existing strengths in supply chains and transport infrastructure, drive new and high-value opportunities for Barwon. The establishment of Hanwha Defense, Australia's \$170 million Armoured Vehicle Centre of Excellence at the Avalon Airport Industrial Precinct, will further accelerate this transition, creating more than 300 new design, engineering and manufacturing jobs in the region and position Geelong as the home of the state's increased defence capabilities.²⁷

2. Further the innovation and skills ecosystem

Existing innovation hubs and significant local research expertise will contribute to business incubation, productivity growth and a future-focused education and training sector. Barwon is equipped with several education and training institutions alongside research and development facilities and organisations that can help drive innovation and strengthen the skills ecosystem across the region.

3. Realise the potential of the visitor economy

The Barwon region is one of the most popular tourist destinations, attracting many international and interstate visitors. The diverse range of tourism offerings, including natural landscapes, creative industries, Aboriginal heritage and emerging agritourism, strongly positions the region to take advantage of changing domestic visitor trends.

4. Maximise the economic benefit from expanding service-based sectors

Strong population growth and changing demographics have driven service-based sectors – cultivating these sectors is an opportunity for long-term growth and wider economic benefits. A range of initiatives and strategic planning is underway and will be further required in coming years to address the increased demand on the service-based sector across the region. This includes, but is not limited to, the attraction of Barwon's new population to transition to local employment opportunities that address local service-based demands and directly benefit the region's economy.

5. Build a sustainable and climate-resilient economy

Renewable energy generation, including rooftop and large-scale solar, wind and renewable hydrogen, complement strong community interest in resource recovery and recycling to drive sustainability in the region. A focus on environmental, social, and governance and the decarbonisation of the economy will continue to drive strategic planning, policy, and programs in the region to ensure a more sustainable future.

More broadly, there is a range of factors and initiatives at a local, state and federal level informing and driving strategic directions for the Barwon region

State and federal infrastructure focus

Victoria's 30-year Infrastructure Strategy (Barwon)²⁸ commits to the delivery of critical growth infrastructure, including internet, housing, and health care accessibility across the region.

Infrastructure Australia's Regional Strengths and Weaknesses report²⁹ outlines the pipeline for future investment in the Barwon West Region alongside increased connectivity via Geelong Fast Rail that is currently under construction.

The state and federal government joint memorandum on the Geelong City Deal signed in January 2018 provided a commitment on delivering \$502.48 million in investment to the region over a 10-year period³⁰ to revitalise Geelong and unlock the potential of the Great Ocean Road visitor economy. This includes the development of the Geelong Exhibition and Convention Centre to help generate new investment and development in the region.

Local creative and innovation focus

A strong focus on innovation and creative arts is evident at a local level for the Barwon region, particularly in the City of Greater Geelong area. The Barwon region is well positioned with Geelong as a UNESCO City of Design, fostering collaboration with the network of other design cities. This supports and strengthens Barwon's positioning as a sustainable, resilient, and inclusive community. Other key initiatives to further promote innovation across the region, include the G21 Alliance³²; a formal alliance of government, business and community organisations working to improve the Barwon region by planning, delivering and supporting projects that benefit the region across municipal boundaries, and the Committee for Geelong³³; which advocates for the economic and social prosperity of the region through a broad base of community members and players.

The Creative Industries Strategy for the G21 Region (2021-26) emphasises the importance of continuous, localised innovation for and by businesses, an ambition that is actively prioritised in the Barwon region.³⁴ With clear objectives to support innovative skill development across the region, The Creative Industries Strategy articulates the necessity for creating skills development pathways that support the current and emerging requirements of the creative industries sector.³⁵

Innovation and employment precincts, like the Geelong Future Economy Precinct and the Pivot City Innovation Precinct, reflect Barwon's culture of innovation and drive to enhance curatorial, directing, programming and research capabilities of the Geelong-based creative institutions that will expand their reach and enable broader engagement with new audiences and communities and collaborators.³⁶

The Skilling the Bay report uses the Organisation for Economic Co-operation and Development (OECD) Skills Framework and aligns with the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Sustainable Development Goals and Principles. As such, it focuses on Science, Technology, Engineering and Mathematics (STEM) education, business, entrepreneurship, and leadership development to accelerate skill uptake for innovation and new industries in the region.

Furthermore, the '100 Jobs of the Future' report explores the challenges and opportunities related to an ageing population, medical technologies and workplace disruptions that will continue to change local community need as well as industry and business practices.

The Barwon region's local communities and industries are well positioned to attract and develop a future-fit workforce.

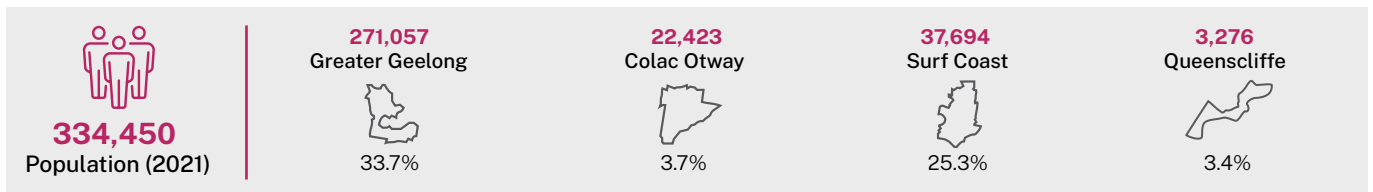


‘Innovation and employment precincts, like the Geelong Future Economy Precinct and the Pivot City Innovation Precinct, reflect Barwon’s culture of innovation.’

Barwon's current landscape

This section provides an overview of Barwon's current landscape with respect to its population, economy, workforce and demographic characteristics.

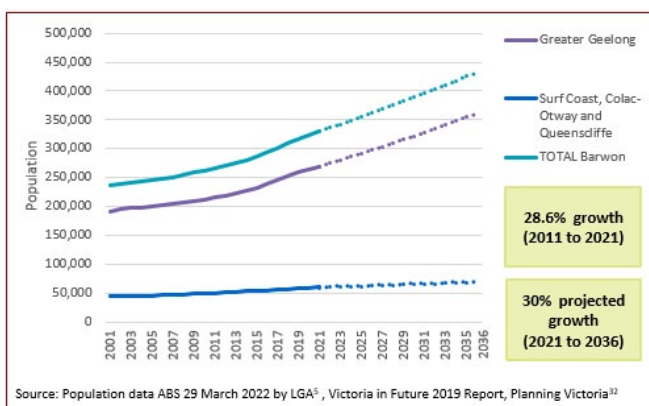
A booming regional population



As of 2021, over 334,450 people live in the Barwon region. Since 2011, the population has increased by over 80,000 people, or 28.6%.³⁷

The Barwon region is projected to continue growing to reach a population of over 431,200 by 2036.³⁸ This is equal to an average growth rate of 1.7% per year, which is faster than the expected growth rate of Greater Melbourne (1.6%) and the rest of Victoria (1.0%).³⁹ This growth will be concentrated within the local government areas (LGAs) of Greater Geelong and the Surf Coast set, which are to grow at 32.8% and 30.5% respectively by 2036.

Figure 6: Population actual and projected growth by local government areas, 2001–2036



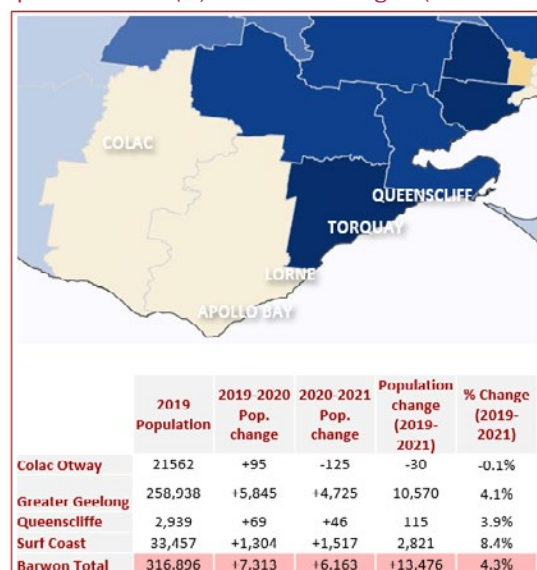
Recent migration patterns have changed the trajectory of population growth in the region

Between 2019 and 2021, the Barwon region experienced a total population increase of 4.3%, a total of 13,476 new residents across the 4 LGAs.⁴⁰ Greater Geelong, Queenscliffe, and the Surf Coast LGAs experienced the highest rates of growth while the Colac Otway region experienced a very minor net population decrease in this period.

During the same period, Victoria's total population decreased by 1%.⁴¹ This suggests changing migration patterns and preferences towards living in regional areas, which has implications on the regional workforce composition, service requirements and education provision.

Figure 7: Victoria and Barwon population trends in Victoria (2019–2021)⁴²

Population trends (%) in the Barwon region (2019 to 2021)





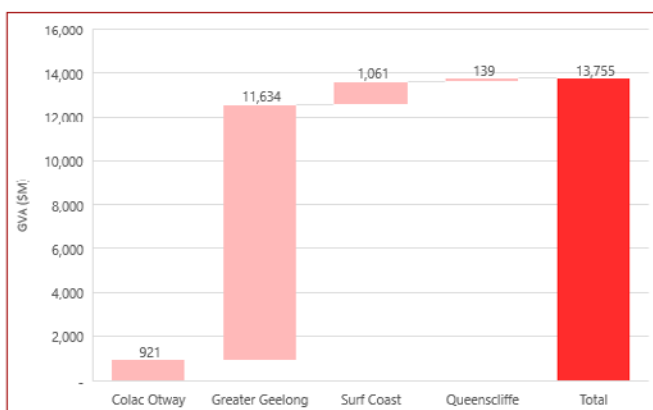
A strong and growing regional economy

Barwon’s economy has experienced significant growth over the last 20 years. After recovering from a period of stagnation from 2008 to 2013 following the global financial crisis and closure of major manufacturing businesses, Barwon has rebounded with strength, driven by significant population growth.⁴³ In 2021, the Barwon economy generated \$14.5 billion in gross value added (GVA), making it the largest regional economy in Victoria in terms of its contribution to total state GVA.⁴⁴ Construction and health care and social assistance⁵⁵ are the key drivers of Barwon’s overall economic output, contributing a total of just under \$4 billion in GVA.⁴⁵

Prior to 2013, manufacturing was the primary driver of Barwon’s economy, reflecting the region’s traditional strength in this sector.⁴⁶ In 2021, manufacturing was the third single largest sector by GVA⁴⁷ and fifth single largest by employment in 2022,⁴⁸ with its economic output having stabilised and showing signs of growth driven by high-value manufacturing and food manufacturing, particularly in the Colac Otway and Greater Geelong areas.⁴⁹

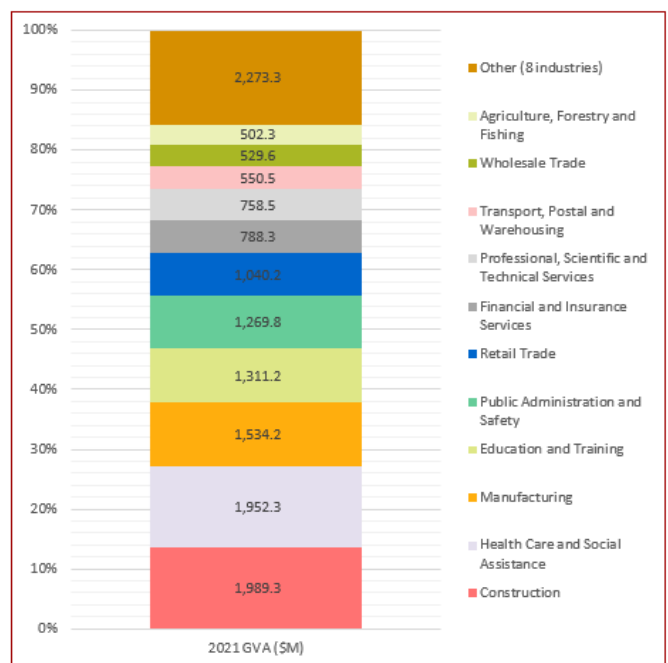
Recent economic growth has been driven by service-based sectors in response to a growing population. The most significant gains have been in health care and social assistance and construction, while education and training and retail trade have also shown strong signs of growth.⁵⁰ In 2021, professional, scientific and technical services became the fourth largest industry by GVA,⁵¹ reflecting the growing prominence of Geelong as a business hub and Victoria’s second largest city.

Figure 8: Contribution to Barwon GVA (\$M) (2020)



Output in the Barwon region is also impacted by the number of commuters working in Melbourne, meaning their output is not recognised in regional statistics. Low rates of dwelling occupancy in the Surf Coast and Queenscliffe local government areas may also indicate a large proportion of second homes or holiday rental properties in these high-tourism areas.

Figure 9: GVA by key industries in Barwon (2021)



Greater Geelong is Barwon’s regional activity centre and a thriving business hub for major organisations and employers in the region. It accounted for approximately 85% of the region’s total GVA, generating \$11.6 billion in 2021. Construction and health care and social assistance industries made up almost 30% of total GVA in Greater Geelong in 2020.⁵²

Surf Coast and Colac Otway each contribute approximately \$1 billion or 7.5% of the total GVA to the region, through major industry activity across manufacturing (Colac) and construction (Surf Coast).

The Borough of Queenscliffe’s economy is relatively small at \$140 million (1% of total GVA), reflecting the comparatively smaller size of the LGA and composition of medium-to-small-businesses.

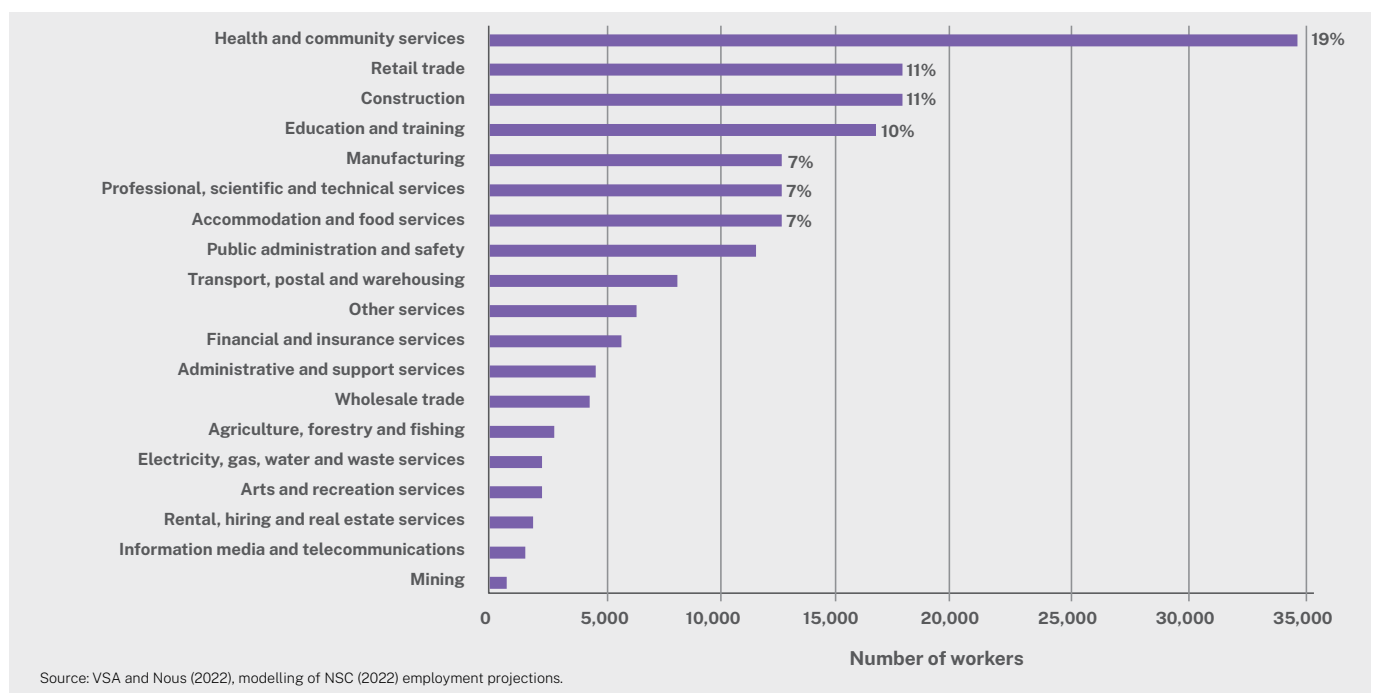
⁵ ‘Health Care and Social Assistance’ is an ANZSIC industry classification used for data analysis that is later described in the report as ‘Health Care and Community Services’.

There are approximately 176,130 people employed in the Barwon region, reflecting about 87.4% of the working age population and 53% of the general population.^{53,54,6}

The health care and social assistance industry is the largest employer in Barwon, employing about 19% of the workforce in 2022.⁵⁵ This is followed by retail, construction and education and training, which have grown substantially over the last 20 years in response to increasing population in the region.⁵⁶ These industries also have a higher proportion of employment relative to the average across Victoria, highlighting the significance of these industries to the Barwon economy.

The public administration and safety industry experienced a spike in employment from around 2016 onwards. This reflects the establishment and increasing presence of large government employers such as Transport Accident Commission (TAC), WorkSafe, National Disability Insurance Agency (NDIA) and the Australian Bureau of Statistics (ABS) which also saw an increase in migration from Melbourne.⁵⁷

Figure 10: Industries by employment⁵⁸



6 Note that this data may not account for individuals who travel to Barwon for work.



A regional economy approaching full employment

Barwon’s workforce participation rate has been trending upwards since 2018. In May 2022, workforce participation was 67%,⁵⁹ the highest rate in 15 years. In the same month, Barwon’s unemployment rate was unprecedentedly low at just 2%. Barwon’s unemployment rates are among the lowest across the state the average regional Victorian unemployment rate in May 2022 was 3.3%, and metropolitan Melbourne’s was 3.8%.⁶⁰ This suggests that Barwon’s workforce is close to full employment, which is presenting challenges for industry and resulting in significant labour shortages across many sectors.

Figure 11: Barwon employment region⁷ unemployment and participation rate (Aug 2007 to 2022)⁶¹



With significant labour shortages being felt by industry in Barwon, there are opportunities to engage under-represented cohorts and increase workforce participation across major industries.

Part-time employment and underemployment

Approximately 36% of Barwon’s workforce are employed on a part time basis. This is higher than the regional Victoria average of 32%.⁶² Part time employment is particularly high in key industries such as health care and social assistance, retail trade and accommodation and food services, where more than 50% of the workforce is employed part time.⁶³

Unemployment rates also hide the rates of underemployment, where barriers may be preventing people from working more hours than desired.⁸ These may include caring responsibilities, illness, or no jobs with suitable flexibility or conditions.⁶⁴

Youth unemployment

In August 2022, youth unemployment in the Barwon region was 5.1%.⁶⁵ This rate is higher than the adjacent regions of Warrnambool and south-west region (3.7%), but lower than Ballarat (7.9%) and Melbourne West (13.4%). This reflects employment challenges among particular cohorts and emphasises the need to ensure training is equipping young people with the skills they need to enter the workforce.

Workforce participation by gender

In August 2022, male and female participation was 67 and 61.6% respectively in the Barwon region.⁶⁶ The female participation rate has been consistently lower than the male participation rate in recent years, and in November 2021 there was a gap of 16.7 percentage points.⁶⁷ There are also persistent gender imbalances in employment in key industries in Barwon. Females are over-represented in industries such as health care and social assistance (83% female) while construction and manufacturing are predominately male (89% and 77% respectively). There is a need to address historical stereotypes, promote greater gender diversity and inclusion practices and environments within businesses, and reduce barriers to female participation in traditionally male dominated industries.

Figure 12: Breakdown of Barwon employment region workforce participation by gender across the top 7 industries (November 2021)⁶⁸

	Workers	Male	Female
Health care and social assistance	28,200	17.0%	83.0%
Construction	22,400	89.3%	10.7%
Retail	19,600	58.7%	41.3%
Manufacturing	13,300	76.7%	23.3%
Education and training	12,400	29.0%	71.0%
Public administration and safety	12,300	38.2%	61.8%
Accommodation and food services	11,700	43.6%	56.4%

7 The Labour Market Information Portal (LMIP) definition of the Barwon Employment Region covers SA4 Geelong including the areas of Geelong, the Bellarine Peninsula and Lara. It does not include Colac Otway.

8 The ABS defines an employed person most generally as a person 15 years and older working for at least one hour a week for pay or other similar benefit. A person may also be underemployed if they are willing and able to work additional hours but are unable due to find extra employment or have worked fewer hours for economic reasons (including insufficient work available).

The continued demand for workers in Barwon

The VSA's most recent 3-year employment projections highlight significant demand for workers in the region – with over 10,500 additional workers required in the 3 years between 2022 and 2025

The employment forecasts project the underlying demand for workers (employed persons)⁹ in the region over the next 3 years, based on population growth trends, changes in industry, and historical employment trends. However, there is also a range of additional factors that need to be considered in assessing the forecasts. This includes, but is not limited to, the impact of government policies and more recent investment across the region that is likely to add to the forecasted demand for workers in each industry.

Importantly, these forecasts do not capture the supply-side challenges in meeting current demand for workers across most industries in the region. Current labour shortages and vacancy rates across the region are not captured in the projected demand. Additionally, the forecasts do not account for turnover rates and instead reflect the net additional labour requirements.

The projected level of retirements between 2022 to 2025 is around 7,590 workers so it is expected that the total number of new workers required in the Barwon region is approximately 18,380.⁶⁹

Health care and community services is forecast to need the highest number of new workers by 2025, with over 3,870 additional workers required to meet increased demand and replace retirements. Accommodation and food services is expected to experience the highest growth in demand, at an annual rate of 4.8% over the next 3 years, equal to at least 2,350 new workers including replacing retirements from the industry. Education and training, professional, scientific and technical services, retail trade and construction are also forecast to grow significantly, reflecting continued growth in Barwon's population that is expected to drive demand in these service-based industries, and the growing prominence of Geelong as a business hub.

The occupations set to grow the most in absolute terms are aged and disabled care workers, registered nurses, and general clerks. Occupations associated with retail, hospitality and education are also forecast to grow significantly.

⁹ The meaning of employed person is consistent with the ABS definition.





Table 3: Employment growth and new workers required by industry in Barwon

Industry	New workers required 2022-2025**	Retirements between 2022-2025	Total new workers required by 2025	Employment growth 2022-2025 (AAGR)**
Accommodation and food services	+1,790	560	+2,350	4.8%
Health care and community services	+2,700	1,150	+3,870	3.0%
Professional, scientific and technical services	+1,220	650	+1,880	2.8%
Education and training	+1,380	780	+2,170	2.7%
Rental, hiring and real estate services	+150	70	+230	2.3%
Arts and recreation services	+190	140	+330	2.2%
Transport, postal and warehousing	+450	410	+880	2.1%
Electricity, gas, water and waste services	+130	100	+240	2.0%
Construction	+830	700	+1,520	1.8%
Financial and insurance services	+410	360	+800	1.7%
Retail trade	+770	800	+1,560	1.3%
Administrative and support services	+170	240	+440	1.1%
Public administration and safety	+300	510	+810	0.8%
Wholesale trade	+50	150	+210	0.5%
Other services	+50	190	+250	0.4%
Manufacturing	+71	546	+660	0.2%
Mining	+<10	<10	+<10	0.0%
Agriculture, forestry and fishing	-60	180	+140	-0.6%
Information media and telecommunications	-50	70	+50	-1.0%
Total	+10,530	7,590	+18,380	2.0%

Figure 13: Employment growth and new workers required by occupation in Barwon



Discussions with industry highlighted additional demand-side factors that could contribute to higher demand than forecasted across key industries. The type and profile of skills required by industry is also becoming more complex, meaning workers need to be equipped with the skills to meet the evolving needs of industries.

Visitor economy

Over 15 new hotels with more than 4,000 rooms are expected to be built,⁷⁰ alongside business and performing arts events facilities (including the new Geelong Convention Centre and Geelong Arts Centre redevelopment), which is expected to uplift tourism and attract business events across the entire region. This investment will require a significant workforce, that is not likely to be reflected in the forecasted demand for workers over the next 3 years.

Health care and community services

Significant investment in mental health and the reforms to the aged care sector, coupled with increased service demand as a result of a growing population, suggest there are likely to be greater growth measures than anticipated.

Education and training

Recent policy reforms, including the introduction of the Senior Secondary Vocational Major, additional funding to kindergarten reforms announced in the 2022–2023 Victorian budget⁷¹ and the Mental Health in Primary Schools Program will likely drive demand for VET teachers in schools, early childhood and kindergarten teachers and mental health practitioners in schools above and beyond the forecast requirements.

Construction

In addition to the high levels of forecast demand, the construction industry will be further impacted by infrastructure requirements associated with planned infrastructure investments, such as hotels, the Hanwha Defense facilities and the Women's and Children's Hospital.

Manufacturing

Forecasts of employment in manufacturing do not reflect the establishment of new organisations in the next few years. The most prominent is Hanwha Defense which will be seeking at least 300 employees in the region in the next few years with skills in engineering, design, and manufacturing.⁷² The impact of the ageing workforce and retirements in the industry is also apparent, with over 540 replacement workers required. Industry is also seeking more complex skills and capabilities which are not currently included in the ABS occupation classifications that have informed the development of these forecasts. These skills are needed to support high-value manufacturing and the region's transition towards clean energy and renewable technologies.

Agriculture

The projected fall in underlying demand for workers in agriculture, forestry and fishing may in part reflect the longer-term downward employment trend as industry moves towards becoming more intensified and productive. However, insights from the Barwon Regional Skills Taskforce suggest the sustained period of growth in the local agriculture industry, mainly within Colac Otway, is resulting in increased demand for workers. This is coupled with increased enrolments in local agricultural and farming courses and the rise of farm-to-table tourism which is driving interest in local farming products. The skills needed in the sector are changing, as the industry works towards a clean energy future and adapts to new technologies in agriculture.



The demand-side employment forecasts do not reflect the current levels of labour shortages in the region. Labour shortages across most key industries mean that there will be greater worker demands than forecast.

Discussions with industry roundtables and the Barwon Regional Skills Taskforce highlighted acute staff shortages across most industries, most notably in hospitality, health, construction, and education. The number of online job advertisements within the Greater Geelong and Surf Coast areas have more than tripled between August 2020 and August 2022, rising from 1,132 to 3,757.⁷³

This experience is not unique to Barwon but, being a regional area, there are additional layers of challenge. Skilled labour is hard to source and workers living in the region with skills may retain their Melbourne-based employment by working remotely. Further, a lack of housing limits movement of new workers into the region. The decrease in migration in the past 2 years across Victoria⁷⁴ has a flow on reduction in the number of graduates and skilled migrants available for positions, with the effect likely still to be felt in coming years.

Figure 14: Greater Geelong and Surf Coast online job advertisements (August 2019 to August 2022)⁷⁵



The trend in online job advertisements points to high vacancy rates in the region but is likely to understate the actual number of vacancies across the region. The Barwon Regional Skills Taskforce reflected on the varying methods of seeking employees across industries, such as in the construction and hospitality sectors where referrals or word of mouth are commonly used to attract prospective employees.

Demographic and socioeconomic context

Demographic considerations

While the Barwon region is enjoying strong economic success, the region has diversity in its populations and pockets of disadvantage that need to be considered in the context of building skills across the region. Current worker shortages in Barwon highlights a need to engage and upskill the existing population, while looking to grow the future workforce.

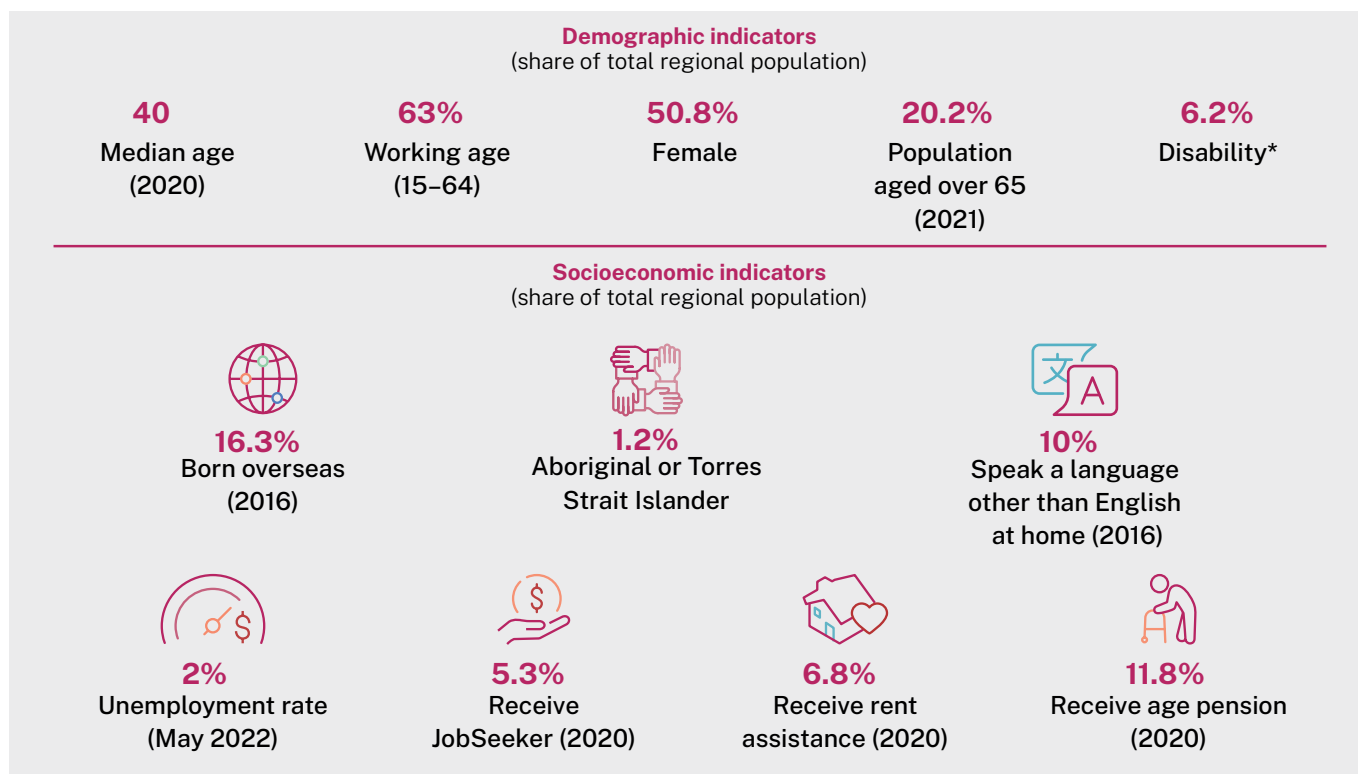
Barwon's population is older, on average, than metropolitan Melbourne and Victoria, with 20.2% of the population above 65 years compared to a state average of 16.8% in 2021. In 2020, there were 61,756 people above the age of 65 and a further 59,171 people approaching retirement age (between the ages of 50 to 64).⁷⁹ An ageing population in the region will impact workforce supply through increasing retirement and higher demands on essential services such as health care. This highlights the need to keep older populations engaged in the workforce for as long as possible and for industry to support the building of knowledge and skills for younger workers.

Approximately 6.2% of the Barwon population identifies as having a disability.¹⁰ Of this cohort, the participation rate of 9.6% is much lower than those not living with a disability (66.2%) while unemployment among this group is almost triple the rate of those without a disability (15.1%).⁸⁰ This demonstrates the importance of considering employment opportunities that enable people with a disability to thrive and succeed. This is critical to the attraction and retention of people with disability across all industries.

Approximately 16% of Barwon's population is born overseas and 10% speaks a language other than English at home.⁸¹ While this is lower than the Victorian average of 28.3% and 25% respectively,⁸² it is important to recognise and consider multiculturalism across the region and the importance of supporting diversity and inclusion for Barwon's migrant population.

Barwon will also need to continue exploring ways to attract new people to live and work in the region, including skilled migrants and international students. Total arrivals within Australia in the first 3 months of 2022 were just 16% of that in 2019, and long-term visitor arrivals (which captures international students and temporary workers) were around 70% of pre-pandemic levels.⁸³

Figure 15: Overview of Barwon's demographic and socio-economic context ^{76,77, 78}



¹⁰ *Disability is defined as a person with either a disability, a profound or severe, or a mild and core activity limitation.

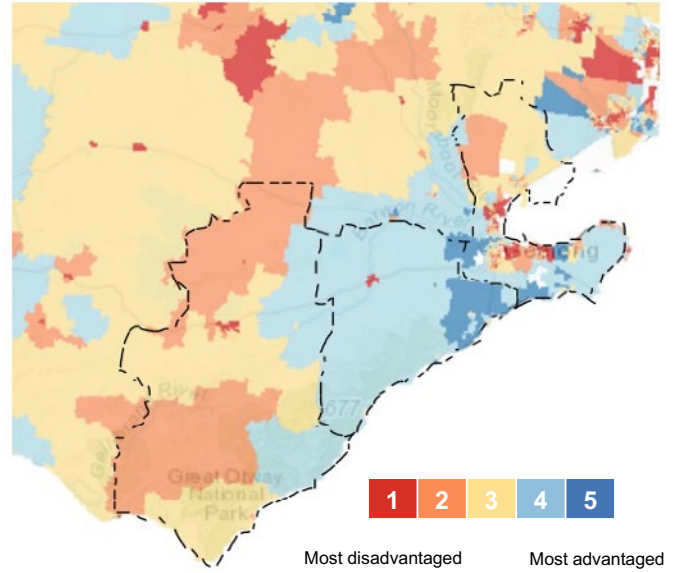


Socioeconomic considerations

The greatest areas of disadvantage are found around the towns of Colac and outer areas of Geelong, as well as to the west and south-west of the region, while least disadvantaged areas include Geelong city and towns within the Surf Coast.

In 2016, approximately 46% of Barwon's population had no post school qualifications,⁸⁴ suggesting there are opportunities to improve individual and community outcomes through skills and training that enable people to gain employment and build meaningful careers.

Figure 16: Barwon by index of relative disadvantage¹¹



¹¹ Note that this data reflects the 2016 Census and may have changed. Updated information will be available with the next census data release in late 2022.

Key industries, challenges and priority skills needs within Barwon

This section provides a summary of the 6 key industries of focus identified by the Barwon Regional Skills Taskforce and explores the common workforce and skills related challenges facing these major industries. This section also details the skills needs that have been identified as critical to enable these major industries to grow and thrive in the future.

Barwon's 6 key industries of focus

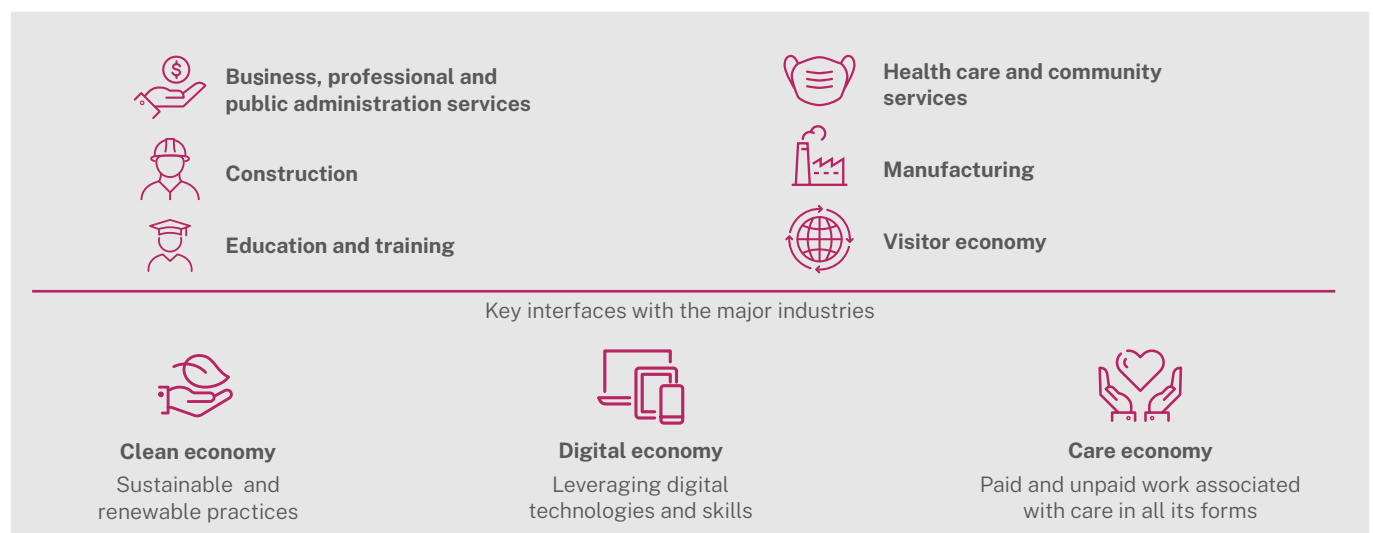
The Barwon Regional Skills Taskforce identified 6 industries of focus within the Barwon region

This was informed by the relative contribution in employment or income to the local economy, as well as their alignment with strategic growth opportunities for the region. Further detail on each industry is provided in Appendix A as part of the detailed industry profile for each industry.

These industries are highly interconnected and intersect with other parts of the economy

It is recognised that the 6 major industries across the Barwon region do not operate in isolation of one another. There are many points of intersection and connectivity between industries that support broader supply chains and outcomes for the community and economy.

Figure 17: Barwon 6 major industries



Business, professional and public administration services



The business, professional and public administration services (BPPS) industry includes a wide range of professional services such as legal, accounting, architectural and design, engineering, and digital and technology services; scientific research; and public administration services, including state, federal and local government, and public safety services.

Together, these industries make up almost 17% of Barwon’s total workforce, employing approximately 29,170 people.⁸⁵ This industry contributed over \$2.8 billion to the local economy in GVA in 2021, or about 19%.⁸⁶

The industry is located mainly in the Greater Geelong area. Geelong’s size and proximity to Melbourne has made it a valuable regional base for a growing number of federal, state and local government agencies over the last decade. Geelong is now a hub for the social insurers like the Transport Accident Commission (TAC), WorkSafe, and the National Disability Insurance Agency (NDIA). There is also a presence of state departments and federal agencies, such as the Australian Bureau of Statistics (ABS) and Australian Taxation Office (ATO), and in July 2021 it was announced that the new Ports Victoria would be headquartered in Geelong. The region also has world-class research facilities and is home to a number of research institutes, including the Geelong Centre of Emerging Infectious Disease and Commonwealth Scientific and Industrial Research Organisation (CSIRO). The recent presence of large professional services and accounting firms like KPMG to the region is also likely to boost activity and jobs in the area.

Attracting young workers into locally based professional jobs remains challenging, with investment in training and upskilling staff, for example, through expanding graduate programs, required from employers to provide a competitive offering against Melbourne-based firms. Local government service provision has also been under pressure due to rapid population growth.

Current projections suggest the workforce will grow by around 1,920 workers between 2022 to 2025, but industry expects more rapid growth⁸⁷

An additional 1,510 workers are expected to fill retirements.⁸⁸ Industry roundtable members reflected that these new and continuing workers increasingly need digital literacy and data analytics skills, and the skills to support a growing emphasis on governance, strategy, and planning in the sector. The attractive lifestyle that the region offers for working professionals is a drawcard for future employees and employers to set up operations in the region. Recent migration patterns suggesting there is greater appetite for people to live in the regions, combined with increasing availability of flexible work arrangements (such as working from home), presents opportunities for employers in the BPPS industry to encourage newly arrived workers to work in the region and attract young graduates into local jobs.

Key intersections across industries

Health care and community services

Intersects with government social insurance agencies and local government community service delivery

Research and education

Co-location of world-class universities and education facilities with research institutes

Construction

Planners, architects, and engineers are critical components of the construction sector



Construction

The construction industry in Barwon is primarily comprised of private and commercial building construction, construction services such as plumbing and electrical, transport infrastructure, and heavy and civil engineering construction.

The construction industry is the second largest employer in Barwon, employing 19,100 workers⁸⁹ and contributing around 14% of the region’s GVA in 2021, or just under \$2 billion⁹⁰

Construction in Barwon is experiencing a significant period of growth as building works reach record highs. Large infrastructural projects, such as the Geelong Convention Centre and Geelong Fast Rail, are generating demand in the commercial construction sector. Private demand for residential building is being fuelled by significant population growth as well as increased migration to the region from urban centres. In 2020–21, there were over 5,300 new building approvals issued alone.⁹¹

Increased investment in infrastructure and accommodation will add to the existing pressures on the sector and emphasise the need for a strong labour pipeline.

Forecasts suggest over 830 new workers will be required over the next 3 years, alongside a further 690 new workers to fill retirements⁹²

Industry roundtable members noted that current labour shortages span across all trades such as plumbers, electricians and carpenters, as well as workers with engineering skills. There is opportunity to leverage high wages, flexible work, training placements including through earn and learn models offered by apprenticeships, to recapture a sustainable workforce that meets current demand and future growth.

Attracting the next generation of construction workers is critical to addressing these challenges. Training must be relevant, engaging and reflect the breadth of opportunities available to encourage workers to remain in this sector in the region.

Key intersections across industries

Key intersections across industries		
<p>Health care and community services</p> <p>The quality of the built environment can determine mental and physical health</p>	<p>Renewable and clean energy</p> <p>Energy efficient design and retrofitting for clean energy purposes</p>	<p>Public administration</p> <p>Movement of public administration offices to the region fuels demand for new builds</p>

Construction is also an enabler across all sectors, underpinning physical form and infrastructure requirements across all industries.



Education and training

The education and training industry in Barwon includes early childhood, primary and secondary schools, vocational training, higher education, and adult and community education.

The industry employs over 17,260 people in Barwon, making it the fifth highest employer in the region.⁹³ It generated 9% of the region's GVA, or approximately \$1.3 billion in 2021⁹⁴

The Barwon region is well equipped with high quality education and training facilities and a strong research presence. The region's education and training industry includes universities, dual sector, public and private training providers located in Geelong and in Colac. The Geelong Tech School is also a key strength for the region. Barwon has strong relationships and collaboration across some providers and industries.

The education and training industry is facing significant shortages in teachers and trainers, including support teachers. While this issue is not unique to the region, Barwon's current and projected population growth means that demand for these skills will be particularly acute.

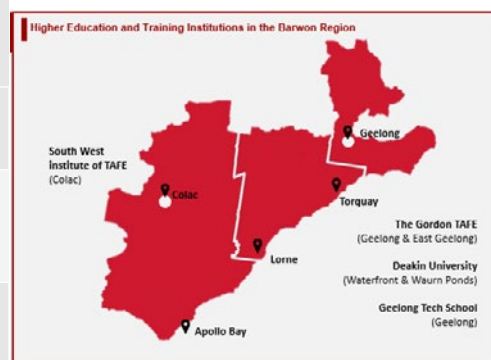
Estimates suggest that over 1,380 new workers are required over the period 2022 to 2025,⁹⁵ but this is unlikely to account for existing shortages

A further 780 new workers are projected to be required to fill retirements during this period.⁹⁶ Secondary school and kindergarten reforms are likely to improve the worker pipeline but are also likely to increase demands on teachers as they respond to these policy changes.

Education employers in Barwon emphasised the importance of staff having well developed soft skills alongside their relevant teaching qualifications and noted digital competencies, problem solving, the ability to work in flexible environments, and strategic thinking capabilities are becoming increasingly important. Supporting student well-being was also cited as a key attribute needed of teachers. Education managers need engagement and business development skills to support collaboration and partnerships between organisations (for example, related to student placements et cetera). Attracting mature-aged workers back into teaching was also recognised as a key focus area to address critical shortages (particularly for VET teachers).

Figure 18: Key education and training institutions and facilities across the Barwon region

Institution	Name	Key Offerings	Enrolments* (2020)
TAFE	The Gordon TAFE (Geelong and East Geelong)	<ul style="list-style-type: none"> Comprehensive selection including short and accredited courses, apprenticeships and traineeships, VET delivered to secondary students courses (VETDSS), JobTrainer and pathway courses, Victorian Certificate of Applied Learning (VCAL), and Victorian Certificate of Education (VCE). 	14,542 students 3,247,510 student contact hours
	South West TAFE (Colac)	<ul style="list-style-type: none"> Comprehensive selection as above Tailored programs for example, VCAL young parents program, disability transition programs 	~300 in the Barwon region
University	Deakin University (Waterfront and Waurn Ponds)	<ul style="list-style-type: none"> 76 courses offered across the 3 regional campuses Diploma to Bachelor level Across all faculties (excluding Medicine) 	14,014 students
Other	Geelong Tech School	<ul style="list-style-type: none"> Hosting classes for visiting secondary students in the region to create links Hosted on The Gordon TAFE Campus 	6,100 students across programs (2019)



Key intersections across industries

Digital technologies

Online learning and use of digital tools to enhance learning is more important than ever

Health care

Early childhood education has a significant impact on health outcomes

Community services

Intersections between schooling and community services for at-risk populations

Health care and community services



The health care and community services (HCCS) industry is diverse and far reaching, including private and public institutions; clinical and allied health care; and community services.

It is the largest employing industry in Barwon, employing around 33,820⁹⁷ people, and contributed 13% of GVA to the regional economy in 2021, to the value of almost \$2 billion⁹⁸

The HCCS industry has experienced steady growth over the last 12 years. Key service providers, including Barwon Health, Epworth Private Hospital, and genU, have strengthened the reputation of the region as a reliable location to receive quality and specialised health care. Service providers are needing to keep pace with the demands of a growing population, both within Barwon but also the populations of neighbouring regions, due to the breadth and quality of services available in the region. There is great advantage in collaboration among providers in the region to deliver holistic care to patients.

The sector is forecast to require more than 2,700 new workers between 2022 to 2025⁹⁹

It is expected that an additional 1,150 workers will be needed to fill retirements.¹⁰⁰ This does not include current shortages for workers across a broad range of occupations in the region, such as nurses, GPs, allied health workers and aged care workers. Industry roundtable members noted the increasing need for workers to have the skills to manage complex patient cases from both a medical and social well-being perspective. Reforms to the aged care system, preferences for at-home care and investment in the mental health sector are likely to place increasing demands on the industry and its skills needs.

Engaging school leavers prior to higher study was identified as one pathway to securing future HCCS workers. Exploring new ways of delivering care and training that is aligned with industry needs is likely to have a positive impact on the sustainability and quality of the workforce into the future.

Key intersections across industries

Manufacturing	Construction	Digital technology	Education and training
Secure supply chains of critical HCCS related goods (for example, masks, contrast dye) to ensure continuity of quality care	The quality of the built environment can influence mental and physical health	Advancing research and use of technology to develop innovative ways to understand and care for mental ill health, disability and other chronic or recurring conditions	Opportunity for marginalised groups to engage economically and socially with positive impact on the health



Manufacturing

The Barwon region has a historically significant manufacturing industry and is rebounding after the closure of several large-scale traditional manufacturing businesses between 2014 and 2016. The sector is adapting to higher value advanced manufacturing activities, such as defence manufacturing, and is experiencing continued growth in its food manufacturing subsector.

Manufacturing is the sixth largest employer in the region with around 12,770 workers.¹⁰¹ It generated 11% of the region's GVA in 2021, or approximately \$1.5 billion¹⁰²

Manufacturing in Barwon is centered around Greater Geelong and Colac Otway, which has a relatively high proportion of its workforce employed in the industry and is the second highest contributor to local GVA. Examples of large firms in this sector include Bulla Dairy, Hanwha Defense and VIVA Energy Australia.

Barwon has a strong reputation as a manufacturing hub. Clustered around the Geelong area, research facilities, including those connected to higher education institutions such as Carbon Nexus; industry networks like the Geelong Manufacturing Council; proximity and connectivity to large markets through the ports and Avalon Airport, all strengthen the comparative advantage of firms in this sector. These facilities are also likely to help support the development of emerging skills such as activity in Industry 4.0, advanced manufacturing and automation.

Forecasts suggest that at least 70 new workers will be required over the next 3 years to meet demand¹⁰³

An extra 550 new workers are required to fill projected retirements,¹⁰⁴ highlighting the significant impact of an ageing workforce in the region. These projections do not include establishment of new organisations in the next few years, such as Hanwha Defense which will be seeking at least 300 new workers.

Local perceptions of career opportunities in traditional manufacturing are not aligned with the advanced manufacturing skills and capabilities currently sought by industry, and are thought to have hindered worker attraction. Industry roundtables also noted that local training is often not preparing graduates for work at both a technical and interpersonal level due to mismatched expectations. There is large opportunity for growth in this sector, but it must be enabled by training that helps to build a future workforce in the region.

Key intersections across industries

Digital technology	Defence	Agriculture and tourism	Renewable clean energy
Industry 4.0, including artificial intelligence (AI), machine learning and nanotechnologies are enabling innovation in other sectors	Production of specialist and customisable components for the defence sector	Food manufacturing links to the agriculture sector and food-based tourism activities	Manufacture of products such as battery, wind, and solar power components



Visitor economy

The Barwon region has a thriving and growing tourism and visitor economy.

The region is one of the most popular tourist destinations in Victoria, famous for its coastal towns such as Lorne, Anglesea and Torquay along the Surf Coast, the Great Ocean Road, and other natural landscapes such as the Great Otway National Park and the You Yangs. The Bellarine Peninsula is popular as both a beachside destination and has a growing wine industry that attracts increasing numbers of visitors; while Geelong’s revitalised urban precincts, combined with a growing arts and cultural sector, is also boosting tourism to the city.

The visitor economy is defined in this profile as being the industries that support tourism in the region, including accommodation, hospitality, retail, and arts and recreation.

These industries provide approximately 33,500 jobs in the region¹⁰⁵ and contributed over \$1.5 billion to the local economy (GVA) in 2021¹⁰⁶

Barwon’s visitor economy is shaped by seasonality, with the population of the region doubling over peak holiday periods¹⁰⁷ forcing a high reliance on casual staff (typically younger workers) to meet demand. Young workers also face challenges with limited access to public transport to service the region. Staff shortages are prevalent across all parts of the sector, particularly in hospitality and marine safety and maintenance where ageing workforces will pose significant risks to small local businesses. While the visitor economy has rebounded, capitalising on this demand is currently constrained by worker shortages and visitor uncertainty which is impacting advance bookings and late cancellations.

The industry has an opportunity to encourage year-round visitation, including through increased music events, building the region’s reputation as a wine destination, and leveraging the return of AFL crowds. Creating more sustainable, immersive eco experiences in the region by leveraging the region’s strength in natural diversity is another growing focus. In addition to developing these offerings, there is also a need for marketing, digital, and promotional skills to stimulate tourism. These skills can be managed in-house with the improved access of online platforms and social media.

The visitor economy has significant potential for growth, with current forecasts suggesting more than 2,740 jobs will be required over the next 3 years with an extra 1,490 workers needed to fill retirements¹⁰⁸

This growth will be further supported by private and government investment in new developments and tourism infrastructure, including over 15 new hotels and accommodation facilities (over 4000+ rooms)¹⁰⁹ and the Geelong Convention Centre. Geelong’s new ferry terminal for the Spirit of Tasmania also presents opportunities for the region.

Key intersections across industries

Specialised manufacturing Locally made goods and unique retail offerings attract visitors	Construction Forecast need for 3,869 additional rooms from 2020 to 2030 along the Great Ocean Road	Agriculture and food manufacturing Food and wine tourism, ‘farm to table’ and sustainable farming is a high growth tourism area
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‘Barwon is well-equipped with leading facilities to train and develop the right workforce for the visitor economy, including the new Culinary School at The Gordon Institute of TAFE’.

Workforce challenges

Barwon is experiencing some challenges that are resulting in barriers to education, training and workforce participation, attraction, and retention.

Child care access and affordability

Access and affordability of child care acts as a barrier for those wanting to enter the workforce or increase their hours of work, particularly women who are underrepresented in the workforce. Access to child care is significantly lower in regional Victoria than in metropolitan Melbourne with the lowest levels of access in Portarlington, Lorne, Anglesea, and Torquay.¹¹⁰

Housing accessibility

Housing affordability across the Barwon region has become more acute, particularly in Greater Geelong where median house prices increased by 23.9% from 2020 to 2021, which was greater than the increase in metropolitan Melbourne within the same period (21.5%).¹¹¹ This makes it more difficult for skilled prospective employees to move to the region to take up work.

Teacher and trainer shortages

The school system is reporting on-going shortages of school teachers across most subject areas. Also, current skills shortages risk being long-term due to shortages of trainers. Factors such as job instability, lack of clear entry and progression pathways, retirement of older workers, salary and the attractiveness of jobs are all reported contributors to this shortage.¹¹²

Access to transport

Access to transport limits the opportunity to take up training or job opportunities. Approximately 5% of Geelong's population use public transport, in comparison to a state average of 12.6%.¹¹³ Access to transport is particularly important for local government areas outside of Greater Geelong that do not have higher education or VET within close proximity, suggesting alternative delivery models are needed.

Digital connectivity

Lack of reliable and fast broadband or digital connection in some regional and rural communities limits education responses and access to services and job opportunities. It also acts as a brake on business productivity and growth. The Barwon South West region has 438 registered blackspots, and scores below the Victorian state average in the Australian Digital Inclusion Index (64.8% compared to an average of 72%).¹¹⁴

Labour shortages

Job vacancies have increased to record levels across many occupations in the Geelong and Surf Coast region, more than tripling to 3,757 between 2020 to 2022.¹¹⁵ This has placed upward wage pressure on some industries and is reducing capacity to deliver services and impacting output from the region. Other factors, such as workforce fatigue and a lower than expected rebound in international working holiday visa holders, are exacerbating current shortages, particularly in sectors such as health care and hospitality.

Employment security and working conditions

Employees are looking for more secure working conditions and flexible working arrangements, placing additional pressure on businesses that have relied on casual and shift work arrangements.

Increased service demand

A 28.6% increase in population (2011 to 2021)¹¹⁶ in the region has increased demand and pressure on all essential services and industries in the local economy. This includes, but is not limited to, health, education, and retail and has increased pressure on infrastructure requirements such as internet access and network coverage.



Skills challenges

Consultation with Barwon’s major industries highlighted several common challenges affecting workforce participation and skills requirements in the region.

Figure 19: Key workforce challenges across Barwon’s major industries



Perceptions of jobs across the major industries

Traditional stereotypes within major industries may be hindering the ability of businesses to attract and retain talent. Industry representatives reflected on common misconceptions among students and the wider community, for example that jobs in manufacturing involve ‘dirty’ work, studying a trade is not for ‘smart kids’, and that the hospitality and tourism sectors do not provide career pathways. This points to the need to increase collaboration between the education and skills system and industry to raise awareness of the breadth of opportunities available in the region. Helping employers overcome gender-based stereotypes may increase the pool of available workers as would a welcoming and inclusive culture, particularly for non-traditional and vulnerable cohorts such as neurodiverse people and other people with disabilities, women, and migrants.

Limited understanding of industry growth and associated career pathways

Industry representatives believe there is limited understanding about the breadth of career pathways and opportunities within and across sectors in the Barwon region, which is impacting attraction and retention. Many students do not have the right information to make informed decisions regarding their prospective education, training, employment, and career pathways.

Alignment between education and training and workforce needs

Industry roundtable and Barwon Regional Skills Taskforce members reflected that training does not always prepare graduates with the full set of skills required for a job. This can lead to a significant mismatch between student expectations of the job and the actual requirements of the role and result in poor retention of young workers. Industry and learning institutions must be aligned so training meets the needs of the local employers and prepares students for jobs.

Skills to support sustainability

Environmental, social, and governance (ESG) and sustainability considerations are front of mind across major industries. Erosion and extreme weather events threaten tourist attractions and associated incomes generated for the region as a result. The decarbonisation of the economy through the *Climate Change Act 2017*, as well as other strategies, plans and initiatives, will further increase pressure for employers across the region to lead and contribute to the drive for a more sustainable future.

Inter and intra-sector workforce competition

Labour shortages have led employers to compete for the same, limited pool of potential skilled workers. Increased remote working opportunities mean some industries are facing increased competition for locals being employed by metropolitan firms. The complexities of current Recognition of Prior Learning (RPL) and Recognition of Current Competency (RCC) processes is also seen by industry to be limiting opportunities to recognise skills and capabilities of current and prospective employees and hindering their ability to take up new job opportunities within the region.

Risk of a low-skilled workforce

The current labour shortages are pushing employers to recruit under-qualified employees. While this has been a temporary solution, employers are already recognising the implications this will have on developing and retaining a skilled workforce that can meet emerging and future workforce requirements. This is particularly important with approximately 46% of Barwon’s population having no post-school qualifications.¹¹⁷

Priority skills for the Barwon region

The Barwon Regional Skills Taskforce and industry roundtables identified a common set of priority skills requirements across all major industries in the Barwon region. These priority skills relate to capabilities that industry representatives believe individuals should have when they enter the workforce and should focus on developing as their career progresses. The specific skills and training requirements identified through engagement in the region are included in each industry profile at Appendix A, which build on the Department of Education's Jobs and Training Needs Report 2022 – Barwon South West.¹²

Figure 20: Common priority skills needs across Barwon's major industries



Personal and social skills

The need to complement technical skills with interpersonal skills was raised across all industry roundtables. Common personal and social skills raised included interpersonal communication skills, emotional intelligence, conflict resolution skills and an ability to collaborate and work in teams. The pandemic also shone a light on the need for skill needs such as resilience, flexibility, and adaptability. These skills were particularly called out in relation to younger employees and students who may have had interrupted development of personal and social skills given the pandemic.

Digital and technology skills

Digital skills are required across all industries to meet consumer expectations and increase business productivity. Increasingly, jobs will involve humans working with machines, which means that future work will require people with technical, digital, and interpersonal skills that empower people to work with new technological and communication processes.¹⁸ Needs range from basic digital literacy skills (for example, POS systems, use of tablets or computers), applications to digital marketing, to more technical skills (for example, to support advanced manufacturing capabilities).

Leadership skills

Industry roundtables identified a need to uplift capabilities of existing workforces to meet current gaps in leadership and management positions, ranging from younger workers with limited experience to qualified staff to move into more senior management roles.

Skills for sustainability

Skills for sustainability cover a broad range of skills and capabilities in relation to citizenship, cultural awareness, and environmental responsibility. Environmental consciousness and an ability to make decisions with a sustainability focus was called out across industries as a critical skill requirement that will enable employers to plan and deliver on their corporate social responsibility and the clean economy priorities for Barwon and the broader state.

Diversity and inclusion awareness

Awareness of and commitment to diversity and inclusion were raised across the industry roundtables as critical skills. As employers look to address labour shortages and develop a skilled workforce for the future, welcoming, diverse, and inclusive workplaces will be critical. This is particularly important for the Barwon region given the importance of service-based industries and the drive to increase workforce participation and retention across Barwon's communities, such as the Aboriginal community, older people, migrants, people with disabilities; and also addressing gender bias and stereotypes in male and female dominated industries.

Entrepreneurship and innovation skills

Industry roundtable members commonly reflected on the need for new generations of the workforce to have entrepreneurial, innovation and growth-focused mindsets. This includes strong problem-solving skills, a capacity to think critically, a commitment to continual learning and aspirations to push boundaries, helping to drive future economic growth and adaptability in regional industries.

¹² The Barwon South West Jobs and Training Needs Report captures additional LGAs (Corangamite, Glenelg, Moyne, Southern and Warrnambool) not included in the Barwon region as classified in this profile.



‘Awareness of and commitment to diversity and inclusion were raised across the Industry Roundtables as critical skills for the Barwon region’.

Opportunities to address workforce and education outcome

This section presents potential responses and solutions to address the key regional challenges and workforce requirements including case studies and examples where the region is already tackling the issues.

Overview of potential responses




Consultation across the region identified a range of potential education and training responses across the Barwon region to address the current and emerging challenges facing major industries.

This profile acknowledges broader issues, policy and funding solutions that could support the Barwon region to address workforce and skills requirements. Proposed responses within this profile specifically focus on skills and education related responses within the remit of the VSA and Barwon Regional Skills Taskforce.

The VSA has engaged (and will continue to engage) across government to share feedback and input to broader megatrends impacting the region, and the Barwon Regional Skills Taskforce acknowledges the need to continue engaging in advocacy activities to address some of these issues.

An overview of the common skills-related challenges and overarching opportunities are outlined below, with further detail on potential actions.

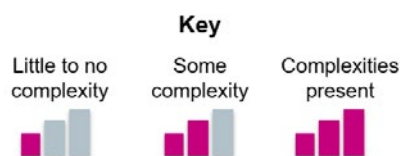
Figure 21: Overview of challenges and overarching responses across the major industries

Common workforce and skills challenges	 Perceptions of jobs across the major industries	 Limited understanding of industry growth and associated career pathways	 Alignment between education and training and workforce needs	 Growing need for skills to support sustainability	 Inter and intra sector workforce competition	 Risk of low skilled workforce
Overarching solutions	Promote the benefits and opportunities within key industries	Broaden understanding of growth areas and career pathways within and across major industries	Enhance industry involvement in localised planning and delivery of education	Build local skills and capabilities to support the environmental, social and economic sustainability of the region	Build opportunities to partner and collaborate on workforce attraction and retention across industries and within the region	Advocate the importance of skilled development and support the promotion of life-long learning to ensure a future-fit workforce

To support next steps and further discussions in relation to these proposed responses including further implementation planning, each of the responses is examined in terms of complexity and impact.

Complexity relates to the effort required to implement the proposed responses. Implementation considerations include factors such as resourcing, funding and number of steps and additional consultation required to commence activities.

Impact horizon relates to how long it will take for the benefits of the proposed response to be realised. This is intended to identify responses that will have an immediate impact over the next 1–2 years, compared to those that will start to see results over the medium term (3–5 years) and long-term horizon (5+ years).









‘Consultation across the region identified a range of potential education and training responses across the Barwon region to address challenges and leverage opportunities.’





Response Area 1: Promote the benefits and opportunities within key industries

Greater coordination across education providers and industry is required to promote the benefits and attractiveness of traditional or high growth industries.

This includes breaking down traditional stereotypes within key industries and showcasing the breadth of employment opportunities to support talent attraction and retention, particularly among younger cohorts.

Proposed solutions to promote the benefits and opportunities within key industries		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Support the Senior Secondary Pathways' reform agenda through facilitation of local opportunities to improve VET within the region</p> <p>The Department of Education (DE) is enhancing vocational focused education and training in senior secondary schools, including focusing VET delivery in schools to occupations in demand (to grow supply of school graduates to industry) and through the VCE Vocational Major offering broader preparation for careers and work-readiness.</p> <p>The VSA is supporting the reforms with guidance on occupations and industries in demand and advice, to be developed, on the nature of skills needed for the future. These skills vary on a regional basis across Victoria, depending upon concentrations of industries so context relevant information can assist in targeting vocational learning.</p> <p>There are also opportunities for local education and training institutions to work together to plan and expand skills development and work exposure experiences. Barwon is well positioned to leverage a number of leading facilities and programs, including the Geelong Tech School.</p>		
<p>Broker connections across the region to lift the perception of Barwon's education and training opportunities and employment experiences across Barwon's major industries</p> <p>The VSA will work with Barwon-based industry groups and representatives, Department of Jobs, Skills, Industry, and Regions and key education and training institutions across the region to raise awareness of skills and occupations in demand across major industries. This will be led through the Barwon senior skills adviser through regular formal and informal forums and roundtables supported by data and insights on the opportunities and direction of major industries with localised support from regional industry representatives.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholders	Complexity	Impact
<p>Promote successes of industries or sectors in Barwon and recognise the value of ‘everyday’ jobs that enable other activity</p> <p>The Barwon region can work through the taskforce and other channels to respond to negative perceptions of some major industries and highlight the new employment and career opportunities within Barwon.</p> <p>Some activity is already occurring such as the Beyond the School Gate program and The Women in Manufacturing Mentoring Program facilitated by the Geelong Manufacturing Council (detailed in case studies). Barwon industry, education and training institutions, and local government can play a role in leveraging and expanding the reach and scale of these programs to support greater attraction to major industries.</p>		
<p>Facilitate employment of underrepresented and non-traditional cohorts</p> <p>Strengthening recruitment, onboarding support and retention activities, and wrap around support are critical to assist employment of diverse groups within industry. These groups can include women who may be returning to work after caring responsibilities and are considering non-traditional industries, or those from CALD and Aboriginal communities. Support would be in collaboration with existing Australian Government and state employment programs and could include targeted mentoring programs, specific training and skills development or mutual support from colleagues with similar lived experiences.</p>		

Case study: women in manufacturing network

The Geelong Manufacturing Council women in manufacturing network (WIMN) aims to increase participation rates of women across the manufacturing and engineering sector in Geelong by promoting, supporting, and encouraging women in the industry, and into the industry. The mentoring program draws on industry mentors to support and develop women in operational roles in manufacturing and engineering organisations. WIMN holds a series of professional development events each year to facilitate increasing diversity and inclusion within our sector, putting participating organisations in a position to take advantage of the associated benefits.

Case study: pathways from the school gate

Pathways from the school gate refers to a series of events and forums that are held across primary and secondary schools in the Barwon region. The forums and events range in topics, with a consistent aim of supporting students to better understand training and employment options post-school. Industry roundtable discussions raised opportunities for more forums to address negative perceptions across industries in the region.

Response Area 2: Broaden understanding of growth areas and career pathways within and across major industries

Targeted initiatives can support an increased understanding about industry growth areas within Barwon's major industries and increase visibility of possible career pathways. This includes pathways for progression within industry and pathways between industries with transferable skills.

Proposed ways to broaden understanding of growth areas and career pathways within and across major industries		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Publication of industry data and trends for current and prospective students, parents, and career counsellors</p> <p>The Victorian Skills Authority can work with local industry, education and training providers, and local government to develop and share data and insights in a student-friendly manner that can support greater understanding of job and career opportunities within the region, enabling more informed education and employment decisions. Reach and impact of this work can be accelerated through the Victorian Skills Gateway and through the Skills and Jobs Centres located within the Barwon region including at The Gordon TAFE.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder		
<p>Expand engagement activities with students and their networks</p> <p>Forums and programs can open up opportunities for industry and industry groups to partner with schools to help students build more tangible understanding of employment and career opportunities within the region. Forums facilitated through the From the School Gate program could be leveraged to expand the reach to more industries and employers along with TAFEs and universities.</p>		
<p>Targeted engagement with students, vulnerable and underrepresented communities, and industry to build awareness of education and training and career pathway opportunities</p> <p>Tailored and targeted programs to engage students and vulnerable cohorts into education, training and employment are needed for vulnerable job seekers and early school leavers. This can be achieved through:</p> <ul style="list-style-type: none"> • support for programs within schools, such as the vocational training program provided at Newcomb Secondary College (refer to case study for an overview of the program). • work placements and work exposure experiences to provide the practical understanding of work skills and expectations of employers. • enlisting the support of group training schemes under the Apprenticeship Employment Network, especially in seeking out apprenticeships and traineeships. 		
<p>Expand information campaigns to improve understanding of cross-industry career pathways</p> <p>Barwon Regional Skills Taskforce members and industry roundtable participants were strongly of the view that many individuals do not understand the different skills and capabilities that can be developed through roles within an organisation or industry and that these skills and capabilities are transferable across employers. The Barwon region has several leaders and individuals with lived experience who themselves have had diverse, impactful, and rewarding careers. These people and their stories can be used to inform the community and school students of the opportunities available locally.</p> <p>The from the School Gate program and social inclusion programs such as the Northern Futures program are current examples (refer to case study).</p>		



Case study: Newcomb Secondary p-tech

Newcomb Secondary College is a p-tech school, providing pathways in technology in partnership with The Gordon TAFE. This program provides innovative curriculum and approaches to learning, industry mentoring, a post school qualification, and links to employment for students.

P-tech schools' P-TECH 9-14 School Model is a pioneering education reform initiative created by IBM, to prepare young people with the academic, technical, and professional skills required for the 21st century.

Case study: Northern Futures program

The Northern Futures initiative is a social inclusion program delivering education, training and employment outcomes to the long-term, unemployed residents of Geelong's northern suburbs.

The program addresses areas of regional need by linking industries experiencing skills and, or labour shortages with vulnerable or disadvantaged residents keen to re-enter the job market. The program is founded on a partnership approach to linking jobseekers to jobs by providing local education and training opportunities in a supported environment. There are nearly 40 local organisations supporting the initiative by way of work placements or direct employment.







Response Area 3: Enhance industry involvement in localised planning and delivery of education and training

Employers and industry representatives can play a more active role in the design, planning and delivery of innovative education and training approaches to ensure the current and future workforce has the skill sets that meet the specific needs of local employers and address emerging and future industry requirements.

Proposed ways to enhance industry involvement in localised planning and delivery of education and training		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Provide local insights to support the development of the annual Victorian Skills Plan</p> <p>The Victorian Skills Plan consists of a suite of products that can support the facilitation of targeted and purposeful collaboration across industry and training providers to address emerging and future skills needs.</p>		
<p>Work with the VET Development Centre (VDC) and industry experts to support teacher training and development</p> <p>The new and deeper skills Barwon Regional Skills Taskforce members highlighted as priority for the region will require new vocational education teaching capability. The Victorian Skills Plan highlights the need for strategy to lift VET teacher capacity for future skills. The VDC is also able to develop programs to bring the latest in industry skills to teachers through professional programs and raise the professional standing of the VET workforce.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder		
<p>Encourage industry and education providers to take a place-based approach to course design and delivery for skills and occupations unique to the Barwon region</p> <p>Vocational education providers indicated that accreditation rules for some VET qualifications and associated funding limited their ability to organise vocational programs aligned to the needs of the region, or specific requirements lead to high-cost structures given limited student numbers. The new organisational arrangements for VET in Victoria focusing on planning for future skills need to consider how these needs can be met effectively at a regional level.</p>		
<p>Leverage education and training facilities for student and employee upskill opportunities</p> <p>Barwon is well equipped with a number of leading innovative facilities and research centres such as the Geelong Tech School, The BioGeelong Network (including the Australian Future Fibres Research and Innovation Centre, and CSIRO's Australian Animal Health Laboratory (AAHL)), Marine and Freshwater Discovery Centre, and Geelong Centre for Emerging Infectious Disease. There are opportunities for industry and education and training institutions to share facilities and expertise to upskill employees in digital technologies and equipment specific to industry, where appropriate and possible.</p>		



Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder	Complexity	Impact
<p>Incentivise potential trainers to gain accreditation and enter the education system</p> <p>Increasing attraction and retention of accredited trainers with relevant, up-to-date industry experience can help address skills gaps and development opportunities for current and future higher education and VET students. There are opportunities for industry to partner with education and training institutions across the region to plan and deliver relevant and engaging education that equips graduates with contemporary skills for a successful transition into employment.</p>		
<p>Collaboration across industry and education and training institutions to design and deliver industry recognised short courses</p> <p>The Barwon region has a number of education and training institutions that have the skills, technologies, and capabilities to work collaboratively with industry to design and deliver short courses that address specialised skills gaps and, or can focus on core interpersonal, digital, and sustainability skills relevant to the respective industry.</p> <p>In the absence of formalised micro-credentials¹³ that focus on meeting these skills requirements, there are opportunities for industry and education and training providers to work together to trial and deliver courses that can help upskill existing employees.</p> <p>Refer to the Future Health Skills case study below for an example of responses currently underway across the region. A process that allows crediting of short courses to longer certifications, as well as Recognition of Prior Learning (RPL) and Recognition of Current Competency (RCC), is also likely to promote uptake of courses that meet industry requirements.</p>		

Case study: Geelong Tech School

The Geelong Tech School is a ‘technology hub’ that facilitates programs and working relationships that emphasise and enable the vital science, technology, engineering and mathematics (STEM) skills needed for the 21st century. Geelong Tech School complements the education delivered by partner secondary schools through providing access to the latest technologies, state-of-the-art facilities and innovative learning programs. Programs are developed in partnership with local industry, community and schools.

Case study: Future Health Skills

Future Health Skills has developed bite-sized training to help build the skills of the region’s health care workforce. These micro-credentials developed by the health care sector for the health care sector deliver fast, practical, and engaging training in critical areas. Individuals can build abilities, earn badges, and grow their skill and knowledge base. During the pilot phase (to June 2022), micro-credentials were only available to project partners employees and selected TAFE or secondary school students.

¹³ Micro-credentials are shorter style courses (and in some instances formal qualifications including Skills First Skill Sets) that demonstrate skills, knowledge, and, or experience in a given subject area or capability.

Response Area 4: Build local skills and capabilities to support the environmental, social and economic sustainability of the region

Environment, Social, and Governance and sustainability considerations are front of mind across major industries in Barwon, and there is an opportunity for employers to lead and contribute to efforts to create a more sustainable future if there is a workforce with the knowledge and skills to enable this.

Proposed ways to build local skills and capabilities to support the environmental, social and economic sustainability of the region		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Implement the Clean Economy Workforce Development Strategy</p> <p>The Victorian Government’s commitment to decarbonising the economy and achieving net zero emissions by 2050 will have implications for workforce skill needs. To meet the skills and training needs, the Victorian Government is developing the Clean Economy Workforce Skills Strategy which includes a Capacity Building Fund.¹¹⁹ Once the strategy is released, the VSA will engage across the state, and the Barwon region specifically, to determine strategies to realise its potential.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder		
<p>Plan and invest in short course development to build appropriate skills and capabilities to support Environment, Social, and Governance priorities of the Barwon region</p> <p>All major industries and employers across the Barwon region contribute to the economic, social, and environmental sustainability of the region. Working together across industry and with local education, training and research institutions, Barwon can be positioned to respond to government climate and environment policy by being ready to take on transition and adaptation aimed at reducing emissions and waste and building the circular economy.</p>		



Response Area 5: Build opportunities to partner and collaborate on workforce attraction and retention across industries and within the region







Advocacy, promotion, and facilitation of opportunities for life-long learning through micro-credentials, short courses and personal and professional skills development has been identified as a critical solution to address skills gaps. This is particularly important in an environment where labour shortages are leading employers to recruit under-qualified employees and, or employees with no experience or relevant qualifications.

Proposed ways to build opportunities to partner and collaborate on workforce attraction and retention across industries and within the region		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Provision of data and insights to support workforce planning</p> <p>The VSA collects and reports on data and insights that can be shared to support workforce planning across the Barwon region. Working in collaboration with industry representatives and employers, the VSA can support the Barwon region with workforce planning through the sharing of data and insights between the VSA and the region. This could include workforce data at a holistic perspective and more closely focusing on gender, diversity, and inclusion measures with time.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder		
<p>Advocate to build better recognition of existing skills that enable more seamless transition across industries and sectors</p> <p>Current Recognition of Prior Learning (RPL) and Recognition of Current Competency (RCC)¹⁴, credit transfer and recognition of local and international qualification standards within Victoria can often be challenging given the time, financial and process constraints. This often acts as a deterrent from enabling individuals with skills and capabilities to uptake job opportunities and progress their careers. The VSA can advocate for relevant changes at the state and federal level. Greater recognition of non-traditional knowledge and skills acquirement, including through on-the-job learning and work experience, should also be considered.</p>		
<p>Identify success factors and implement shared recruitment pools across organisations where appropriate or feasible</p> <p>Barwon representatives flagged opportunities for shared recruitment and employment opportunities, particularly across industries facing seasonality. For example, the cyclical nature of employment in the visitor economy presents opportunities for businesses in other industries to share workers off-peak.</p> <p>The model could also be applied to other industries, including education and training institutions and health care and community services, where organisations can look to leverage individuals with specialised and, or transferable skills across more than one business. While there are potential risks and tax limitations associated with individuals having multiple employers, there was interest in progressing discussions and planning for such models.</p> <p>Identifying the success factors of previously implemented shared recruitment models would help to ensure the appropriate mechanisms are in place for any models considered.</p>		
<p>Advocate for ongoing workplace flexibility and policies that help brand the region as an ideal place to live and work</p> <p>Work-life balance and flexibility are increasingly important elements for any employee as part of their employment and career planning and decision-making. This has exacerbated post-pandemic where individuals are seeking to work from home, flexibly. The Barwon Regional Skills Taskforce considers there is the opportunity for the Barwon region to leverage this new demand from workers, either to attract more remote workers and professionals to the region but also to promote the flexibility of employment locally as means of attracting new employees to the region.</p>		

¹⁴ Recognition of Prior Learning (RPL) and Recognition of Current Competence (RCC) means that knowledge and skills acquired through work or life experiences may be recognised as equivalent to some specified course outcomes.

Response Area 6: Advocate the importance of skills development and support the promotion of life-long learning to ensure a future-fit workforce

Lifelong learning is critical to ensure the development of a future-proof workforce that can continue to adapt to emerging industry and technological skills and requirements. Advocacy, promotion, and facilitation of opportunities for life-long learning through micro-credentials, short courses and personal and professional skills development has been identified as a critical solution to address skills gaps.

Proposed ways to advocate the importance of skills development and support the promotion of life-long learning to ensure a future-fit workforce		
Potential responses within the remit of the Victorian Skills Authority	Complexity	Impact
<p>Future skill requirement planning and mapping</p> <p>Advances in big data techniques which can identify work skills from job advertisements and other sources has given rise to a focus on skills needed for work to complement qualifications. The VSA is exploring ways to better map and showcase skills in relation to occupations, working with industry and education and training providers. Developments in this area can assist with skills based recruitment for employers in the region.</p>		
<p>Promotion of micro-credentials courses that can meet industry and employee skill development needs</p> <p>Reskilling and upskilling are an increasingly critical way to secure employment opportunities and progress meaningful careers. Employers and employees are expected to look to short, sharp, and focused skill development opportunities that address emerging skills requirements with both a time and financial consideration at play. The VSA is engaging across industry and the region to understand and plan for the development of the right skills needs.</p>		
Potential responses that can be achieved through collaboration across the region and with broader partners and stakeholder		
<p>Design and delivery of micro-credential courses credited towards certificates that enable employers to develop and upskill employees</p> <p>The current partnership between The Gordon and Tourism Greater Geelong and the Bellarine to develop short courses to upskill the local hospitality industry (case study detailed below) demonstrates the opportunities for industry to work with local education and training providers to design and deliver courses that help upskill existing employees. They can be an incentive for individuals to undertake further education and training.</p>		

Case study: short courses to upskill the local hospitality industry

The Gordon TAFE and Tourism Greater Geelong and the Bellarine have been working together to develop both accredited short courses and micro-credentials to upskill the hospitality industry. The training is designed and developed in consultation with industry partners to provide upskilling and career progression opportunities to assist with rebuilding the industry and promoting longevity within the workforce. Micro-credentials have been developed in an online environment for entry level front of house and back of house workers focusing on communication, conflict management, and essential service skills.



‘Lifelong learning is critical to ensure the development of a future-proof workforce across the Barwon region’.



Appendix A: Industry profiles



This section includes detailed industry profiles for each of the 6 major industries across the Barwon region.

The following information is provided within each of the industry profiles.

- An overview of the industry, its composition and presence in the region
- Top occupations and forecast demand
- Current education and training trends
- Current, emerging, and future skills requirements
- Opportunities to improve education, training, and workforce outcomes

While this profile acknowledges and references the broader issues, policy and funding solutions that could support the Barwon region to address the enabling and fundamental workforce and skills requirements, the proposed responses within this profile specifically focus on skills and education related solutions within the remit of the Victorian Skills Authority and the Barwon Regional Skills Taskforce.

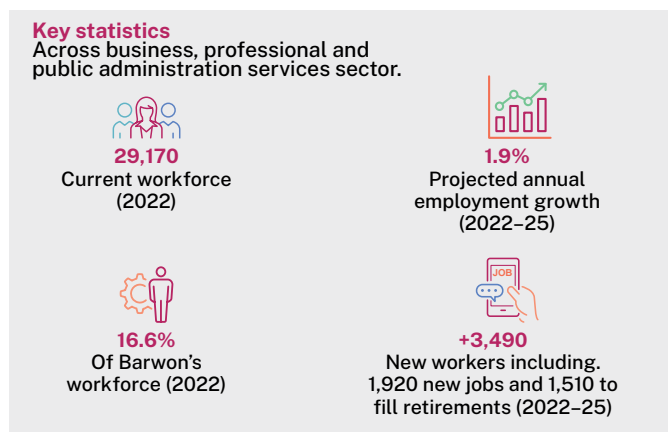
Business, professional and public administration services industry profile

The business, professional and public administration services (BPPS) industry includes a wide range of professional services such as legal, accounting, architectural and design, engineering, and digital and technology services; scientific research; and public administration services including state, federal and local government, and public safety services.

Together, these industries make up almost 17% of Barwon's total workforce, employing approximately 29,170 people in the region.¹²⁰ This industry also contributed over \$2.8 billion to the local economy in GVA in 2021, or about 20%.¹²¹

The presence of numerous key national and state organisations across the Barwon region coupled with access to world class research and education facilities ensures the Barwon region is well equipped to continue making its mark across the BPPS industry.

Figure 22: Barwon's business, professional and public administration services industry snapshot



Key strengths

As the region's largest city, Geelong's size and proximity to Melbourne has made it a valuable regional base for a growing number of federal, state, and local government agencies over the last decade. Geelong is now a hub for social insurers like TAC, WorkSafe, and the NDIA. There is also a presence of state departments and federal agencies like the ABS and ATO, and in July 2021 it was announced that the new Ports Victoria would be headquartered in Geelong.¹²²

The region also has world-class research facilities and is home to a number of research institutes including the Geelong Centre of Emerging Infectious Disease and CSIRO.

Beyond community services, the creative industries are a key emerging sector for the G21 area driving innovation, tourism, and investment into the region. This sub-sector encompasses a broad range of disciplines including the arts, technology (including intersections with the high value manufacturing industry), media and broadcasting, heritage activities, and recreation. Due to its high value and place-based nature, there is significant opportunity to establish this sector as a driving economic force as already explored in the G21 Creative Industries Strategy,¹²³ Resilient Geelong Report¹²⁴ and broader attention given as a UNESCO Creative City of Design.¹²⁵

Key challenges and opportunity areas

Shifting perceptions of careers and courses across Barwon's BPPS sector amidst growing demand for current and new workers

The increasing number of professional firms within Geelong's city centre will continue to support the branding and establishment of the Barwon region as an ideal place to live and work. Considering the larger level of migration experienced in the region in recent years (a total population increase of 4.3% from 2019–2021)¹²⁶ there are opportunities to leverage new skilled workers into the sector.

With many new Barwon residents moving from metropolitan Melbourne and surrounding suburbs while continuing to hold jobs based in Melbourne, Barwon-based BPPS organisations can leverage new professional workers in the region through attraction and retention strategies. These new workers can simultaneously support the professional learning and development of current workers, students, and prospective employees.

Limited understanding of industry growth and career pathways across the BPPS sector

While the sector has experienced considerable growth over the last decade, attracting young workers into locally based professional jobs remains a challenge. Increased demand on local government service provision due to rapid population growth, particularly in areas like maternal and child health services and childcare is also driving the increased need to raise awareness and attract more workers.

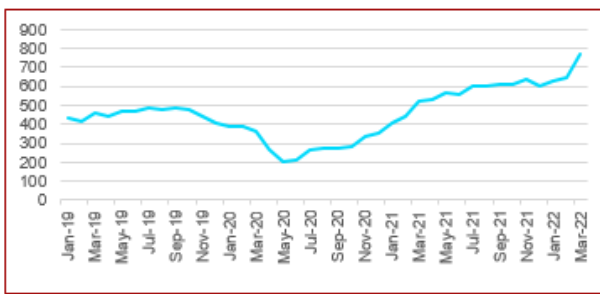
Inter and intra-sector competition for a limited workforce pool

Industry roundtable members reflected on the limited pool of skilled workforce across the BPPS sector, which is driving competition for talent, particularly among major employers seeking middle and senior management skilled employees to support business development and growth.



Vacancy trends across the BPPS industry have continued to increase in recent years, almost doubling between 2019 to 2022 (400 to approximately 800 online job advertisements).¹²⁷ While the number of online job advertisements does not provide concrete accuracy on the current demand and supply, it highlights a trend that supports current sentiment and labour shortages across several roles.

Figure 23: BPPS industry related vacancy changes in Geelong and Surf Coast



Source: LMP/NI Vacancies Data
 Includes: Chief Executives, Managing Directors & Legislators; Corporate Managers; ICT Professionals; Legal, Social and Welfare Professionals; Business, Finance and Human Resource Professionals; Information Professionals; Sales, Marketing & Public Relations Professionals; Transport and Design Professionals; and Architects; Science Professionals and Veterinarians; Engineering, ICT and Science Technicians; Numerical Clerks; Clerical and Office Support Workers; Other Clerical and Administrative Workers; Office Managers, Administrators and Secretaries

Industry roundtable members reflected on the importance for industry and the region to plan and deliver new models of education and training that ensure the industry is equipped with a skilled workforce that can better meet current and emerging industry needs.

Opportunities to improve the quality and uptake of continual learning and development

Considering the Barwon region’s transition from manufacturing to a more diversified economy, investment in skills development as well as upskilling and reskilling is vital to train current workers looking for a career change and the next generation of workers for multi-disciplinary careers across the BPPS industry. Ongoing skill development opportunities across the BPPS industry are fundamental to furthering the region’s professional services, innovation, and start-up ecosystem.

Interface with other industries and emerging sectors

Barwon’s BPPS industry is diverse, unique, and critical in the way it intersects and interfaces with other industries and fosters collaboration within its own eco-system of providers, services, and institutions. This means that changes, challenges, and opportunities across various sub-industries and sectors have flowon effects for other industries around the region.

Table 4: Key intersections across Barwon’s business, professional and public administration services industry

<p>Public administration and health services</p> <p>Geelong is emerging as a hub for social insurance agencies including National Disability Insurance Agency (NDIA); WorkSafe and Transport Accident Commission (TAC). Local government departments also deliver local community services including maternal and child health services, youth services, playgroups, and child care.</p>
<p>Research and education</p> <p>There is opportunity across the region to leverage cutting edge, nationally important institutions into the education sector. Key research institutions include Geelong Centre for Emerging Infectious Disease, CSIRO, and Australian Future Fibres Research.</p>
<p>Education and community services</p> <p>Greater access to engage and participate in education, training and community services improves social outcomes across the region.</p>
<p>Professional services and construction</p> <p>There is a substantial level of private and public construction work occurring in the Barwon region which leads to demand for professional services such as planners, architects, and engineers in both large and small enterprises.</p>

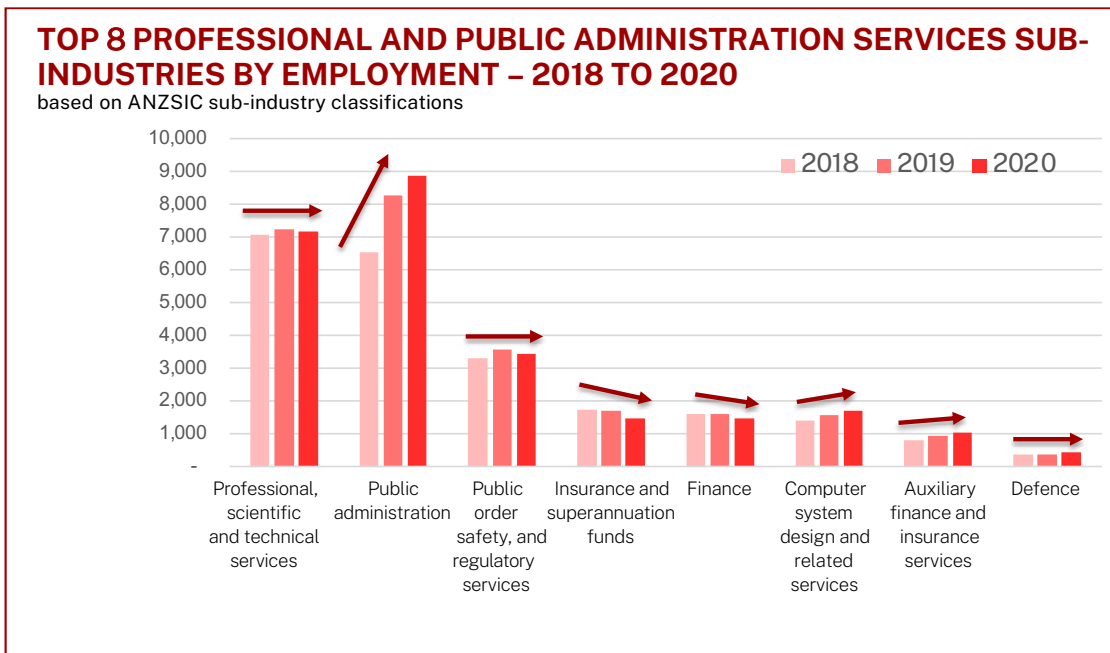
Recent and forecasted industry growth

Largest sub-industries by employment

Barwon’s BPPS industry is made up of a number of sub-industries. The public administration sub-sector is the largest and highest growing sub-sector, comprising central, state and local government administration as well as justice and government representation activity.¹²⁸ The recent growth in employment (around 8,800 workers in 2020¹²⁹) is testament to the establishment of major organisations in Central Geelong including WorkSafe.¹³⁰ The professional, scientific and technical services sub-industry has remained

largely stable over the last 4 years employing around 7,000 workers.¹³¹ While data suggests Insurance and Superannuation Funds has experienced a slight decrease from 2018–2020, all remaining sub-industries including auxiliary finance and insurance services, computer system design, and defence are seeing increases in employment growth.¹³² Trends are likely to shift across some of these sub-industries including in defence given recent announcements on the establishment of Hanwha Defense in the region.¹³³

Figure 24: Top 8 sub-industries by employment



Source: NIEIR Barwon Regional Data, 2020



Forecasted growth by occupation

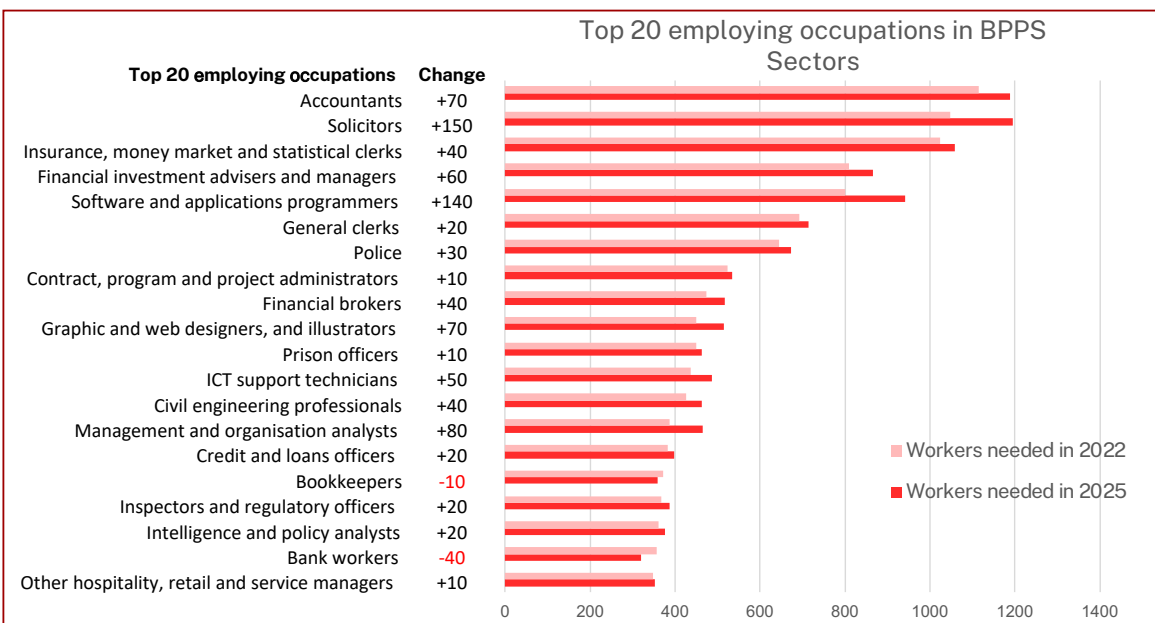
Current projections suggest the BPPS workforce will grow by over 1,920 new workers and 1,510 workers to fill retirements between 2022 to 2025,¹³⁴ but industry expects even more rapid growth.

The attractive lifestyle proposition that the region offers for working professionals is a drawcard for future employees and employers to set up operations in the region.

Employers can also take advantage of professionals who have moved to the region while working remotely in the past 2 years, encouraging them to transition to local jobs.

The figure below highlights the expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on Australian Bureau of Statistics (ABS) occupation classifications. Note that this list is not exhaustive and does not reflect all occupations in the industry.

Figure 25: Forecasted occupation growth in Barwon’s business, professional and public administration services sector (2022–25)



Source: Victorian Skills Authority Employment Forecasts, April 2022



Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
Business, professional and public administration services	<p>Specific roles or occupations:</p> <ul style="list-style-type: none"> • change managers • data analysts • volunteers to support community events • community care coordinators (for example, in local governments) • industrial design specialists • security and prison guards • middle and senior management across the board • bookkeepers • real estate agents <p>Soft skills including:</p> <ul style="list-style-type: none"> • strategic thinking and ability to develop effective teams • interpersonal and customer skills • leadership skills • stakeholder relations, including cultural and international expertise <p>Technical and digital skills:</p> <ul style="list-style-type: none"> • data visualisation and data analytics • communication and marketing skills • workforce planners • emergency service managers with knowledge of specific environment • governance expertise • learning and development designers and facilitators 	<ul style="list-style-type: none"> • Enhanced digital skills software development; data scientists and data analytics; digital transformation and AI • Customer-centric service design behavioural insights expertise and skills, user and customer experience (UX, CX) specialists • Improving governance practices identify workers who understand corporate and governance risk • Embrace a flexible and agile way of working to adapt to the changing needs of the growing population • Creating career aspirations develop clear career pathways and traineeships that assist retention to the region and industry





Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the BPPS industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

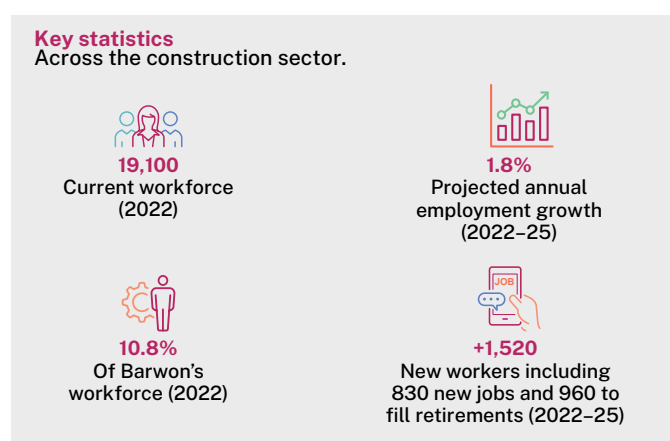
Table 5: Business, professional and public administration services industry proposed responses and solutions

Business, professional and public administration services industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent, and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the sector• Support strengthened links between providers, schools, and employers through bringing together in BPPS industry representatives, VET, and higher education providers in industry roundtable discussions to build greater understanding of industry needs and provide complementary courses• Work with industry and education and training providers to map skills to occupations and training packages
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Encourage mature-aged workers to enter the sector for example, through Recognition of Current Competency (RCC) and Recognition of Prior Learning (RPL) across TAFEs• Establish and consolidate strategic relationships between industry and with education and training providers to develop pathways into professional and public administration roles• Raise awareness of regionally based professional and public administration businesses and roles highlighting to young students within the region that breadth of corporate opportunities• Build future focused skills:<ul style="list-style-type: none">• improve accessibility of IT training courses across Barwon• invest in data analytics courses for current and emerging workforce skill development• strengthen collaboration across the industry:<ul style="list-style-type: none">• provide forums and channels for smaller business to connect with one another, and enable education and training providers to understand and build current and emerging skills needs• Advocate and work with employers to support transition to permanent flexible working arrangements for current and prospective employees to support attraction and retention to the sector• Invest in initiatives that target intergenerational unemployment and support access to education pathways• Target professionals who have recently moved to the region to increase attractiveness of living and working in the region.

Construction industry profile

Construction in Barwon is experiencing a significant period of growth as building works reach record highs.¹³⁵ Large infrastructural projects, such as the Geelong Convention Centre and Geelong Fast Rail, are generating demand for the commercial construction sector, while private demand for residential building is being fuelled by significant population growth as well as increased migration to the region from urban centres.¹³⁶ The sector employs 19,100 workers¹³⁷ and contributing around 14% of the region's GVA in 2021, or just under \$2 billion.¹³⁸

Figure 26: Barwon's construction industry snapshot



Key strengths

Barwon's construction industry is booming in the region due to both private and public sector demand. This is evident in the number of building approvals across the Barwon region in recent years, with over 17,500 approvals between 2017-2021.¹³⁹

Figure 27: Building approvals across Barwon: 2017-2018 and 2021-2022 forecast¹⁴⁰

	2017-18	2018-19	2019-20	2020-21	2021-22 (Forecast)
Greater Geelong	3,386	3,294	3,112	4,612	4,128
Colac Otway	158	147	112	172	139
Surf Coast	598	727	565	549	459
Queenscliffe	23	33	19	24	30
Barwon	4,165	4,201	3,808	5,357	4,756

Forecasted growth for the 2021-2022 period and more recent announcements will undoubtedly continue to accelerate building and construction to support the visitor economy to realise its potential, alongside the projected population growth and business establishment that will follow.

Key challenges and opportunity areas

Uplifting perceptions and attracting workers into the sector amidst a growing demand for current and new workers

Consultation across the region suggests there is a limited understanding about the diverse range of careers available within the construction sector among school leavers, teachers, and parents, often leaving a job in construction as a 'back up' option. Flawed perceptions of the industry make it difficult to attract new talent into existing and forecasted occupation and skill growth areas.

Industry roundtable members also reflected on the difficulties associated with attracting and further retaining new workers if they are not adequately mentored or welcomed into what can be quite an isolating work environment on site.

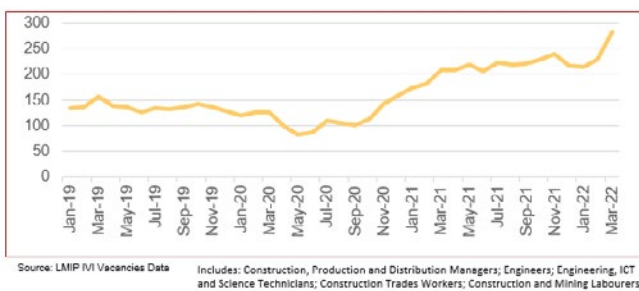
Attracting the next generation of construction workers must be supported by relevant and engaging training and career pathway promotion that reflects the true breadth of opportunities available to encourage new workers, including young people, women, and vulnerable cohorts.



Inter and intra-sector competition for a limited workforce pool

Industry roundtable and Barwon Regional Skills Taskforce members reflected on the competition for workers which is exacerbated by demand across local business, as well as other regional and metropolitan demands. A significant increase in demand is reflected through online job advertisement trends, with vacancies more than doubling in the past 2 years (January 2019–January 2022)¹⁴¹. Noting 89% of construction workers are male¹⁴², particular focus on how to engage women in the diverse range of jobs across the construction sector is paramount.

Figure 28: Construction vacancy changes across Barwon



Opportunities to improve participation, quality and design of education and training

Difficulties in attracting workers and increasing training coupled with limited availability of certain courses, for example, excavator courses within the region, are impacting the supply of a skilled workforce. The skills required in the construction industry are becoming increasingly complex, with changes in the purposes of construction as well as materials and processes. Technical, management and professional competencies are key overarching skills gaps across the sector that are critical to the ongoing success and growth of the sector within the region.

As a largely coastal region, and with many attractions relying on natural assets, Barwon has a strong general awareness of climate change, energy efficiency and the need for environmentally safe practices in all areas of the economy. Embracing the opportunity to be a leader in the clean economy space is a key opportunity area for the region and sector which can be realised through continued focus on developing a local workforce with the knowledge and skills to support this opportunity.

Interface with other industries and emerging sectors

The construction industry interfaces with all other major industries and is interconnected to the broader social and economic prosperity of the Barwon region given the importance and reliance on the physical and built environment.

Table 6: Key intersections across Barwon’s construction industry

Construction vis-à-vis renewable and clean energy

Energy efficient design and retrofitting or transformed for clean energy purposes. New buildings can be designed with energy use and renewable energies in mind to reduce their carbon impact. Similarly, retrofitting older structures or transforming manufacturing facilities can assist advancements in the renewable and clean energy sector.

Safe physical environment through construction

The quality of the built environment can determine mental and physical health. Access to secure and affordable housing, high quality healthcare infrastructure and services are a key determinant of mental health given the significance of environmental safety for individual and community wellbeing.

Commercial construction for public administration and visitor economy sectors

Movement of public administration offices and establishment of regional based offices for government organisations, including WorkSafe, TAC and NDIA, has fuelled demand for new builds. The build of new hotels and broader accommodation facilities will lead to an increase in construction activity, promoting the region as a place to work, visit and live.

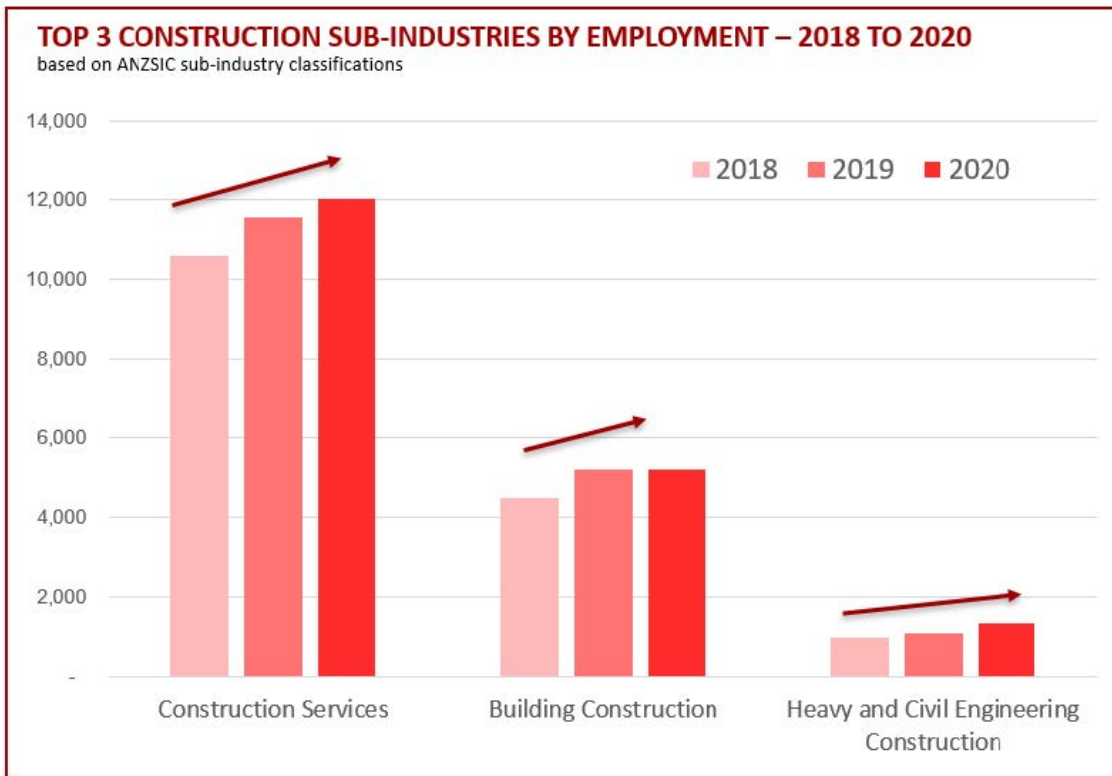
Recent and forecasted industry growth

Largest sub-industries by employment

Key sub-industries within Barwon’s Construction sector include construction services, building construction and heavy and civil engineering construction. Construction services include development and site preparation, building structure, building installation, building completion, and other construction services (including landscape, hire of construction machinery and other construction services).

All sub-industries in the construction sector have experienced substantial growth between 2018-2020 with the most prominent growth in the construction services sub-industry.¹⁴³

Figure 29: Top 3 construction sub-industries by employment 2018–2020



Source: NIEIR Barwon Regional Data, 2020

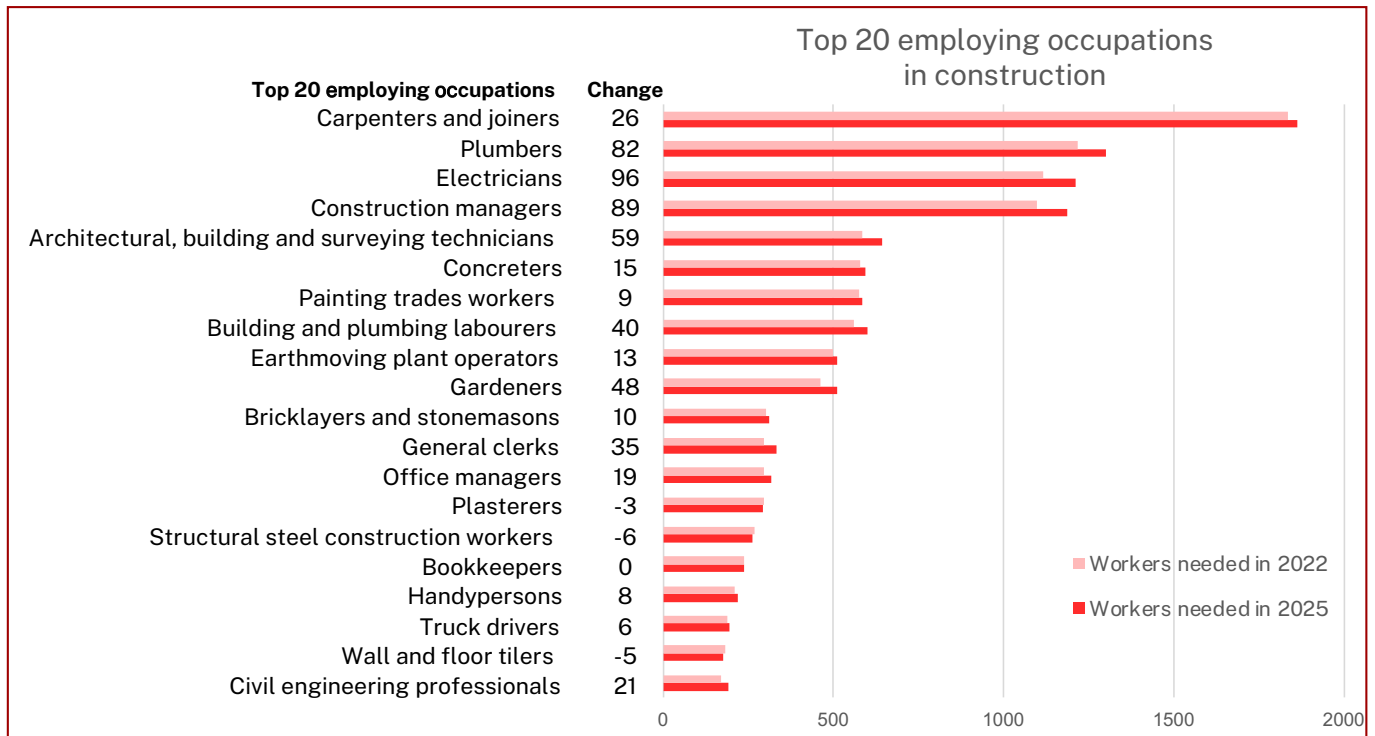


Forecasted growth by occupation

With major population and infrastructure growth anticipated in coming years, Barwon's construction industry will continue to experience increased demand for workers across a number of fields.

The region is expected to require another 830 new workers with an additional 690 needed to fill the retiring workforce between 2022-2025.¹⁴⁴ The expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on ABS occupation classifications is provided below.

Figure 30: Forecasted occupation growth in Barwon's construction sector (2022-2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Construction	<p>Specific roles or occupations:</p> <ul style="list-style-type: none"> • all major trades (such as plumbing, electricians, bricklaying etcetera.) • estimators <p>Soft skills including:</p> <ul style="list-style-type: none"> • awareness of mental health issues and skills for how to manage this within the workforce • mentoring skills • passionate ambassadors to engage and inspire students into the sector 	<p>Technical and digital skills:</p> <ul style="list-style-type: none"> • competency and refresher courses to keep up to date with new technologies and innovation <p>Niche or specific skills:</p> <ul style="list-style-type: none"> • multi-disciplinary workers with technical and professional skills 	<ul style="list-style-type: none"> • Better understanding of renewable energies and opportunities • Strategic thinkers • Managers • Leadership skills • Continued need for adult and junior apprentices in a variety of fields





Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the construction industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

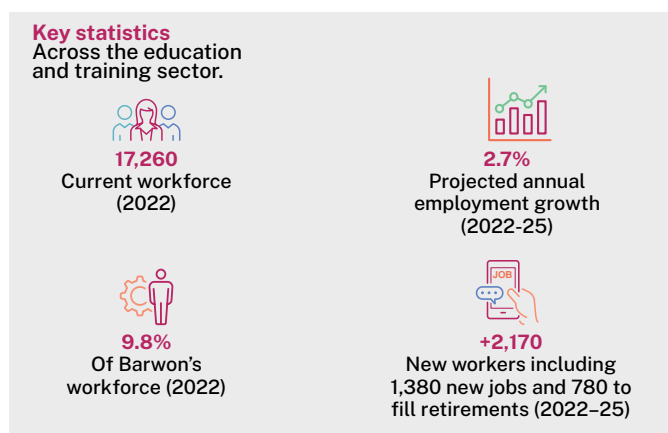
Table 7: Construction industry proposed responses and solutions

Construction industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent, and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the construction sector• Bringing together construction industry representatives, VET, and higher education providers in industry roundtable discussions to build greater understanding of industry needs and provide complementary courses• Analysis and matching of skills to occupations and training packages
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Strengthen collaboration with the TAFE sector and local universities to deliver industry standard training, and collaborate on innovative research• Promote the diversity of pathways, opportunities, and occupations in the sector to create career aspirations• Attract non-traditional cohorts by:<ul style="list-style-type: none">• identifying pathways into girls' schools specifically where there is a resistance to promoting a career in construction• identifying further strategies to break down barriers and stereotypes about women in construction• providing holistic support to apprentices such as a means of travel• developing targeted programs to engage adult apprentices• Invest in new trade schools to support the projected growth in the region• Strengthen links with industry, training providers and local schools to provide targeted information and promote continual learning• Develop formal frameworks to facilitate local procurement opportunities• Incorporate mentoring activities as a part of managerial positions to ensure new workers are integrated into the sector• Provide leadership training and support through short course opportunities

Education and training industry profile

Barwon’s education and training industry covers early childhood, primary and secondary schools, vocational training, higher education, and adult and community education. The industry employs over 17,260 people in the region, making it the fifth largest employer in the area.¹⁴⁵ It generates almost 9% of the region’s GVA, or approximately \$1.3 billion in 2021.¹⁴⁶

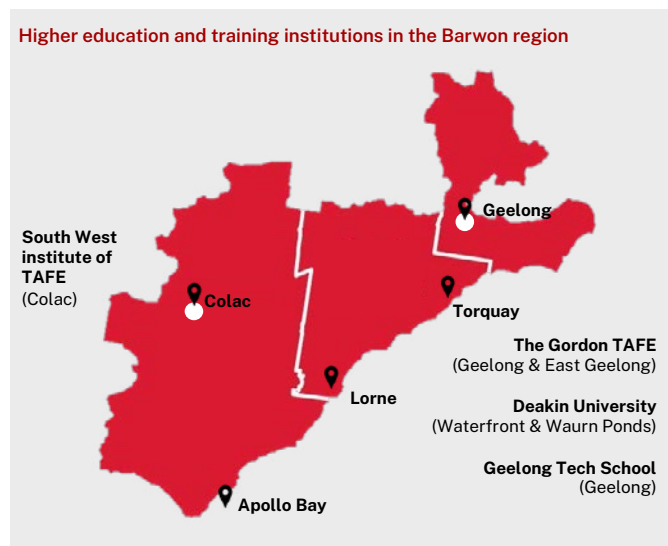
Figure 31: Barwon’s education and training industry snapshot



Key strengths

The Barwon region is well equipped with access to high quality education and training facilities, including universities, dual sector, public, and private training providers. The presence of the Geelong Tech School, trade facilities at The Gordon East Campus and the development of a new culinary school at The Gordon City Campus¹⁴⁷ are key training enablers for the region.

Figure 32: Higher education and training institutions and facilities across Barwon



Beyond higher education and training institutions, there are a number of research facilities across the Barwon Region, including:

- The BioGeelong Network (includes the Australian Future Fibres Research and Innovation Centre, and CSIRO’s Australian AAHL)
- Marine and Freshwater Discovery Centre
- Geelong Centre for Emerging Infectious Disease
- Ford Research and Development Centre.

Strong relationships and collaboration across providers and industries in the region enables the sector to support current and emerging challenges and opportunity areas across all cohorts, including primary and secondary students, Adult Community and Further Education (ACFE) learners and other vulnerable cohorts including CALD communities and Aboriginal people. The Barwon region also includes a proportion of newly arrived migrant families who require support with participating in education, training, and employment opportunities within the region. For example, in 2021 in Greater Geelong alone, approximately 47,860 people were born overseas and 18% migrated to the country after the year 2016.¹⁴⁸

Key challenges and opportunity areas

The education and training industry is facing shortages across all sub-industries of the sector. While this not a unique issue to the region, Barwon’s population growth means that demand for these skills will be particularly acute. A supply of skilled teachers and trainers that can support the development of the next generation of skilled workers is critical for Barwon’s ongoing growth and prosperity.

Attraction and retention challenges exacerbated by a limited understanding of industry growth and career pathways

Barwon Regional Skills Taskforce and industry roundtable members suggested pay discrepancies between education roles and industry employment, especially in the trades, makes it challenging to attract and retain teachers and trainers. Current employment models do not always support dual employment where industry experts can flexibly work in industry and train simultaneously.

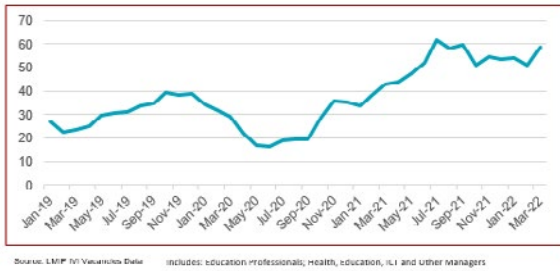
A stronger emphasis on attraction into the sector and focus on innovative retention strategies are vital for the growth and sustainability of the sector and the region more broadly.



Inter and intra-sector competition for a limited workforce pool

Vacancy trends across the education and training sector have continued to increase in recent years. Industry roundtable members reflected that the online job advertisement rates do not accurately provide an indication of vacancies given varying methods of recruitment; however, the graph still reflects recruitment freezes during the beginning of the pandemic in mid-2020 and ongoing increases since that time. After a low in May 2020, vacancies increased almost four-fold from 17 to 62 peaking in July 2021.¹⁴⁹

Figure 33: Education and training vacancy changes across Barwon



Source: LAMP '21 Vacancies Data includes: education professionals; health, education, n.i and other managers

Opportunities to improve participation, quality and design of continual learning and development

The Education and Training industry plays an integral role in developing a pipeline of skilled workers for a strong and sustainable workforce across the region. Barwon Regional Skills Taskforce and industry roundtable members reflected on the need to engage and develop teachers and trainers with transferable skill sets, interpersonal skills, and lifelong learning behaviours to continue to learn and educate students in line with industry growth.

Improving access to equitable education and training opportunities for all members of the Barwon region is paramount to ensuring social and economic prosperity across the region. This includes newly arrived migrant families and students who may not be eligible for funding support to undertake senior secondary schooling, education, and training courses.

Interface with other industries and emerging sectors

The education and training industry interfaces with all other major industries and is interconnected to the broader social and economic prosperity of the Barwon region.

Table 8: Key intersections across Barwon’s education and training industry

Digital technologies

As the future of work moves towards a more digital economy, it is necessary for teachers, trainers, and information services to also have digital capabilities in order to support their own and student development. This has never been more evident than in the pandemic pressure of teachers and trainers to adapt and transition to online teaching.

Preschool and school education and health care

Early childhood education is a crucial time in a child’s life where development occurs at a rapid rate cognitively, emotionally, and physically. Experiences from childhood in each of these spheres can also have an impact on a person’s health as an adult, for example, a traumatic experience or undiagnosed learning difficulty can affect a person’s mental health.

Community services

Disruptions to formal schooling may be due to a change in social or economic circumstance, interaction with the justice system or other challenges as noted in the healthcare section. Disability may also impact access to the necessary education supports.

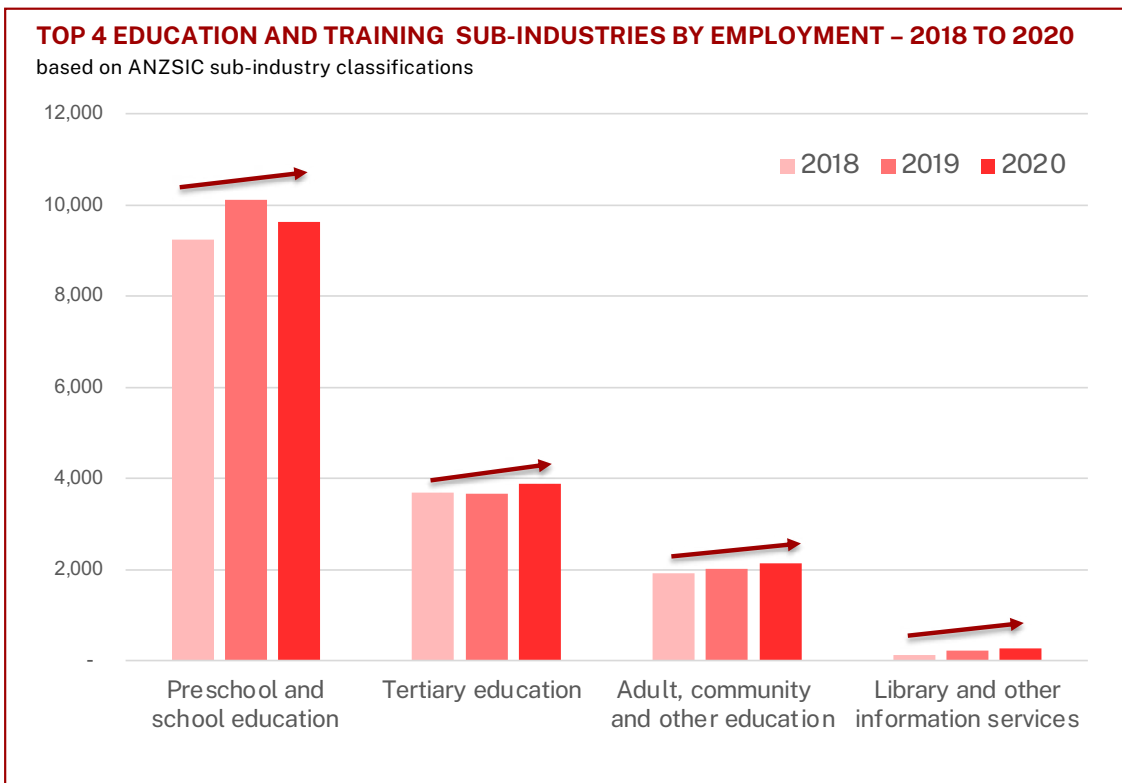
Recent and forecasted industry growth

Largest sub-industries by employment

Key sub-industries within Barwon’s education and training industry are preschool and school education, tertiary education¹⁵, adult, community and other education,

and library and other information services. Employment in all subsectors is trending upwards which is consistent with the need for key infrastructure in the region to keep up with the growing population.

Figure 34: Top 4 education and training sub-industries by employment



Source: NIEIR Barwon Regional Data, 2020

¹⁵ The Tertiary Education sub-sector includes technical and vocational education and training, and higher education

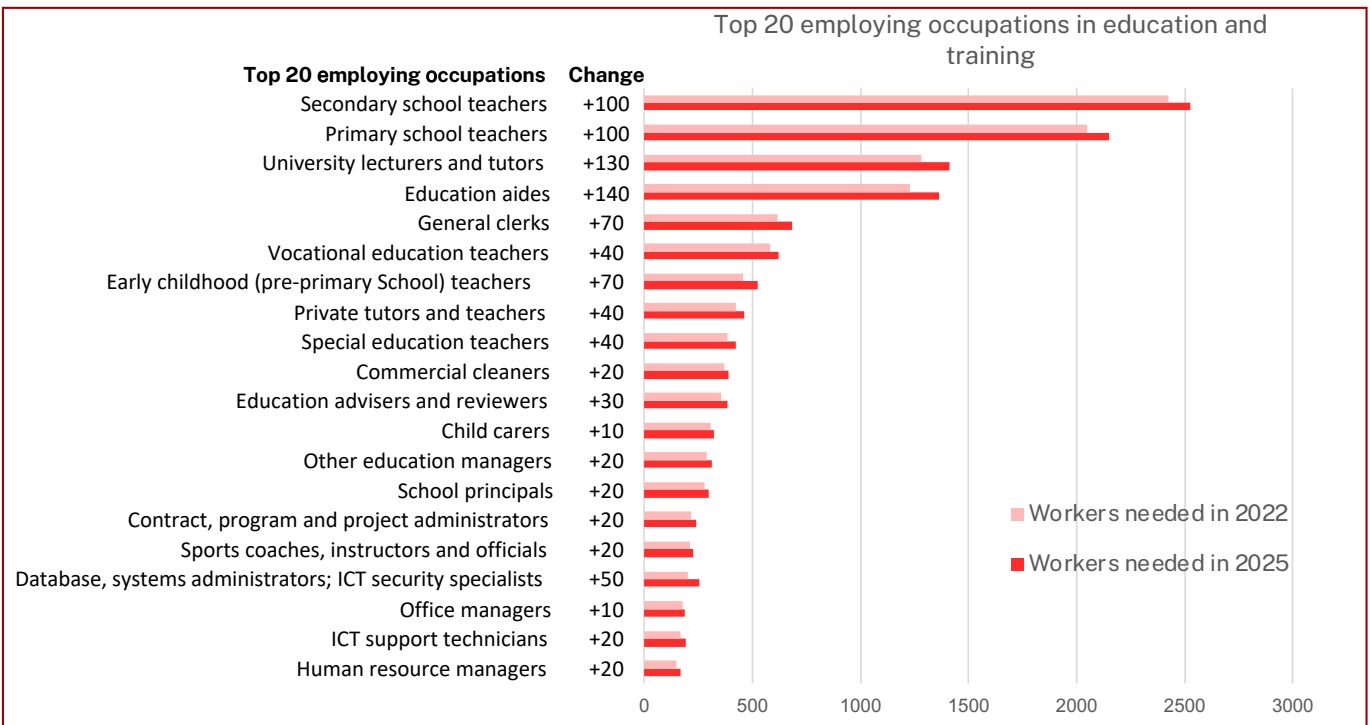


Forecasted growth by occupation

Estimates suggest that over 1,380 new workers are required over the period 2022 to 2025,¹⁵⁰ but this is unlikely to account for existing shortages and the impacts of secondary school educational reforms and workplace agreements that will increase demands on teacher numbers, particularly VET teachers as part of the new Vocational Major.¹⁵¹ Similarly, the recent kindergarten reforms will also increase pressure on early childhood (pre-primary school) teachers.¹⁵² An additional 780 workers are expected to be needed to fill retirements.¹⁵³

The figure below highlights the expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on ABS occupation classifications. Note that this list is not exhaustive and does not reflect all occupations in the industry.

Figure 35: Forecasted occupation growth in Barwon's education and training sector (2022–2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
Education and training	<p>Specific roles or occupations or industry focus:</p> <ul style="list-style-type: none"> early childhood and kindergarten teachers secondary teachers VET teachers and trainers applied learning experiences linked directly to industries trade training greater understanding of industry requirements (respective to the course or qualification and related industries, for example, career expectations) <p>Soft skills including:</p> <ul style="list-style-type: none"> emotional intelligence communication skills ability to connect and empathise with students novel and adaptive thinking team building and teamwork 	<p>Sustainability skills:</p> <ul style="list-style-type: none"> skills in renewable energies cross-cultural competency <p>Technical and digital skills:</p> <ul style="list-style-type: none"> digital skills at all levels (basic to advanced) understanding and ability to use new technologies and platforms as they emerge computational thinking <p>Other:</p> <ul style="list-style-type: none"> networking and business development skills to connect with organisations for partnerships and student placement
		<ul style="list-style-type: none"> Immediate need and enhanced digital skills aligned to industry growth across Barwon’s industries Entrepreneurial and creativity skills Ongoing digital capability development for teachers and trainers (for example understanding of and ability to teach new technologies not yet realised) Further development of soft skills Training for teachers and trainers in student health and wellbeing More flexible and less demanding time to complete education and training courses and qualifications Problem solving and strategic thinking Working in flexible environments, for example, virtual and hybrid teaching and training models





Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the education and training industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

Table 9: Education and training industry proposed responses and solutions

Education and training industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the sector• Support strengthened links between providers, schools, and employers through bringing together industry representatives, VET, and higher education providers in Industry roundtable discussions to build greater understanding of industry needs and provide complementary courses• Work with education and training providers to support unit reviews and mapping of skills to occupations and training packages
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Improve cross-industry and cross-organisation mentoring programs for teachers and trainers• Invest in capability and capacity building for teachers and trainers across the sector (industry secondment, industry mentoring sessions, training, and upskilling for trainers)• Raise awareness and promote the importance of connecting industry experts to VET teaching and training• Tackle negative perceptions of VET through showcasing local success stories of pathway and career development opportunities supported by skills and training• Investigate new models of industry teacher and trainer development, for example, redefining roles and responsibilities of education and trainers to include more industry-specific learning and development so education and training is relevant and aligned to industry growth and emerging priority areas• Build a deployable workforce of skilled teachers to complete short-term contracts in hard to staff areas across multiple training providers and institutions• Advocate for improvements to the Recognition of Prior Learning (RPL) and Recognition of Current Competency (RCC) processes to attract more industry expertise into the education and training sector• Explore and undertake additional industry-training led, skills-based training to meet industry demand within the region, this may include hands on collaboration between industry and training bodies for example, workshopping classes in partnership• Strengthen and expand partnerships across education and training providers in the region for better coordination and collective support of securing work experience and placement opportunities for current and prospective students within the region

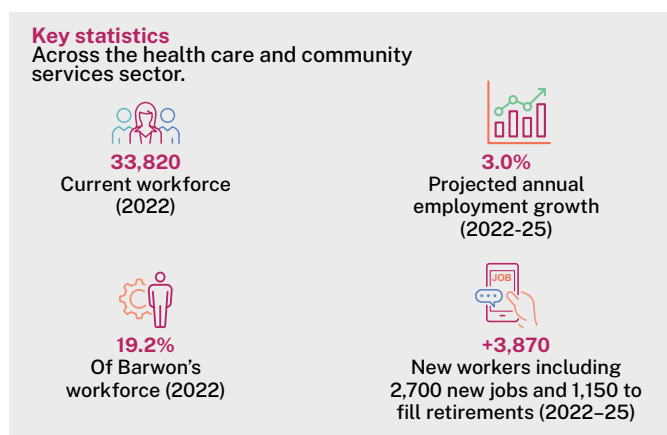
Health care and community services industry profile

As the largest employer in Barwon, making up approximately 18% of the region's workforce¹⁵⁴ and the third largest economic contributor to the region, (almost \$2 billion in GVA)¹⁵⁵ in 2021, the health care and community services (HCCS) industry is critical to the growth and prosperity of the Barwon region and Victoria's broader South West.

The HCCS industry is diverse and far reaching, including private and public institutions, clinical and allied health care, and community services. The top 4 sub-industries are:

1. Hospitals
2. Medical and other health care services (including allied health, diagnostic and pathology services, general and specialist care, and ambulance services)
3. Community services (comprising childcare services and other social assistance such as adoption, aged care assistance services, and welfare counselling services)
4. Residential care services

Figure 36: Barwon's health care and community services industry snapshot



Key strengths

Barwon's HCCS industry provides a diverse range of services to its community and neighbouring regions, reducing the need to leave the region for services that may not have traditionally been available within such proximity. From a career perspective, the diversity of service offerings means that individuals can grow and develop strong career pathways across many HCCS sub-industries without having to leave the region.

Since becoming the largest employer in the region in 2010,¹⁵⁶ the HCCS industry has experienced steady growth over the last 12 years.¹⁵⁷ Key service providers, including Barwon Health, Epworth Private Hospital, and genU, have strengthened the reputation of the region as a reliable location to receive quality and specialised healthcare.

Key challenges and opportunity areas

Uplifting perceptions of the HCCS sector and jobs amidst a growing demand for workers

The HCCS industry has been the subject of 2 recent Royal Commissions, including the Royal Commission into Victoria's Mental Health System findings published in February 2021¹⁵⁸ and the Royal Commission into Aged Care Quality and Safety published in October 2018.¹⁵⁹

These reforms, among growing service-demand in other areas, will inevitably require the region to expand current service offerings. This is particularly expected given increasing reliance on health and community services, coupled with a growing population. Other areas requiring prevention and service expansion in the region raised by industry roundtable members include trauma specialist services, prevention of gender-based and family violence, financial stress, mental health, and gambling. Additional requirements for a growing population include more LGBTIQ+ support, allied health, NDIS, and home-based aged care services.

A limited understanding of industry growth and associated career pathways impacting attraction and retention

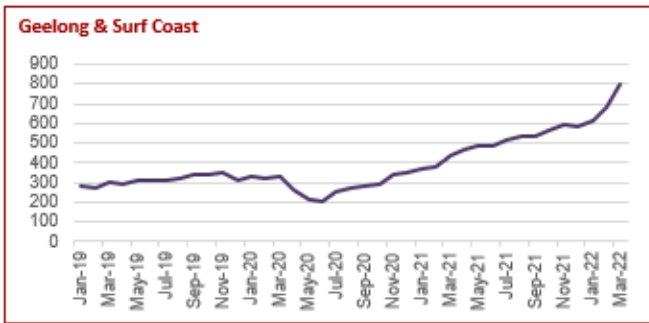
Industry roundtable members highlighted the limited understanding among current students and early-year workers regarding the breadth of opportunity to develop and specialise across the sector. Members also reflected on the limited awareness of the breadth of skills and capabilities required across the sector, including chefs and kitchen hands in hospitals and corporate and IT roles which support HCCS organisations. A greater focus and commitment to providing quality placements was a key opportunity area identified by industry roundtable members to uplift perceptions and increase attraction across the sector.



Inter and intra-sector competition for a limited workforce pool

With a 119% increase in online job advertisements within the region in the past 2 years (February 2020–February 2021)¹⁶⁰, there is an increasing trend in supply challenges to meet current demand, let alone projected growth for the industry in coming years. Industry roundtable members reflected on increasing cross-sector competition for a limited workforce pool exacerbated by broader challenges including pay disparity across public and private providers. Members reflected on the benefits of a collaborative approach to attracting and retaining workers in the sector and region, rather than continued competition as an unsustainable solution. Key cohorts to target include current and prospective students through senior secondary schooling, increasing awareness of career opportunities for males in particular, noting 83% of the HCCS industry identify as female,¹⁶¹ those looking for career change within the region and vulnerable cohorts including those looking to enter or re-enter the workforce.

Figure 37: health care and community services sector vacancy changes across Barwon¹⁶²



Design, quality and participation in education and training for a highly skilled future workforce

Industry roundtable and Barwon Regional Skills Taskforce members reflected on the need to take on low-skilled and under-skilled workers given labour shortages, particularly in the aged-care sub-sector. While this has been a short-term solution for businesses, employing low-skilled workers without commitment to support ongoing upskilling of workers risks the creation of a low skilled workforce that is unable to meet emerging and future workforce and skills requirements across the sector. This includes digital and technical skills and interpersonal skill sets critical to providing accessible services to Barwon’s diverse community.

Innovative and sustainable growth of Barwon’s HCCS industry is paramount to a thriving region with equitable access to holistic care services. The industry will continue to transform in line with recent and emerging policy trends and reforms, including more individualised care services for an ageing population, increasing use of telehealth and online consultations equipped with the use of current and emerging technology to deliver high-quality care services.

Interface with other industries and emerging sectors

The HCCS industry is diverse, unique, and critical in the way it intersects and interfaces with other industries and fosters collaboration within its own eco-system of providers, services, and institutions. This means that changes, challenges and opportunities across various industries and sectors have flow on effects around the region.

Table 10: Key intersections across Barwon’s health care and community services industry

Health equipment manufacturing

The pandemic highlighted the need for secure, reliable, and quality supply chains to produce critical equipment for the health sector. The shifted focus on local manufacturing capability for a number of areas, including hospital care, has highlighted a gap in local skills and capabilities to address such shortages.

Safe physical environment through construction

The quality of the built environment can determine mental and physical health. Access to secure and affordable housing, high quality healthcare infrastructure and services are a key determinant of mental health given the significance of environmental safety for individual and community wellbeing.

Digital technology to improve health care

Advancing research to develop innovative ways to understand and care for mental ill health is vital to ensure a leading industry that can continue to evolve within the region. Digital technology transforms our understanding and ability to improve healthcare, for example, application of AI and machine learning to understand depression and Alzheimer’s.

Community services and support to enable education and training

Education and training has a significant part to play in providing people with renewed purpose, opportunities and is also often a way to participate in general society and programs, such as the South West TAFE VCAL program that provides young parents returning to school with child care services to enable them to study and develop skills that ensures they can enter and, or re-enter the workforce to meaningful careers. Access to high-quality, affordable, and close-to-home child care is essential for greater workforce participation, particularly for women.

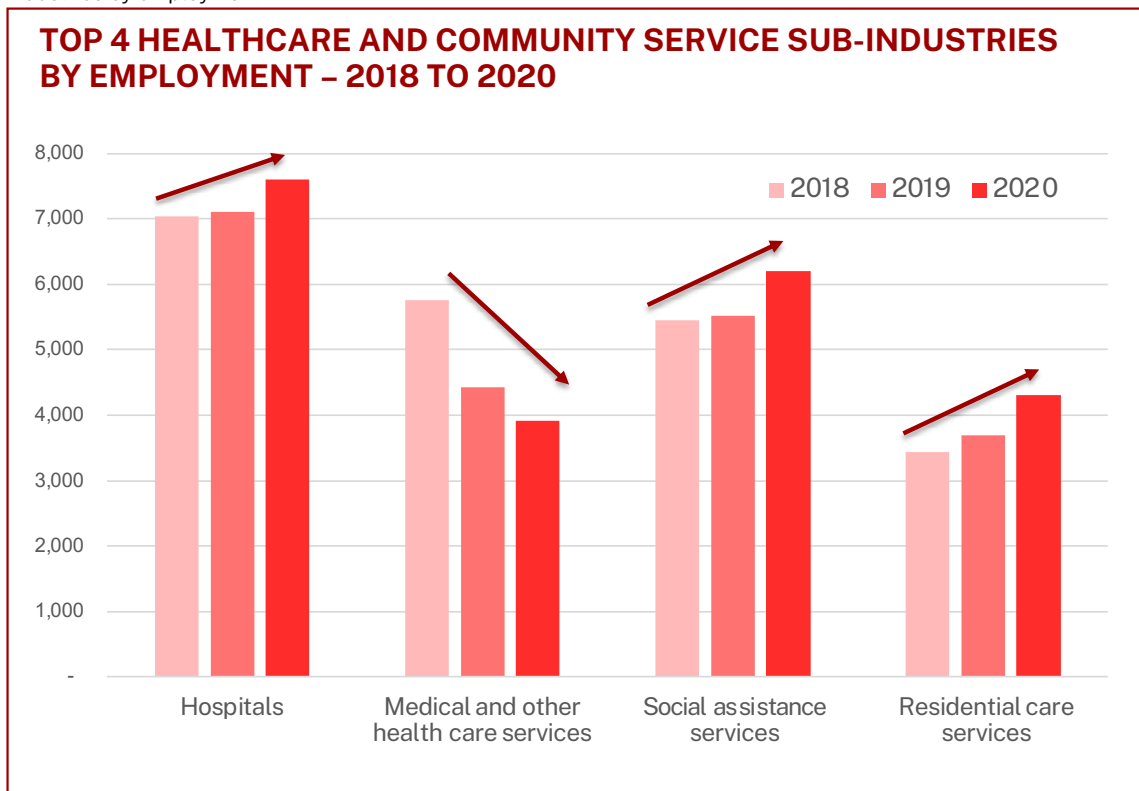
Recent and forecasted industry growth

Largest sub-industries by employment

Hospitals are the largest sub-employer in the region, with Barwon Health employing 8,001 staff in 2021 alone.¹⁶³ Employment in 3 out of 4 central sub-industries is increasing each year with a marked increase in 2020, resulting in an average increase of 594 workers for each sub-industry.¹⁶⁴

Declines are evident in medical and other health care services with data highlighting a 32% decline from 2018 to 2020. Despite trending declines from 2018 to 2020,¹⁶⁵ industry roundtable members suggested historic trends may shift in coming years given recent policy reforms and investments, including across allied health and NDIS.

Figure 38: Top 4 health care and community services (HCCS) sub-industries by employment



Source: NIEIR Barwon Regional Data, 2020



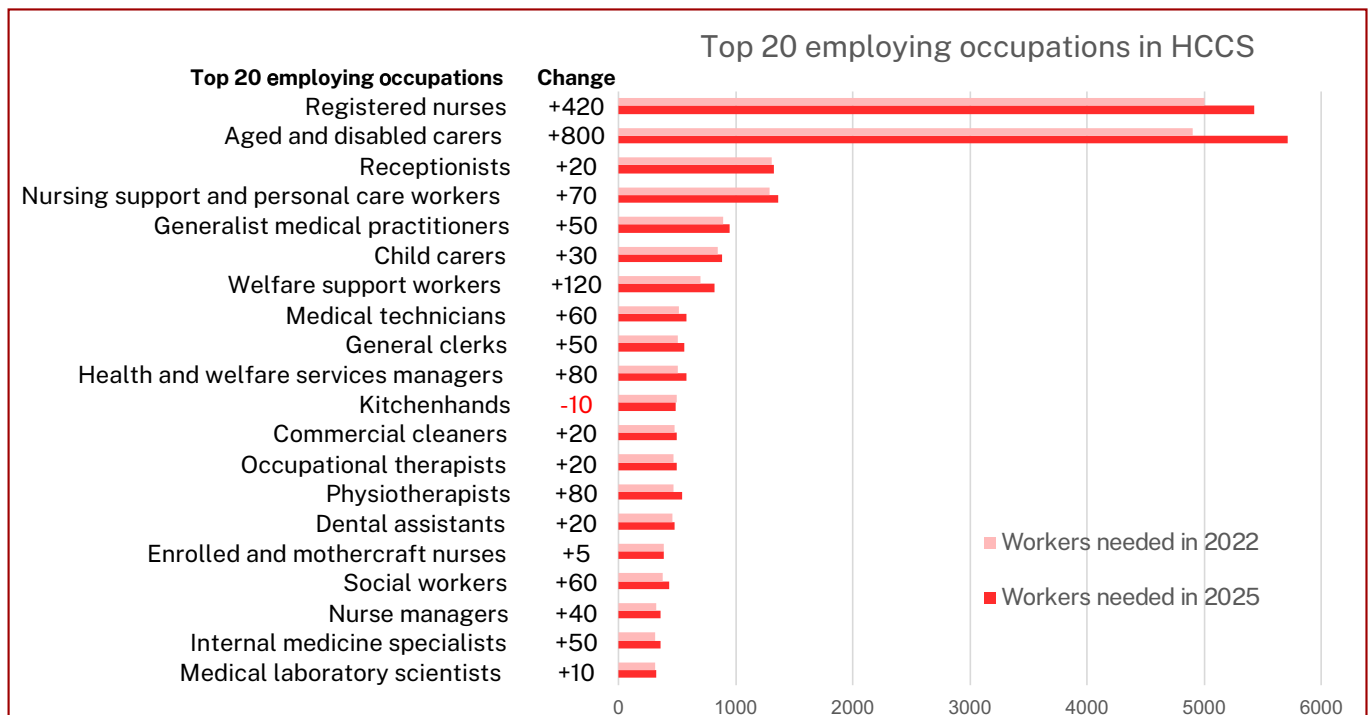
Forecasted growth by occupation

With the Barwon population projected to grow by 30% over the next 15 years,¹⁶⁶ it is essential that the HCCS workforce and employee pipeline remains robust.

Forecasts suggest the Barwon region will require 2,700 new workers between 2022–2025 alongside 1,150 workers to fill retirements.¹⁶⁷ This forecast may under-represent the actual number of workers required, noting more recent investment across the sector. In particular, the new kindergarten reforms include an increase to a universal 30-hour a week program of play-based learning for every 4-year-old child in Victoria and the establishment of 50 new Victorian Government-owned and affordable childcare centres, including in the Barwon region.¹⁶⁸ These recent announcements are likely to result in greater need for early childhood educators and kindergarten teachers than forecasted.

The figure below highlights the expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on ABS occupation classifications. Note that this list is not exhaustive and does not reflect all occupations in the industry.

Figure 39: Forecasted occupation growth in Barwon’s health care and community services sector (2022–2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)	
Health care and community services	<p>Specific roles or occupations:</p> <ul style="list-style-type: none"> • medical staff support services allied health • aged care workers – in-home care services • general practitioners • case managers • mental health workers and professionals • therapeutic counsellors • speech pathology • podiatry • geriatrician • neuropsychic • nursing • maternal child and health • occupational therapy • social work • finance leaders • people and culture leaders 	<p>Soft skills including:</p> <ul style="list-style-type: none"> • conflict resolution • leadership and management skills • conflict management skills • work ethic and development expectations • emotional intelligence <p>Interpersonal and soft skills:</p> <ul style="list-style-type: none"> • empathy • project management skills • leadership skills 	<ul style="list-style-type: none"> • Developing advanced allied health practitioners working across disciplines – competencies in transferable skills • Aged care workers to accommodate for ageing population • Interpersonal and soft skills that are critical for the future of work as technology will handle ‘tasks’ with humans equipped to support humans • Adaptability to change • Understanding of diversity and culturally safe practice • Emotional intelligence • Teamwork and collaboration • Resilience • Flexibility
		<p>Leadership and management skills:</p> <ul style="list-style-type: none"> • project and change management skills • ability to have transparent and challenging conversations • senior leaders with strong linkages to government to advocate for extended funding models <p>Digital or technology advancement:</p> <ul style="list-style-type: none"> • remote patient monitoring • more training in new remote monitoring technologies for health and safety and equipment 	





Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the health care and community services industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

Table 11: Health care and community services proposed responses and solutions

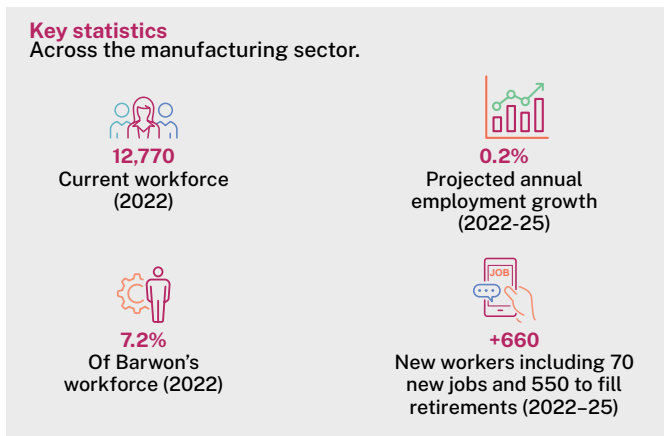
Health care and community services proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the HCCS sector• Bringing together HCCS industry representatives, VET, and higher education providers in industry roundtable discussions to build greater understanding of industry needs and provide complementary courses• Analysis and matching of skills needs and course and training package offerings (including curriculum and units on soft and digital skills)
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Expand reach and quality of student placement opportunities across private and public providers• Engage primary school students through school visits, excursions, and coaching sessions to build awareness of the importance of their soft and transferable skills (ensuring far greater confidence in ability to develop careers in the sector as students get older) through programs such as Pathways from the School Gate• Boost industry attractiveness and promote the career opportunities and possibilities within the sector through sharing success stories of individuals with lived experience• Progress research opportunities across industry in collaboration with education and training providers to identify and plan for alternative models of care and service delivery and skills and capabilities required in line with this• More regular reviews and opportunities to update training packages in line with industry feedback and needs• Promote and enhance rotations of new graduates through Geelong and rural services to support on-the-job training and learning from others• Greater collaboration between state and private health services to enable more specialised quality care• Better utilise pre-service students looking at HCCS career pathways to meet current demand• Improve access and quality of online education and training opportunities for HCCS related courses through education and training providers working with current and alumni students• Increase careers focus within secondary schools including job pathways in the industry while undertaking education and training

Manufacturing industry profile

The Barwon region has a historically significant manufacturing base. Despite the closure of several high-profile firms in traditional manufacturing, the sector has adapted to include advanced, high value and defence manufacturing, as well as continued growth in the food manufacturing sub-sector.

Manufacturing is the sixth largest employer in the region with around 12,770 workers.¹⁶⁹ It generates 11% of the region's GVA in 2021, or approximately \$1.5 billion.¹⁷⁰ Manufacturing in the region is centred around Greater Geelong; however, in 2020 Colac Otway, has a relatively higher concentration of manufacturing workers, and the industry is the second highest contributor to the Colac Otway's local GVA.¹⁷¹ Examples of large organisations in this sector include Bulla Dairy, and VIVA Energy Australia. The recent announcement of the development of Hanwha Defense Australia's \$170 million Armoured Vehicle Centre of Excellence at the Avalon Airport Industrial Precinct will further accelerate the rebound of the manufacturing sector in the Barwon region, creating more than 300 new design, engineering and manufacturing jobs in the region and positioning Geelong as the home of the state's increased defence capabilities.¹⁷²

Figure 40: Barwon's manufacturing industry snapshot



Key strengths

Barwon's strong manufacturing history, infrastructure and capabilities has enabled the region to rebound and recover from early concerns post the shutdown of major firms, including Ford (2016) and Alcoa (2014). The region is well equipped to continue to thrive in the manufacturing space given the growing innovation and research capabilities and international connectivity to best-practice manufacturing processes and operations.

Supported by local leading facilities such as the Geelong Tech School and given the attractiveness of the Barwon region as a place to live and work, Barwon's manufacturing industry is on the right trajectory to face current and emerging technological revolutions, most prominently the increasing focus on the circular and clean economies.

Key challenges and opportunity areas

Uplifting perceptions of the manufacturing sector amidst a growing demand for workers

Despite the diversification of the industry in recent years, industry roundtable and Barwon Regional Skills Taskforce members reflected that some of the local community still associate the manufacturing industry with 'dirty and dangerous work' or 'back up' options for students and lower-skilled workers. While traditional manufacturing production and processes are still a prominent part of the industry in the region, the sector's transformation to advanced manufacturing has transformed many of the roles and opportunities within the sector that may be highly attractive to current and prospective students or those seeking a career change across the region. Raising the profile and awareness of the diverse opportunities across the sector is critical to address current and growing worker demands across current and emerging organisations in the region.

A limited understanding of career pathways across Barwon's manufacturing sector

Industry roundtable members reflected on the need to build greater awareness of the career pathway opportunities across the sector, including more non-traditional pathways. For example, beginning a career within the sector as a low-skilled worker and progressing into higher job opportunities through undertaking education and training opportunities that enable workers to upskill in the use of new technology, building managerial capabilities and developing more well-rounded, transferrable skills for different sub-industries and sectors across the region.

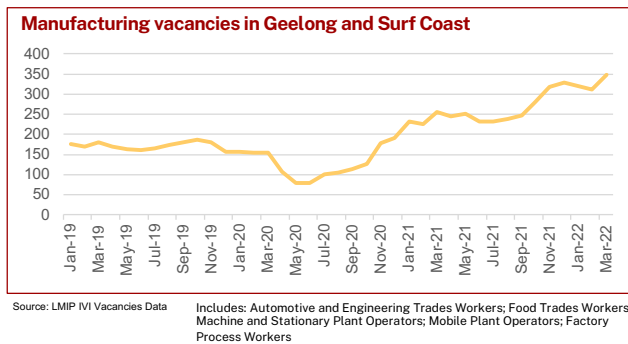


Inter and intra-sector competition for a limited workforce pool

Roundtable and taskforce members reflected on a lag in adult and junior apprentices after a period of reduced activity in the region during the pandemic. They also noted the ageing workforce, under-representation of women in the industry, and lower levels of international migration in recent years are likely to limit the future pipeline of a skilled workforce to support current demand and industry growth in the region.

While online job vacancies cannot provide the full picture of what is occurring in the region, there is a trend in increased vacancies, with online job advertisements at more than double in March 2022 than in March 2019.¹⁷³

Figure 41: Manufacturing vacancy changes across Barwon



Quality, design and participation in education and training that enables sustainable growth

Industry roundtable members suggested that employers and small to medium businesses alike will continue to face increasing pressure from the Barwon community to consider corporate social responsibility and environmental sustainability in their practices and opportunities that will increase demand of multi-disciplinary teams and skills to deliver products and services in the region.

The Barwon region is well-equipped with innovative organisations, education and training institutions that will continue to support world-class research and development. Most recently announced, Deakin University's Recycling and Renewable Energy Commercialisation Hub (REACH) is a part of a prestigious national program to address Australia's national manufacturing priorities.¹⁷⁴ Government, industry and university partner funding valued at \$380 million will support the establishment of a bioeconomy in Victoria, focused on clean energy, recycling and greener supply chains.¹⁷⁵ The initiative will drive significant innovation and job creation in Geelong, Western Victoria and beyond.

The research-industry partnership is expected to generate more than \$1.4 billion in revenue and 2,500 jobs in the next decade.¹⁷⁶

Interface with other industries and emerging sectors

The manufacturing industry is diverse, unique, and critical in the way it intersects and interfaces with other industries and emerging sectors, particularly given its role as a critical part of the supply chain. This means that changes, challenges and opportunities across various industries and sectors have flow on effects for other industries across the region.

Table 12: Key intersections across Barwon's manufacturing industry

<p>Health equipment manufacturing</p> <p>The pandemic highlighted the need for secure, reliable, and quality supply chains to produce critical equipment for the health sector. The shifted focus on local manufacturing capability for a number of areas including hospital care has highlighted a gap in local skills and capabilities to address such shortages.</p>
<p>Digital technology for advanced manufacturing</p> <p>The shift to the Industry 4.0 focus, including AI, machine learning and nanotechnologies, are enabling innovation across industries. Research and innovation will continue to be critical to support advanced manufacturing growth in the region.</p>
<p>Defence manufacturing</p> <p>Production of specialist and customisable components for the defence sector will continue to be a key interdependency in the region given the establishment of Hanwha Defense in the region.</p>
<p>Food manufacturing intersection with agriculture and tourism</p> <p>The growing popularity of farm to table dining and sustainable farming has fashioned food and wine tours into a large component of the Tourism Victoria strategy. Intersections between agriculture and manufacturing are particularly strong in the Colac Otway region where there is a strong agricultural sector and presence of food manufacturing and processing.</p>
<p>Renewable clean energy</p> <p>Barwon's established reputation as a manufacturing hub, as well as access to wind, hydro and solar energy sources, provides ample opportunity for increased investment in zero emission technologies, creating jobs in manufacturing, maintenance, and operation of these technologies.</p> <p>In 2019, Vestas Renewable Energy Hub opened in former Ford Factory, building 100+ turbines for local windfarms, investment worth ~\$3.5 million and resulted in 20+ direct employees.¹⁷⁷</p>

Recent and forecasted industry growth

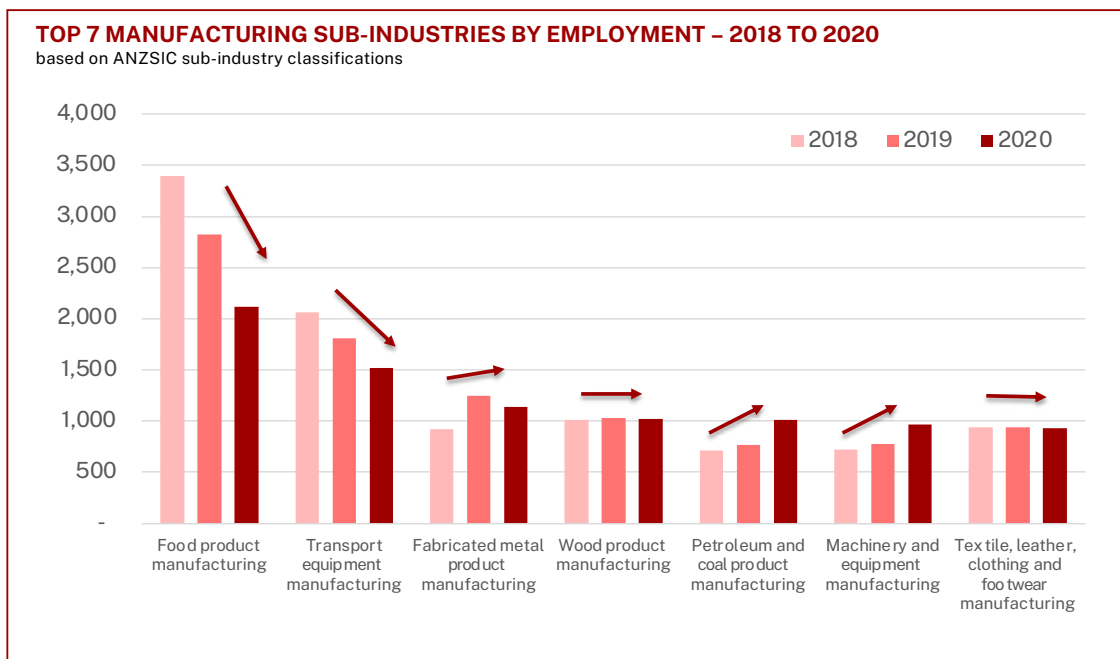
Largest sub-industries by employment

Barwon’s manufacturing industry is now more diversified and operates in a range of more high-value, niche markets supported by manufacturing clusters. Key sub-industries within Barwon include food manufacturing, chemicals and refining manufacturing, timber processing, metals, textiles, and more broadly engineering.

By employment, food product manufacturing is the largest employing sub-industry, followed by transport equipment manufacturing.¹⁷⁸

The figure below highlights the expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on ABS occupation classifications. Note that this list is not exhaustive and does not reflect all occupations in the industry.

Figure 42: Top 7 manufacturing sub-industries by employment



Source: NIEIR Barwon Regional Data, 2020

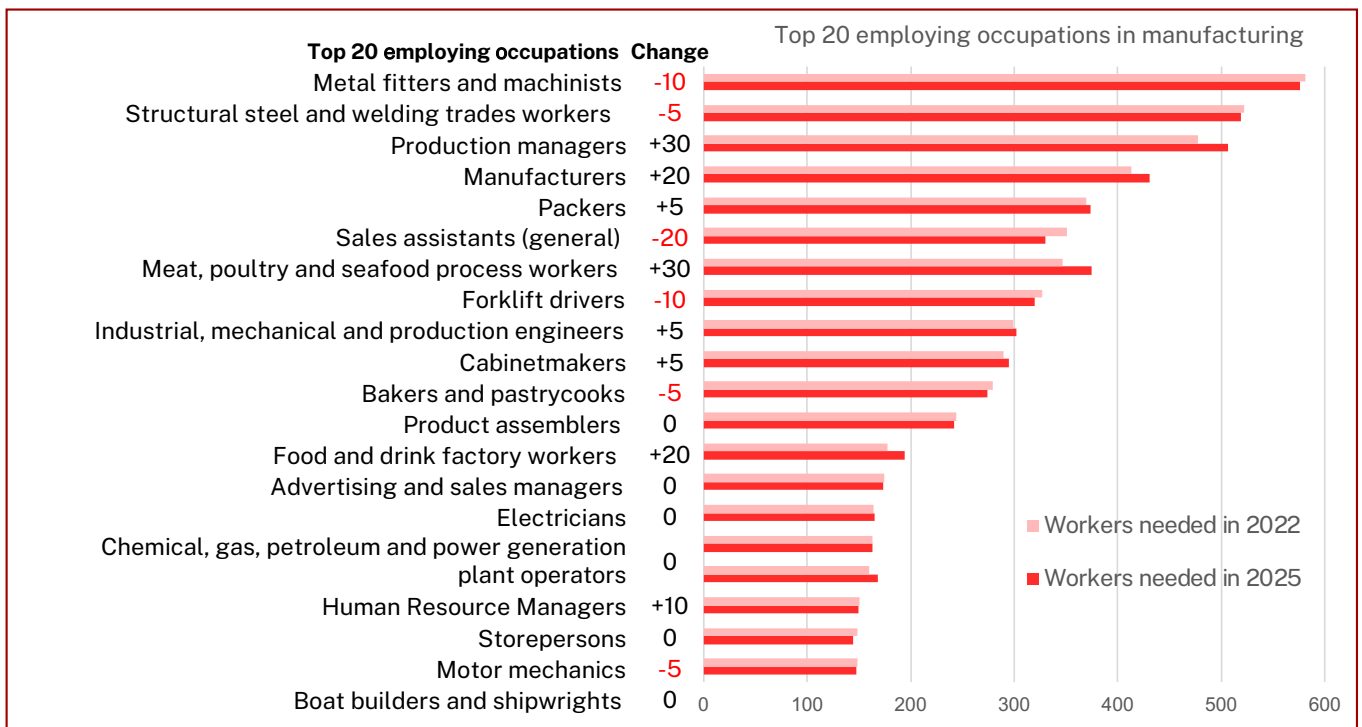


Forecasted growth by occupation

Forecasts suggest that at least 70 new workers will be required over the next 3 years to meet demand,¹⁷⁹ noting, this does not account for the current worker shortages experienced across the sector and the recent announcements of Hanwha joining the region. Hanwha is also one of the final 2 bidders to deliver the Commonwealth

Government’s LAND 400 Phase 3 Infantry Fighting Vehicle program. If successful, Hanwha is expected to create more than 1,000 jobs in the Geelong region over the next 12 years and an estimated \$5.7 billion for Victoria’s economy.¹⁸⁰ A projected 550 workers are needed to fill retirements.¹⁸¹

Figure 43: Forecasted occupation growth in Barwon’s manufacturing sector (2022-2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
MANUFACTURING	<p>Specific roles and, or occupations:</p> <ul style="list-style-type: none"> across all trades process operators experienced manufacturing process and design professionals specialised engineers welding and metal fabrication product handlers in food sector technicians production line design and, or production planning forklift and, or drivers, maintenance personnel 	<ul style="list-style-type: none"> roles in manufacturing for farming <p>Soft skills including</p> <ul style="list-style-type: none"> interpersonal communication developing an innovation mindset developing transferable skills employability skills <p>Technical and digital skills:</p> <ul style="list-style-type: none"> CAD (computer aided design) designers with experience in manufacturing IT specialists
		<ul style="list-style-type: none"> Specific roles and, or occupations –there is a need for increased worker volume and skill for designers; safety related roles; advanced apprentices, for example, in mechatronics and clean energy; and metal fitters and mechanical trades IT and digital skills – across a variety of disciplines including robotics, automation and AI which must then be able to be drawn together to solve problems Professional services – understanding around assurance (quality and auditing) and accessing global trade qualifications Soft skills - these interpersonal, communicative, and professional skills underpin all technical aspects of the sector and include collaborative and creative thinking Research and development – more PhD students pursuing advanced manufacturing projects with an innovation focus





Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the manufacturing industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

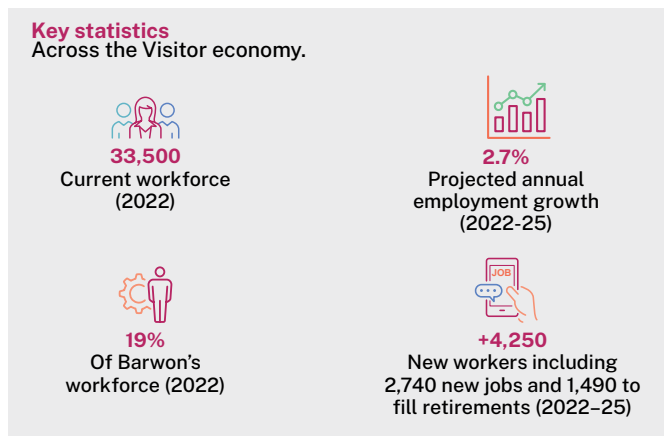
Table 13: Manufacturing industry proposed responses and solutions

Manufacturing proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the manufacturing sector• Bringing together manufacturing industry representatives, VET, and higher education providers in Industry roundtable discussions to build greater understanding of industry needs and provide complementary courses• Analysis and matching of skills needs and course and training package offerings
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Transform perceptions of the manufacturing industry from ‘dirty’ to high value through a whole community approach that addresses teachers, parents, students, and industry to plant aspirations for a manufacturing career• Target school-aged cohorts (for example, through leveraging the Geelong Tech school and expanding access to the facility) to attract them into careers in manufacturing• Develop clearer learning pathways from student to mature workers in the sector (education and training journey mapping scenarios relevant to the region)• Advocate for easier recognition of skills when transferring from one industry or sub-industry into another (Recognition of Prior Learning (RPL) and Recognition of Current Competency (RCC) processes)• Work with education and training providers and industry to diversify worker qualification methods, for example, new work integrated training platforms, packages, and pathways to employment• Embed a greater focus on international teaching methods, operations, and leading manufacturers to continuously improve Barwon’s manufacturing skills and capabilities• Diversify hiring processes through greater engagement with education and training providers with a focus on vulnerable and underrepresented cohorts (for example, women, CALD community members, individuals with disabilities and Aboriginal Victorians)• Expand reach of existing programs that support greater attraction and retention across the industry, for example, mentoring programs that promote women in non-traditional roles such as Women in Manufacturing Network or promote employment for cohorts not currently engaged in the workforce through the Northern Futures Project

Visitor economy industry profile

The visitor economy industry in the Barwon region is a thriving and growing industry. The visitor economy is defined in this profile as being the industries that support tourism in the region, including accommodation, hospitality, retail, and arts and recreation. Together, these industries provide over 33,500¹⁸² and contributed over \$1.5 billion to the local economy (GVA) in 2021.¹⁸³

Figure 44: Barwon's visitor economy industry snapshot



Key strengths

The Barwon region is one of the most popular tourist destinations in Victoria famous for its coastal towns, such as Lorne, Anglesea and Torquay along the Surf Coast and Great Ocean Road; the Bellarine Peninsula is recognised as both a beach-side and winery destination. The region is also home to the You Yangs, which is popular for hiking, horse riding and mountain biking; and Geelong's revitalised urban precincts, combined with a growing arts and cultural sector in Geelong, is also boosting tourism to the city.¹⁸⁴

The region attracts many international and interstate visitors, is a popular destination for many Victorian summer holiday makers and attracts day trippers due to its relative proximity to Melbourne.

The sector has an opportunity to encourage year-round visitation, including through increased music events, building the region's reputation as a wine destination, and leveraging resurgent Australian Football League (AFL) crowds. Creating more sustainable, immersive eco experiences in the region by leveraging the region's natural diversity is another growing focus across the region.

Key challenges and opportunity areas

Barwon's visitor economy is shaped by seasonality, with the population of the region doubling over peak holiday periods and forcing a high reliance on casual staff (typically younger workers) to meet demand.¹⁸⁶ Young workers also face challenges with limited access to public transport to service the region. Staff shortages are prevalent across all parts of the sector, particularly in hospitality and marine safety and maintenance where an ageing workforce poses risk to small local businesses, highlighting the important role of ongoing education and skill development within the region.

Attraction and retention of workers across Barwon's visitor economy sector

Industry roundtable and Barwon Regional Skills Taskforce members suggested that jobs across the visitor economy sector are often perceived as casual employment opportunities and pathways to a 'real job', rather than an industry for a long-term career. This perception is particularly common among younger workers. Given the sector's reliance on a young workforce for current demand and to support the sustainable growth and development of the industry, there is a shared commitment between businesses to work together across the region to uplift perceptions.

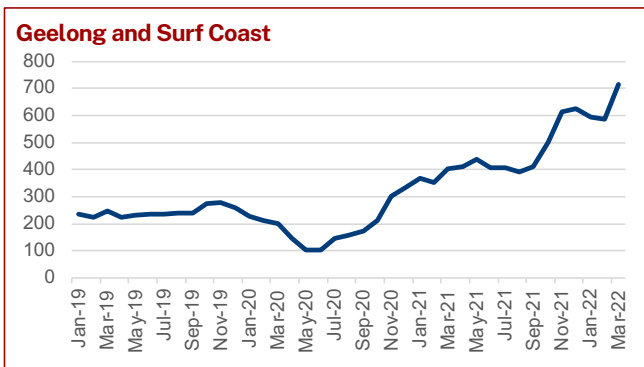
Attraction and retention across the sector is critical to ensure the region can meet current demand and future growth aspirations. Work is underway to improve participation in training across the region. This includes the Victorian Government arrangement for trainees completing a Certificate III in Hospitality or Tourism to receive 12-month secure employment while undertaking placement across regional businesses and receive a paid wage supplement up to \$10,000 above the relevant industry award alongside one-on-one mentoring.¹⁸⁷ Prioritising roles as part of this initiative for women over the age of 45, people under 25, Aboriginal Victorians and people who are long-term unemployed will support businesses across Geelong and target vulnerable cohorts across the region.



Inter and intra-sector competition for a limited workforce pool

Employment in many sub-sectors fell in 2020 including sports and recreation activities, creative and performing arts activities and food and beverage services.¹⁸⁸ The impact of the pandemic had significant impacts on hospitality, accommodation, and creative industries. This is reflected in the level of vacancies in the region, falling to a low in May 2020 and continuing to climb, reaching 714 vacancies in March 2022.¹⁸⁹

Figure 45: Hospitality vacancies in the Geelong and Surf Coast area (January 2019–March 2022)



Increasing participation in education and training to ensure a skilled workforce that can support sustainable industry growth

Increasingly, visitor economy businesses are looking for well-rounded individuals with multidisciplinary and transferable skills. Education and training is critical to developing workers that are suitable for contributing to and supporting businesses to maintain a future-fit workforce.

Barwon is well-equipped with leading facilities to train and develop the right workforce including the new \$23.5 million Culinary School at The Gordon Institute of TAFE Geelong City campus that features cutting-edge food training kitchens, a bakery training facility and barista academy.¹⁹⁰ The new facility will be available to students studying commercial cookery and patisserie. The Gordon will offer short courses, including barista training, to create a pipeline of skilled hospitality workers for the Barwon region.¹⁹¹

Interface with other industries and emerging sectors

While accommodation, hospitality, retail, and arts are the key industries that directly support the visitor economy, many other industries intersect with these sectors to attract tourists to the region.

Table 14: Key intersections across Barwon’s visitor economy industry

Specialised manufacturing	Unique retail offerings and shopping areas attract visitors looking for specialised or cultural purchasing experiences. This includes interior fittings, jewellery and glass pieces to name a few. Geelong is a UNESCO City of Design and is cultivating a reputation for quality, locally made goods.
Construction	Out of town visitors, seasonal residents of the Surf Coast and Bellarine areas and international tourists are seeking quality experiences and accommodation. There is a forecasted need for 3,869 additional rooms from 2020 to 2030 along Great Ocean Road, ¹⁹² highlighting the strong dependency on the construction sector for new accommodation.
Agriculture and food manufacturing	Tourism Victoria has identified food tourism as an important element of visitor experience in the Geelong and Bellarine areas as ‘farm to table’ and sustainable farming increases in popularity, highlighting the strong intersections and interdependencies across these sub-industries.

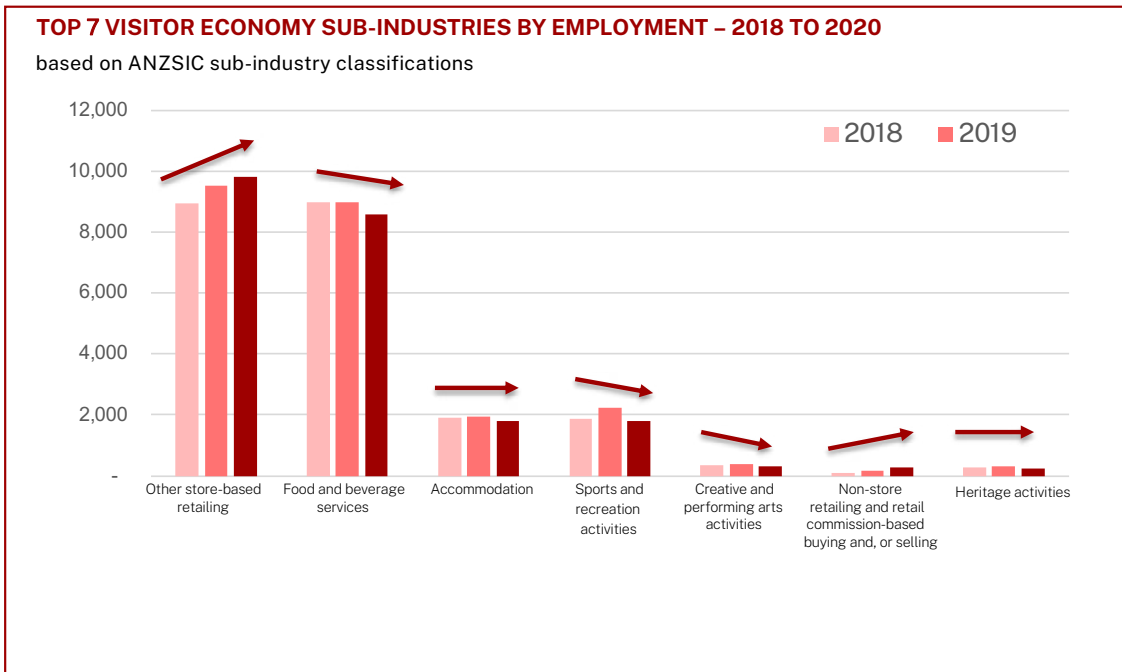
Recent and forecasted industry growth

Largest sub-industries by employment

A breakdown of employment by key sub-industries within Barwon’s visitor economy sector (based on ABS industry classifications) highlight slight employment declines in 2020 across all major sub-industry (other than store-based retailing), after 2-years of growth during the 2018–2020 period.¹⁹³

In 2020, other store-based retailing was the largest employing sub-industry, employing almost 10,000 workers, followed by food and beverage services at about 8,500 workers.¹⁹⁴

Figure 46: Top 7 visitor economy sub-industries by employment



Source: NIEIR Barwon Regional Data, 2021

Following the decline in employment through the 2019–2020 period the sector is set to grow again given the demand on services with an increase in spend and visitation across the state since the easing of lockdowns and the evident increase in job vacancies and current labour shortage challenges.

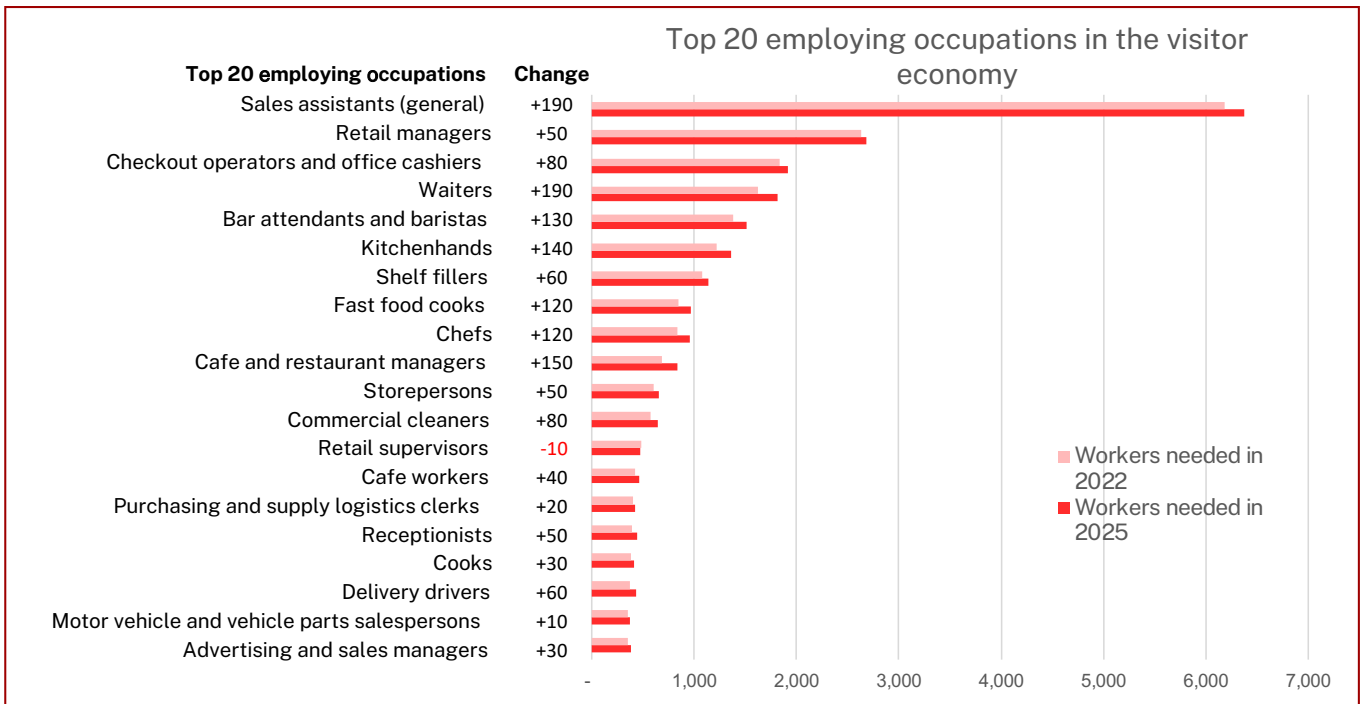


Forecasted growth by occupation

The visitor economy has significant potential for growth, with current forecasts suggesting more than 2,740 new jobs in the sector will be required over the next 3 years.¹⁹⁵ This growth is likely to continue given private and government investment into new developments and tourism infrastructure, including new hotels and accommodation and the Geelong Convention Centre.¹⁹⁶ Geelong’s new ferry terminal for the Spirit of Tasmania alongside existing ferries between Queenscliff and Sorrento and the Portarlington ferry also presents opportunities for additional growth in the region and requirement for other occupations.¹⁹⁷

The figure below highlights the expected growth in demand for workers across the top 20 employing occupations in the Barwon region based on ABS occupation classifications. Note that this list is not exhaustive and does not reflect all occupations in the industry.

Figure 47: Forecasted occupation growth in Barwon’s visitor economy sector (2022–2025)



Source: Victorian Skills Authority Employment Forecasts, April 2022

Skills and occupation requirements

Beyond forecasted occupations based on ABS classifications, industry roundtable members raised a number of skills needs and capabilities required in the next 1–2 years (immediate needs) and 3–5 years (emerging needs).

	Immediate needs (1–2 years)	Emerging needs (3–5 years)
Visitor economy	<p>Specific roles and, or occupations:</p> <ul style="list-style-type: none"> hospitality and tourism roles including baristas, qualified chefs, event staff, Responsible Service of Alcohol (RSA) trained employees and food handlers <p>Soft skills including:</p> <ul style="list-style-type: none"> conflict resolution and management skills leadership and management skills work ethic and development expectations emotional intelligence <p>Technical and digital skills:</p> <ul style="list-style-type: none"> Use of point of sale (POS) systems Basic application of digital skills including digital marketing, video editing, basic website development, social media, basic social communications strategy 	<p>Niche and, or specific skills:</p> <ul style="list-style-type: none"> marine-based skills (skippers, marine engine mechanics, shipboard safety and focusing on safe operation of commercial vessels) photography and marketing skills Certificate IV in Training and Assessment and the ability to deliver niche accredited training <ul style="list-style-type: none"> Immediate need and enhanced digital skills – greater use and, or familiarity with website and content creation, social media marketing and communications Local regional specific and regenerative tourism training and awareness – shift in demand for environmental and, or sustainability focused people Immediate need and enhanced management skills – including effective team management, ability to mentor and guide staff New business models – employee profit and business sharing structures where employees can run their own businesses within the premise



Opportunities to address workforce and education outcomes

Consultation across the region identified a range of potential responses to address the current and emerging challenges facing the visitor economy industry across the Barwon region. Refer to [this section](#) for overarching solutions and responses to address common challenges facing major industries across the Barwon region.

Table 15: Visitor economy industry proposed responses and solutions

Visitor economy industry proposed responses and solutions
Proposed responses within the remit of the Victorian Skills Authority
<ul style="list-style-type: none">• Access to student, parent and career counsellor-friendly data and insights to help guide current and prospective students into the right education and training courses for occupations and skills in demand across the sector and raise awareness of the sector as a place for a diverse career• Support strengthened links between providers, schools, and employers through bringing together in industry representatives, VET, and higher education providers in industry roundtable discussions to build greater understanding of visitor economy industry needs and provide complementary courses• Work with education and training providers to support mapping of skills to occupations and training packages and consideration of new training courses to meet current and emerging industry and worker skills needs
Proposed responses to be achieved through broader collaboration across the region and with broader partners and stakeholders
<ul style="list-style-type: none">• Advocate for further on-job-subsidies and incentives to attract more people into education and training courses alongside employment• Promote stories and pathways that attract current and prospective students, workers, parents, and career counsellors to see the visitor economy as an industry with potential for robust and successful careers• Leverage existing partnerships with The Gordon TAFE and Deakin University, particularly in relation to attracting international students to study and work in tourism in the region• Broaden understanding of the sector and pathways to by promoting the benefits of the sector• Advocate for policy changes that enable individuals to work across multiple organisations given seasonality across the sector and bring pensioners back into the industry to support current demand.• Strengthen employment opportunities and long-term careers within the sector by creating clearer pathways for career development within the industry



Appendix B: Data sources



Quality of data is central to the quality of insights shown through any economic profile. Significant effort has been made to reflect the Barwon region robustly and accurately as defined by Department of Jobs, Skills, Industry and Regions (DJSIR). Nonetheless, it is important to note there are varying definitions of the Barwon region and some data is significantly outdated (as at early April 2022). Where the reported data does not fit the defined region exactly, inclusion of the data has considered the data type, available insights as well as the jurisdiction represented. Sources and their associated boundaries are denoted by footnote in the profile. The name ‘Barwon’ is used when referring to any of the data categorisations below for ease of reading and use.

Defining the Barwon region

Note that the complete Barwon region, as defined by DJSIR, includes the 4 south-western LGAs of City of Greater Geelong, Borough of Queenscliffe, Surf Coast Shire and Colac-Otway Shire. For this reason, data disaggregated by Local Government Areas (LGA) contained within this profile is most complete. Data from Department of Jobs, Skills, Industry and Regions (DJSIR) Regional Economic Development Strategy (REDS) and Victorian Skills Authority (VSA) data dashboard cover the Barwon region completely.



ABS and labour market information portal data coverage

The Labour Market Information Portal (LMIP) and data from other federal level agencies utilise Australian Bureau of Statistics (ABS) data. While LGA data is occasionally available, the majority of ABS data is provided at an SA4 level.

- Note that the referenced Barwon region is comprised of multiple SA4 areas which are Geelong, and Warrnambool and South West (WSW)

Because WSW includes a much larger area than the reference area, Geelong SA4 (‘Geelong and Surf Coast’) is occasionally used as a proxy for the ‘Barwon’ region and has not been combined with WSW data.

Figure 48: SA4 Geelong



Employment data

This profile contains both historic and projected employment figures.

- Data on **past employment**, for example, sub-industry data is sourced from National Institute of Economic and Industry Research (NIEIR) datasets collated for the VSA
- **Contemporary employment** (2021–2022) figures are collected from the LMIP database –jurisdictionas explained in the paragraph above

Assumptions for employment forecasts

Industry **employment forecasts** are consistent with the forecasts used for the purpose of the Victorian Skills Plan, is based on Nous and VSA modelling using data from ANZSIC3, ANZSCO6, BGT0CC (Burning Glass Technologies Occupation Classification). The forecasts consider historical industry growth, population growth and projected industry growth.

As a result of the modelling method and practical limitations of an inability to predict all future conditions, these figures do not account for policy changes or incoming investment that may augment the potential for growth in a sector.

While the industry roundtable discussions provided a qualitative context and lived experience to these numbers, it is important to note that these forecasts are for new workers required due to an increase in production or operations et cetera. It does not include workers needed to fill current labour shortages existing at the same level of output.

Additionally, non-participation (due to discouraged workers for example) or underemployment is unlikely to be represented.



‘The Barwon region’s local communities and industries are well positioned to attract and develop a future-fit workforce’.



Appendix C: References



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